Form 3 160-3 2				HO6-6L	ROVED
(Auzust 1999) >			- DRG	OMB No. 10 Expires Novem	
UNITED STAT DEPARTMENT OF THE BUREAU OF LAND MAN	INTERIOR_	OCD-1	HORD	5. Lease Serial No. NM-02127-B	<u>, , , , , , , , , , , , , , , , , , , </u>
APPLICATION FOR PERMIT TO	•			6. If Indian, Allottee or	Tribe Name
Ia. Type of Work: 💟 DRILL 🚺 REEN	TER			7. If Unit or CA Agreen	nent, Name and No.
lb. Type of Well: 🚺 Oil Well 🖬 Gas Well 🚺 Other	🖬 s	ingle Zone 🔲 Multi	ple Zone	8. Lease Name and Well Lea Federal Ur	
2. Name of Operator		1		9. API Well No.	NA - C - A
Samson Resources		201657	i	30-025-	34001
3a. Address		(include area code)		10. Field and Pool, or Ex	• •
Samson Plaza-Two W. 2nd St. Tuisa, OK 74103 4. Location of Well (Report location clearly and in accordance wi	(918) 591			Lea Bone Spri	
At surface 1915'FNL & 730' FWL	in any state requ	rements.)			
At proposed prod. zone same	Uni	tE		Sec. 12-T20S-	-R34E
Distance in miles and direction from nearest town or post office	· · · · · · · · · · · · · · · · · · ·			12. County or Parish	13. State
miles northeast of Carlsbad, NM				Lea	678 MM
5. Distance from proposed* location to nearest property or lease line, R.		Acres in lease		ng Unit dedicated to this we	
(Also to nearest drig, unit line, if any) 730'	480		80	/S	UIII 5
3. Distance from proposed location* 1387* to nearest well, drilling, completed, applied for, on this lease, R.	19. Propose 10, 6	·	20. BLM/I	BIA Bond No. on file	15167
1. Elevations (Show whether DF, KDB, RT, GL, etc.) 3665 ¹ GL		imate date work will s 25/06	tert*	23. Estimated duration 5 weeks	10 - 10 - CC
· · · · · · · · · · · · · · · · · · ·	24. Atta	chments (Constitution (Controlled Works Ed	20777 200
he following, completed in accordance with the requirements of On	shore Oil and Gas				
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest Syst SUPO shall be filed with the appropriate Forest Service Office). 	em Lands, the	Item 20 above). 5. Operator certific	ation. specific inf	ns unless covered by an ex formation and/or plans as	
5. Signature Deorge & Amoth		c (Printed/Typed) orge R. Smith			bate 5/25/06
Title		<u> </u>			
Agent for Samson Resources					
Approved by (Signature) 13/ James Stovall	Nam	c (Printed/Typed) /S/ Ja	mes St	ovall	JUL 0 6 2006
ACTINGFIELD MANAGER	Offi	° CARL	SBAD	FIELD OFFIC	æ
Application approval does not warrant or certify that the applicant he sperations thereon. Conditions of approval, if any, are attached.	olds legal or equit	able title to those rights		ct lease which would entitle ROVAL FOR	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, mi States any false, fictilious or fraudulent statements or representation	ake it a crime for as to any matter	any person knowingly within its invision	and willfully	y to make to any departmen	t or agency of the United
*(Instructions on reverse)					
-					
Lease Responsibility Statement: Samson Res concerning operations conducted on the lease			terms, co	nditions, stipulations,	and restrictions

.

K George R. Smith, agent

Witness Surface & Intermediate Casing Approval subject to General requirements and Special stipulations Attached

25 N. FRENCH DR., HOBBS, NM 682 ISTRICT II 01 V. GRAND AVENUE, ANTESIA, NM (ISTRICT III 100 Rio Brazos Rd., Aztec, NM	66 210		CON 1220 \$	Minerals and SERV SOUTH	ATIC	y Mexico Resources Department ON DIVIS FRANCIS DR. Exico 87505	ON Submi	Revised Octo it to Appropriate D State Lease	
ISTRICT IV 80 8. st. prances dr., santa pr. n	NM 87505			AND	ACREA	GE DEDICATI	ON PLAT	C AMENDI	SD REPORT
API Number 3D-025-3801	07		Pool Code 7570			Lea Bo	Pool Name		
Property Code 34342	· · · · · · · · · · · · · · · · · · ·		IF	Prope A FEDI	erty Nam FDAI			Well Num 25	
OGRID No.				Opera	ator Nam	6		Elevatio	B
20165			SA	MSON		······································		3665	5'
UL or lot No. Section	Township	Range	Lot Idn	Surfac	ce Loca	North/South line	Feet from the	East/West line	County
E 12	20-S	34-E		191		NORTH	730'	WEST	LEA
A	L	Bottom	Hole Lo	cation I	f Diffe	rent From Sur	face	<u></u>	<u></u>
UL or lot No. Section	Township	Range	Lot Idn	Feet fro	om the	North/South line	Feet from the	East/West line	County
Dedicated Acres Joint or	r Infill Co	nsolidation	Code 0	rder No.					l
80									
							i hereby herein is true	R CERTIFICAT certify that the info and complete to the and belief, and that	e best of

