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

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

District_IV

State of New Mexico **Energy Minerals and Natural Resources**

Form C-101 May 27, 2004

Oil Conservation Division Santa Fe, NM 87505

Submit to appropriate District Office 1220 South St. Francis Dr. CONFIDENTIAL AMENDED REPORT Santa Fe. NM 87505

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

				Operator Name	and Addre	255						.,	² OG	RID Numbe		
SWEPI LP, P.O. Box 576, Houston, Texas 77001											1	² OGRID Number 250036				
(Local Contact: Shell Exploration & Production Company, 4582 S. Ulster St. Pkwy., Suite 1400, Denver, CQ 80237) 3 Property Code 3 Property									30-019-20/37							
37			leton Prop		С				6 Well No. Latigo 3-5							
9 Proposed Pool 1									¹⁰ Proposed Pool 2							
7 Surfac									ce Location							
UL or lot no. Section Township Range K 5 10N 23E				Lot Idn		Feet from the 1810+/-		North/South line South			Feet from the 1801+/-		t/West line West	County Guadalupe		
	ottom]	Hole Lo	cation I	f Diffe	ent Froi	m S	Surface									
UL or lot no.	Section	·			Lot Idn		1	Feet from the		North/South line		Feet from the		t/West line	County	
Additional Well Information																
							13 Cable	r/Rotary 14 Lease Type Code R P				15 Ground Level Elevation 4684.3 graded				
	ultiple N			¹⁷ Proposed De — 13,150	pth 18 Formation Mississippi							Contractor ors Drilling		²⁰ Spud Date October 1, 2008		
Depth to Groundwater -900 feet (Santa Rosa aquifer) Distance from nearest from ne												1	Distance from nearest surface water ~900 feet (unnamed ephemeral drainage)			
Pit: Liner	Synthetic	⊠ _2	20mi	ls thick Clay	☐ Pit V	olume:_	_84,430 bb									
Closed-Loop System Fresh Water Brine Diesel/Oil-based Gas/Air												Gas/Air 🔲				
					²¹ Pr	opose	d Casing	and Cement Program								
Hole Size Casing Size					Casing weight/foot			Setting Depth			-	Sacks of Cement			Estimated TOC	
30-inch 20-inch				-inch	Conductor			90 feet			+	NA NA			0 feet	
14.75-inch 10.75-inch					40.5 lbs.			1300 feet			4	930			0 feet	
9.875-inch 7.625-inch				5-inch	2:	9.7 lbs	<u>. </u>		5900 feet		\bot	1188			1000 feet	
6.5-inch 4.5-inch					13.5 & 15.1 lbs.				13500 feet			37		Щ.	5400 feet	
Describe the	blowout pr ent A – Lati	eventio go 3-5	n prog Drillin	ram, if any. Us g & Completion	e additiona Plan	al sheets	if necess	ary.							new productive zone.	
See Attachme See Attached	ent A3 – Na ent B – Lati Maps	abors B	.O.P. S	stack Diagram		1 (1)	ું (છોદ		13EK 124	HOUF	RS	OF BEG	SION INNI	TO BI N G OP I	E NOTIFIED ERATIONS	
	ation, Latig							COLLECT AND SACK SAMPLES FOR								
	Layout for ohic Map A		3-5					NEW MEXICO BUREAU OF MINES, SOCORRO AT AT LEAST TEN FOOT INTERVALS								
	hic Map B								27.2.				001 1			
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								OIL CONSERVATION DIVISION								
an (attached) alternative OCD-approved plan .								Approved by:								
Signature: Milal L Delightron									RICTOINT CHINERINGAR							
Printed name: Michael L. Bergstrom									· .	Ul	16	kiri 9	upe	Kara		
Title: Regulatory Coordinator									val Date:	5/	حی ر	108	Expirati	on Date: 🗸	5/15/10	
E-mail Address: michael.bergstrom@shell.com															•	
Date: 5/9/200	Date: 5/9/2008 Phone: 303.222.6347									Conditions of Approval Attached						

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson

Governor

Joanna Prukop Cabinet Secretary Reese Fullerton Deputy Cabinet Secretary Mark Fesmire
Division Director
Oil Conservation Division