APPLICATION FOR DRILLING

SAMSON RESOURCES Lea Federal Unit, Well No. 25 1915' FNL & 730' FWL, Sec. 12-T20S-R34E Lea County, New Mexico Lease No.: NM-02127B (Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Samson Resources submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.

2. The estimated tops of geologic markers are as follows:

Rustler	1,600'	Delaware	5,600'
Top of Salt	1,655'	Bone Spring	8,200'
Base of salt	3,150'	1 st Bone Spring Sand	9,500'
Yates	3,500'	Bone Spring Dolomite	9,600'
Capitan Reef	3,900'	T.D.	10,600'
Queen	4,655'		

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered: Water: Surface water between 100' - 350'.

- Oil: Possible in the Delaware 5600'- 6000' and Bone Spring 8,200'- 9,800'.
- Gas: Possible in the Bone Spring below 8,200'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	J-55	BT&C	0" - 1,650'	Circ. 1350 sx. "C" to surface
12 1/4"	9 5/8"	40.0#	N-80	BT&C	0'- 5,500'*	Circ. 2000 sx "C"
8 3/4"	5 1/2"	17.0#	P110	LT&C	0' - 10,600'	1,000 sx "C" TOC 5400'

5. Minimum Specifications for Pressure Control Equipment:

A NU 13 5/8" 10M Double Gate BOP over single 13 5/8" 5M Hydril annular preventer will be installed on the 13 3/8" before drilling 12 1/4" and 8 3/4" holes and operated as a 5000 psi system. Will perform a 3M test on the casing and BOP before drilling 12 1/4" hole and a 3M test before drilling the 8 3/4" hole.

6.	MUD PROGRAM:		MUD WEIGHT	VIS.	W/L CONTROL	
	0' - 1,650':	Fresh water mud:	8.4 - 9.2 ppg	28 - 29	No W/L control	
	1,650' - 5,500':	Brine mud:	10.0 - 10.4 ppg	26 - 29	No W/L control	
		Will switch to fresh was	ter if lost circulation encount	ered.		
	5500' - 10,600':	Cut brine:	9.2 - 9.5 ppg	29 - 42	No W/L control	

7. Auxiliary Equipment: Blowout Preventer, flow sensors and stabbing valve.

* IF LOST CIRCULATION OCCURS IN THE REF THE OPERATOR WILL CHANGE DRILLING FLUID TO FRESH WATER AND CONTINUE DRILLING WITH FRESH WATER FROM THE LOST CIRCULATION ZONE TO THE BASE OF THE REF AND SET INTERMEDUATE C 5500' (DER 6/2/06 GEORPT / I.S. SIMITZ). SAMSON RESOURCES Lea Federal Unit, Well No. 25 Page 2

 8. Testing, Logging, and Coring Program: Drill Stem Tests: None unless conditions warrant. Logging: 5,500' to T.D.: CNL-DNL w/GR-Cal. 5,500' to Surface: CNL-GR Coring: Rotary sidewall if dictated by logs.

9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 4664 psi and surface pressure of 2332 psi with a temperature of 166°.

10. H_2S : None expected. None in existing wells in close vicinity, but the Mud Log Unit will be cautioned to use a gas trap to detect H_2S and if any is detected the mud weight will be increased along with H_2S inhibitors sufficient to control the gas.

11. Anticipated starting date: August 25, 2006. Anticipated completion of drilling operations: Approximately 6 weeks.







SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Sam	son Resources	Wel	Name & #: <u>Le</u>	ea Federal Unit # 25
	2 730' FWL, Section 12.	T. 20 S., R	<u>. 34 E.</u>	Lease: <u>NM-02127B</u>
County: Lea	State: New Mexico			

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

(X) Lesser Prairie Chicken (stips attached)	() Flood plain (stips attached)
() San Simon Swale (stips attached)	() Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 () Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with <u>6</u> inches of compacted caliche.

(X) Other: Reserve Pits North, V-Door East

Reclamation is required of any surface previously disturbed that is not necessary for continued production operations. This includes reduction of square footage on this well pad by <u>25</u>% during pit closure operations.