Mr. Michael L. Bergstrom Shell Exploration & Production Co. Regulatory Affairs-EP Americas 4582 S. Ulster Way Parkway Suite 1400 Denver, Colorado 80237

May 15, 2008

Subject: Applications for Permit to Drill (APD)

Shell Exploration & Production Co., Latigo 2-34 and Latigo 3-5

Guadalupe County, New Mexico

Dear Mr. Bergstrom:

Enclosed are the approved APD's for the above-captioned wells. Be advised that the New Mexico Oil Conservation Division (NMOCD) will not hold form C-101, form C-102 or form C-144, nor any attachments to these forms, confidential for any period of time. NMOCD rules allow only Well Completion or Recompletion Reports (Form C-105) and logs to be held confidential for a period of 90 days from date of completion of the well. Please see NMOCD Rule 19.15.13.1105.

The application to drill for the Webb 3-23 well has been forwarded to you separately.

Please contact me if you have any questions.

Martin

NEW MEXICO OIL CONSERVATION DIVISION

Ed Martin

District Supervisor



Latigo 3-5 Drilling and Completion Plan

The well will be drilled with potable (TDS<3,000 ppm) water-based fluids from surface to the bottom of the Santa Rosa Formation ("freshwater aquifer"). Surface conductor and intermediate casing strings will be installed and cemented. Below the Santa Rosa Formation, the well will be drilled with nonpotable (TDS>10,000 ppm) water-based fluids to total vertical depth (TVD). Additional intermediate casing strings and production casing will be installed and cemented. Upon completion of drilling, the 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

- <u>Lithology</u>
 - O Tucumcari Basin
 - This area has been the subject of limited oil & gas exploration activity
 - Approximate depths of key geologic formations are shown in Attachment A1
 - O Prospective formations are in the Pennsylvanian section
- Fluid Bearing Formations
 - Potable water (Surface 1500 feet below ground surface)
 - O Brackish water (1500+ feet below ground surface)
 - O Natural gas/condensate (~8000+ feet below ground surface)
- Drilling Fluids
 - O Freshwater drilling fluids (see Attachment A2)
 - Potable (TDS< 3,000 ppm) water-based, 8.3-8.6 ppg, viscosifiers and LCM additives
 - O Brackish water drilling fluids (see Attachment A2)
 - Non-potable (TDS>10,000 ppm) water-based fluids, 8.6-10.0 ppg, salt, lime, caustic soda, viscosifiers and LCM additives
 - o 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 A3
 - 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 ~6500 psi
 - BOP testing procedures conducted by third party contractor upon 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. Details are included Table 1
- Surface Casing
 - 14.75-inch diameter well bore, drilled to 1300 feet.
 - 10.75-inch diameter casing installed and cemented to surface
- Intermediate Casing

 - 9.875-inch diameter well bore, druled to 3200 kee.
 7.625-inch diameter casing installed and cemented to 1000 feet ONFIDENTIAL
- **Production Casing**
 - 6.5-inch diameter well bore, drilled to 13500 feet.
 - 4.5-inch diameter casing installed and cemented to 5400 feet

Well Completion

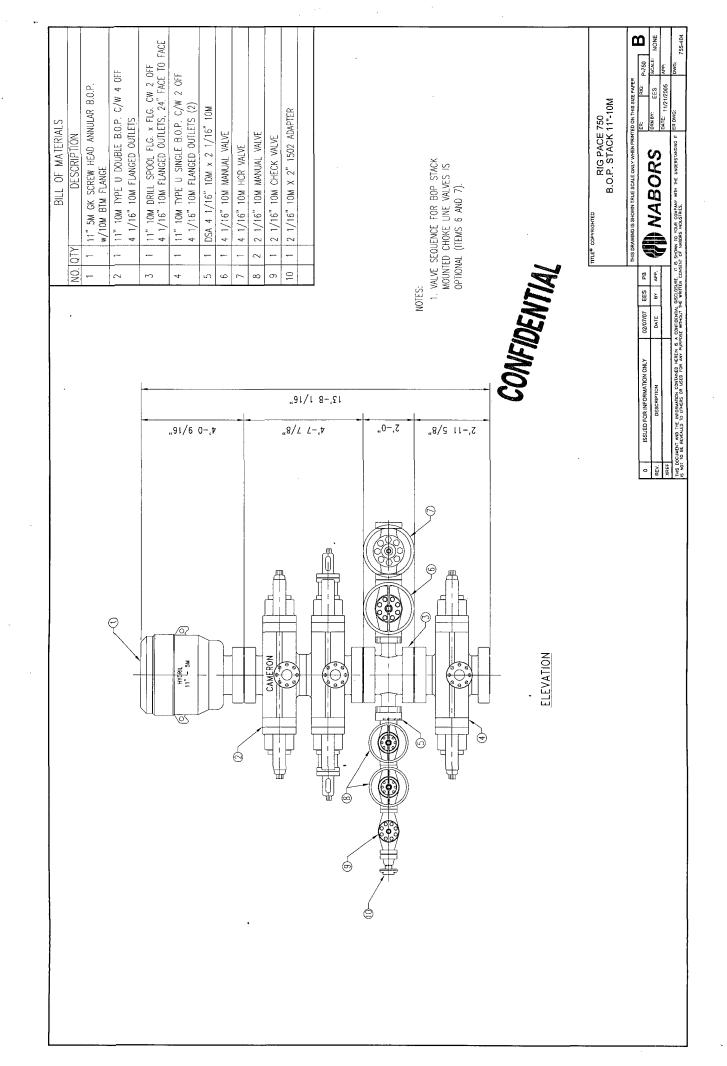
- Casing Perforation
 - O Perforate casing in prospective sand zones, using three shots per foot (spf), 120 degree, phased perforating guns
- Hydraulic Fracturing
 - Treat prospective sand zones with ceramic and/or sand proppant materials during hydraulic fracturing

Logging and Testing

- Lithologic Logging
 - o Mudlogging (to TVD); Selective coring (whole and/or rotary sidewall)
- Wireline-Logging, including but not limited to:
 - o Gamma Ray, Resistivity, Porosity, Neutron and Sonic data collection
- Flow Testing
 - o Flow individual production zones for up to 3 days
 - Flow entire well for up to 120 days

Water Supply for Drilling and Completions

- One water well (minimum 5 ½-inch and maximum 7-inch diameter casing) will be drilled on-site about 500 feet east of the well location, on the edge of the well site
 - A temporary appropriation of up to 3 acre feet (AF) of potable water will be obtained from the Office of State Engineer-District 6 (OSE) for production of potable water from the Santa Rosa aquifer
- Potable groundwater will be available from the CD-1 water well located on the Webb Ranch, about 3 miles from the well site
 - A temporary appropriation of up to 3 acre feet (AF) of potable water was previously approved by the Office of State Engineer-District 6 (OSE) for production of potable water from the Santa Rosa aquifer. This appropriation will expire in August 2008, and will be renewed with the OSE.
- Potable groundwater will be available from wells located on the Pajarito Ranch, about 22 miles from the well site
 - Parajito Creek Ranch holds appropriations for more than 500 acre feet (AF) of potable groundwater, which may be sold for any and all uses.
- Nonpotable produced water will be available from the CD-1 well located on the Webb Ranch, about 3 miles from the well site
 - Produced water from the completion and testing of CD-1 well is currently stored, and may be treated and re-used at other well locations



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Latigo 3-5 Surface Use Plan

MIT.

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 reclamation activities on disturbed areas.

Existing Roads

- Access to Location
 - o From the town of Cuervo, New Mexico
 - Drive north on County Road, about 5.9 miles (Topographic Map A)
 - Follow Pipeline Corridor road west toward Webb CD-1 well location, about 2.6 miles (Topographic Map A)
 - Follow Webb Ranch road north toward Webb CD-1 well location, about 2.2 miles (Topographic Map A)
 - From Webb Ranch road, turn west, follow improved two track road west, south, west and south, about 6.3 miles, to Latigo 3-5 well location (Topographic Map B)

Roads to be Constructed/Maintained

- Improved Roads
 - O County Road (maintained by Guadalupe County)
 - Constructed of compacted crushed aggregate and fill
- Two-Track Roads
 - Latigo Ranch and Webb Ranch Roads
 - Existing improved 2-Track road extends to Webb CD-1 well location
 - Constructed of compacted crushed aggregate and fill
 - Culverts and/or rock-filled, low water crossings installed
 - Construct improved 2-Track road segments: (1) along Pipeline Corridor, and (2) extending to Latigo 3-5 well location
 - Grade/crown road, placing crushed aggregate, as needed
 - 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, Latigo Ranch
 3-5, Topographic Map A, and Topographic Map B
 - O The staked well location and proposed access road are shown on Location Photos
 - Well location, water well, access roads, lined pits, above-ground tanks and temporary buildings, and storage areas are shown on Location Layout for Latigo Ranch 3-5