In order to plan for successful reclamation, the operator shall notify the Inspection and Enforcement Department of the Carlsbad Field Office before placement of production facilities such as tanks, heaters, pipeline risers and gunbarrel separators. The operator is responsible for site preparation to include ripping and/or removal of caliche, spreading topsoil to a depth to match surrounding landscape, tilling, disking on contour, and dozer track-imprinting. Disturbed areas shall be revegetated after the site has been satisfactorily prepared. Seeding should be accomplished by drilling on the contour or by other approved methods (for example, dozer track-walking followed by broadcast seeding). Mulching, fertilizing, and noxious weed control are recommended for successful reclamation. Earthwork for interim and final reclamation must be completed within 6 months of reserve pit closure or well plugging. It is the operator's responsibility to monitor the site, take the necessary steps to ensure reclamation success, and to notify the Carlsbad Field Office when success is achieved.

III. WELL COMPLETION REQUIREMENTS

() A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(X) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of $\frac{1}{2}$ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre. Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture. See attached seed mixture.

() A. Seed Mixture 1 (Loamy Sites)
 Side Oats Grama (Bouteloua curtipendula) 5.0
 Sand Dropseed (Sporobolus cryptandrus) 1.0

() B. Seed Mixture 2 (Sandy Sites) Sand Dropseed (Sporobolus crptandrus) 1.0 Sand Lovegrass (Eragostis trichodes) 1.0 Plains Bristlegrass (Setaria magrostachya) 2.0

 () C. Seed Mixture 3 (Shallow Sites) Side oats Grama (Boute curtipendula) 1.0

(x) OTHER Lesser Prairie Chicken Seed Mix

 () D. Seed Mixture 4 (Gypsum Sites) Alkali Sacaton (Sporobollud airoides) 1.0 Four-Wing Saltbush (Atriplex canescens) 5.0

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

<u>Reclamation</u>: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

(1) Lined as specified above and

(2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

District 1 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

Is pit or below-grade tan	de Tank Registration or Clos k covered by a "general plan"? Yes r below-grade tank X Closure of a pit or below-	No X
Operator: Samson Resources (Brad Hargrove) Address: Samson Plaza Two W. Second St. Tulsa, OK 74103		
Facility or well name: Lea Federal Unit, Well #25	U/L or Qtr/Qtr SW4NW4Sec 12_T_2	08R34E
County: EddyLatitude 32'35'22.13"_NLot	ngitude 103'31'10.09"_WNAD: 1927 X 19	983 🗍 Surface Owner Federal X State Private 🗌
Indian \Box $3D - D29$	- 3807	
Pit	Below-grade tank	
<u>Type:</u> Drilling X Production Disposal	Volume:bbl Type of fluid:	
Workover 🔲 Emergency 🗍	Construction material:	
Lined X Unlined	Double-walled, with leak detection? Yes 🔲 I	f not, explain why not.
Liner type: Synthetic X Thickness 12 mil Clay 🗍 Volume 10,000_bbl+		
	Less than 50 feet	(20 points)
Depth to ground water (vertical distance from bottom of pit to seasonal high	50 feet or more, but less than 100 feet	(10 points)
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))
	Ranking Score (Total Points)	-0-
If this is a pit closure: (1) attach a diagram of the facility showing the pit's	relationship to other equipment and tanks. (2) Ir	ndicate disposal location:
onsite 🔲 offsite 🗍 If offsite, name of facility		action taken including remediation start date and
end date. (4) Groundwater encountered: No [] Yes [] If yes, show depth	below ground surfaceft. and attac	ch sample results. (5) Attach soil sample results and
a diagram of sample locations and excavations.	-	

I hereby certify that the information above is true and complete to the best of my knowledge and belief. 1 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: May 25, 2006

Printed Name/Title George R. Smith, agent

PETROLEUM ENGINEER

Ð. Signature 12

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.

Approval:	JUL	1	Q	2006
Date:	JUL	T	0	LUUU

Printed Name/Title

Signature

Form C-144 March 12, 2004

Well Name & No.	25 – LEA FEDERAL UNIT
Operator's Name:	SAMSON RESOURCES
Location:	1915' FNL & 730' FWL – SEC 12 – T20S – R34E – LEA COUNTY
Lease:	NM-02127B

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: <u>13-3/8</u> inch <u>9-5/8</u> inch <u>5-1/2</u> inch

C. BOP tests

2 Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

II. CASING:

1. The <u>13-3/8</u> inch surface casing shall be set at <u>1650 feet</u>, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the <u>9-5/8</u> inch intermediate casing is <u>circulate cement to</u> <u>the surface. Note: Upon loss of circulation in the Capitan Reef, the operator will notify the Hobbs</u> <u>PET staff to arrange for witnessing the change to fresh water.</u>

4. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is <u>cement shall tie back</u> <u>200 feet into the 9-5/8 inch intermediate casing.</u>

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the <u>13-3/8</u> inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) is 3000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.