Water Supply

• Water well will be drilled at a location about 500 feet south of the well location, on the edge of the well site (Location Layout for Latigo Ranch 3-5)

Existing Oil & Gas Wells

- Webb CD-1 well (API 30-019-20134) is located in SE1/4, SW1/4, Section 25, T11N, R23E
 - O Well is temporarily abandoned (19.15.13.1105.C)

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Existing and/or Proposed Facilities

- Well Site Facilities
 - Located at well site at approximate locations shown on Location Layout for Latigo Ranch 3-5
- Temporary living quarters
 - O Located at well site initially, possibly moved to other, more centrally located area in the near future

Storm Water Management Plan

- Stormwater management and erosion control practices will be implemented during construction, operations and reclamation
 - o in compliance with Storm Water Prevention Plan (SWPP), approved by the New Mexico Department of Environment (NMED)

Waste Management and Disposal

- Drilling fluids and cuttings and other solids will be dried on-site and buried on-site during lined pit closure and reclamation
- 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 evaporated on-site; some fluids may be treated and re-used on-site or at other well locations. Concentrated waste fluids will be disposed of off-site at permitted disposal facility

Construction Materials

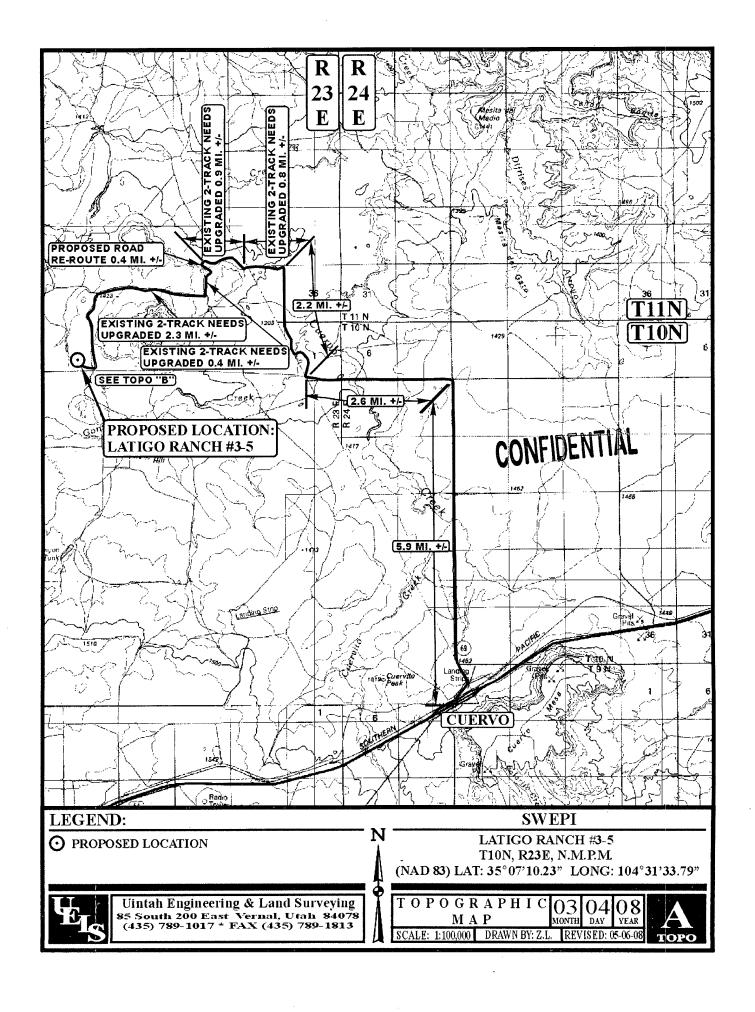
- Fill material and Aggregate obtained from local sources
- Top Soil temporarily stockpiled at perimeter of well pad and along construction corridors for subsequent use during reclamation

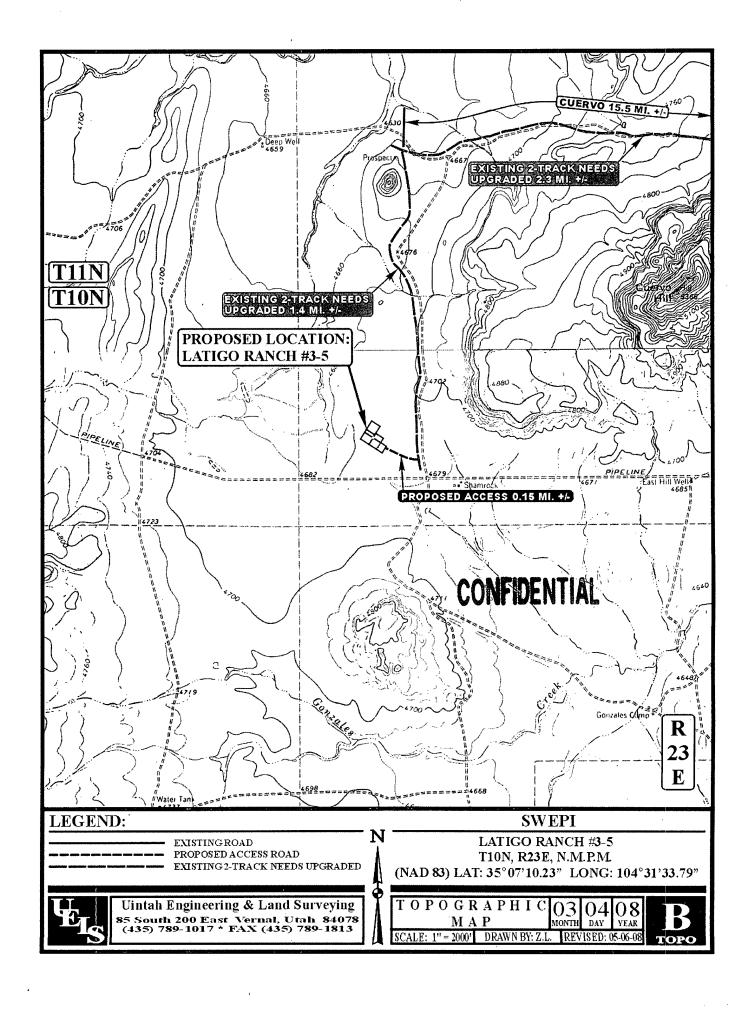
Reclamation

- Areas temporarily disturbed during construction, and well drilling, completion and testing will be reclaimed to original conditions, as soon as is practical and in consultation with the surface owner
 - O Disturbed areas will be re-contoured to match existing topography
 - O Topsoil salvaged during construction activities will be spread to a minimum thickness of 6 inches
 - O Reclaimed areas will be planted with seed mixture recommended by local Soil Conservation Service and/or BLM staff, and approved by surface owner
- Areas disturbed during construction and subsequent oil & gas production will be reclaimed to original conditions, as soon after oil & gas production ceases as is practical, and in consultation with the surface owner

Other Information

Construction and operation of oil & gas well in Guadalupe County, New Mexico
does not require a special use permit or waiver from the County Commissioners
and/or Planning Department





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

¹ API Number

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

WELL LOCATION AND ACREAGE DEDICATION PLAT

² Pool Code

1220 South St. Francis DCONFIDENTIAL Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

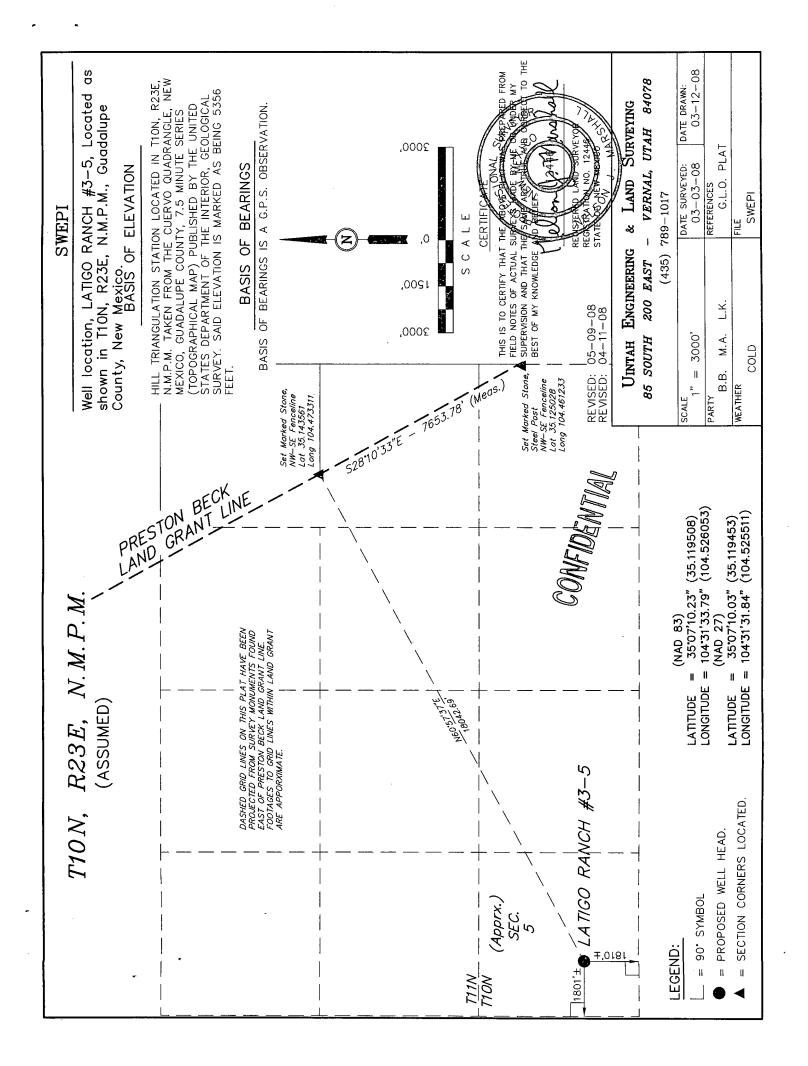
State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

³ Pool Name

30-0	19-2	ე I 3	7		100	. 0040			1 001 / 1	-		
⁴ Property C	Code				⁶ Well Number							
37165					Latigo 3-5							
OGRID N							⁸ Operator N SWEPI L				⁹ Elevation	
25003	6	•						4684.3 graded				
		I				1	¹⁰ Surface I				 	
UL or lot no. Section K 5		Township 10N		Range 23E		t Idn	Feet from the 1810+/-	North/South line South	Feet from the 1801+/-	East/West line West	e County Guadalupe	
		1011				77 1			1	***************************************	Guadalupe	
UL or lot no.	6	т		Во				Different From North/South line		F 4507 4 P		
UL OF IOI HO.	Section	on Township		Range	Lo	t Idn	Feet from the	North/South line	Feet from the	East/West line	e County	
¹² Dedicated Acres	s ¹³ Joint o	l r Infill	14 Cons	solidation (Code	15 Ord	er No.				<u> </u>	
160.00												
16 See Attached Map - Well Location, Latigo Ranch #3-5								-	I hereby certify the to the best of my owns a working in the proposed bott location pursuant interest, or to a we	nat the information conta knowledge and helief, an interest or unleased miner tom hole location or has a to a contract with an ow oluntary pooling agreem engled by the digissiff	ETIFICATION ined herein is true and comple d that this organization either al interest in the land includir a right to drill this well at this ner of such a mineral or work ent or a compulsory pooling Date	
									l hereby cert plat was plot made by me e same is true e	ify that the well lo tted from field note or under my super and correct to the		
									Certificate Num	her		



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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 For drilling and production facilities, submit to appropriate NMOCD District Office.

For downstream facilities, submit to Santa Fe office

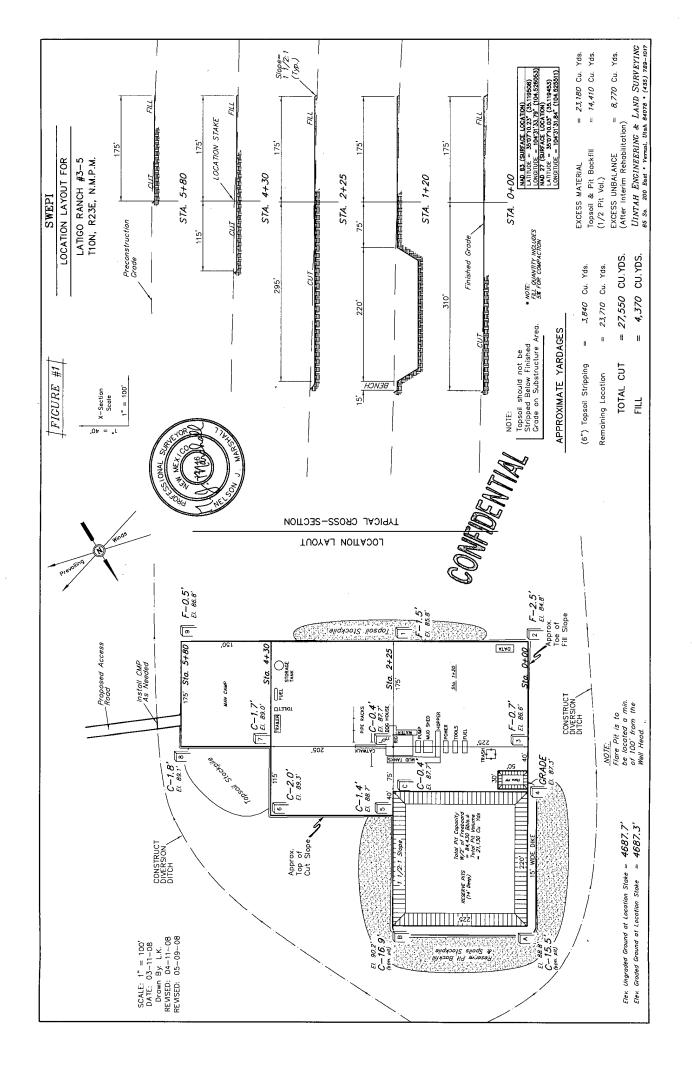
CONFIDENTIAL

Form C-144 June 1, 2004

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes No Type of action: Registration of a pit or below-grade tank & Closure of a pit or below-grade tank

1) po or union. rogionamon or u pro-	of below grade tank 2k closure of a pit of below grad										
Operator: _SWEPI LPTelephoi	ne: _(303) 222-6347e-mail address: _mich	nael.bergstrom@shell.com									
Address: P.O. Box 567, Houston, TX 77001 (Local contact: Shell Exploration & Production Company, 4582 S. Ulster St. Pkwy., Suite 1400, Denver, CO 80237)											
Facility or well name: _Latigo 3-5API #: _30 - 019 - 20137 U/L or Qtr/Qtr _K Sec_5 T_10N R_23E											
County: _Guadalupe Latitude _35.119508 Longitude _104.526053 NAD: 1927 🗌 1983 🔀											
Surface Owner: Federal State Private Indian											
<u>Pit</u>	Below-grade tank										
Type: Drilling X Production Disposal D	Volume:bbl Type of fluid:										
Workover Emergency □											
Lined X Unlined Double-walled, with leak detection? Yes If not, explain why not.											
Liner type: Synthetic X Thickness 20 mil Clay											
Pit Volume _84,430_bbl											
Depth to ground water (vertical distance from bottom of pit to seasonal	Less than 50 feet	(20 points)									
, , ,	50 feet or more, but less than 100 feet	(10 points)									
high water elevation of ground water.)	100 feet or more	(0 points)									
Wellhead protection area: (Less than 200 feet from a private domestic Yes (20 points)											
water source, or less than 1000 feet from all other water sources.)	No	(0 points)									
Less than 200 feet (20 points)											
Distance to surface water: (horizontal distance to all wetlands, playas,	200 feet or more, but less than 1000 feet	(10 points)									
irrigation canals, ditches, and perennial and ephemeral watercourses.)	1000 feet or more	(0 points)									
	1000 feet of more	(o points)									
	Ranking Score (Total Points)	$oldsymbol{arPhi}$									
If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if											
your are burying in place) onsite offsite If offsite, name of facility_	. (3) Attach a general d	escription of remedial action taken including									
remediation start date and end date. (4) Groundwater encountered: No 🗌 Y											
(5) Attach soil sample results and a diagram of sample locations and excaval		<u> </u>									
Additional Comments:											
,	an and analifications for nits										
See Attached Map - Location Layout for Latigo 3-5, for proposed design and specifications for pits.											
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank											
has been/will be constructed or closed according to NMOCD guidelines X, a general permit , or an (attached) alternative OCD-approved plan .											
Date: 5/9/08											
Date: _5/9/08 Printed Name/Title _Michael L. Bergstrom Signature											
Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or											
regulations.											
	1 -										
Approval: Printed Name/Title DISTRICT SUPERVISOR	1/m	L1.10									
Printed Name/Title UISIKU SUPERVISUR Signature Cd //astum Date: 5/15/08											



SWEPI

LATIGO RANCH #3-5 LOCATED IN GUADALUPE COUNTY, NEW MEXICO T10N, R23E, N.M.P.M.

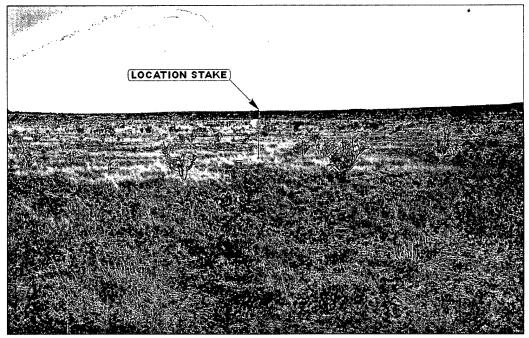


PHOTO: VIEW FROM PIT CORNER "C" TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY

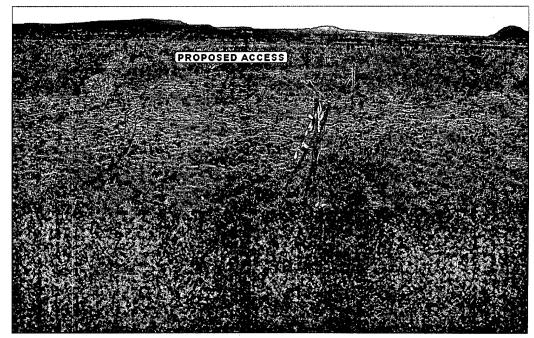


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: WESTERLY



Uintah Engineering & Land Surveying 85 South 200 East Vernal, Utah 84078 435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

O3 O4 O8 MONTH DAY YEAR

рното

TAKEN BY: M.A. DRAWN BY: Z.L. REVISED: 04-15-08



RECEIVED

2008 MAY 12 PM 1 44

Regulatory Affairs-EP Americas 4582 S. Ulster Way Parkway Suite 1400

Denver, Colorado 80237

Shell Exploration & Production Co.

State of New Mexico Energy, Minerals and Natural Resources Dept. Oil Conservation Division-District 4 1220 South St. Francis Drive Sante Fe, New Mexico 87505

Attn.: Ed Martin, District Supervisor

May 9, 2008



Subject: Application for Permit to Drill (APD)

Shell Exploration & Production Co., Latigo 3-5

Guadalupe County, New Mexico

Dear Mr. Martin:

Shell Exploration & Production Company, dba SWEPI LP (Shell) requests that New Mexico Oil Conservation Division-District 4 (OCD) review and approve the APD for the subject well. This exploration well is located in area that has no existing oil &n gas production, and is targeting prospective zones that have been the subject of limited exploration. Therefore, Shell requests that OCD hold any information regarding this well confidential during and for one year after drilling and completion. All documents submitted are clearly marked as "confidential".

Shell is currently investigating alternative access routes to this well location, and will amend the APD, if an alternative route is selected for this well. Shell anticipates beginning drilling, completion and testing activities for this well, on or about October 1, 2008.

Shell requests that OCD expedite review of our APD and supporting documentation, such that any possible deficiencies can be identified and properly addressed. If you have any questions or require any additional information regarding this APD, please contact me at (303) 222-6347, or David Janney at Kleinfelder in Albuquerque at (505) 344-7373.

Regards,

Michael L. Bergstrom Regulatory Coordinator

Shell Exploration & Production Company

Attachments: Form C-101

Drilling & Completion Plan

Surface Use Plan Form C-144

Location Photos and Maps

Form C-102