

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies



AMENDED REPORT

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

¹ Operator Name and Address. Southwestern Energy Production Company 2350 North Sam Houston Parkway East, Suite 300 Houston, Texas 77032		² OGRID Number 148111
		³ API Number 30 - 025-34577
⁴ Property Code 24257	⁵ Property Name Caballo "9" State	⁶ Well No. 1

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
E	9	23S	34E		1650	North	660	West	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
⁹ Proposed Pool 1 North Bell Lake - Morrow					¹⁰ Proposed Pool 2 -----				

¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3419'
¹⁶ Multiple No	¹⁷ Proposed Depth 13,700'	¹⁸ Formation Morrow	¹⁹ Contractor Unknown	²⁰ Spud Date 3/20/99 (estimated)

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	94#	750'	1500	surface
17-1/2"	13-3/8"	61#	2250'	1495	surface
12-1/4"	9-5/8"	40#	5200'	1025	2,000'
8-1/2"	7"	26#	11,800'	1860	5,000'
6-1/8"	4-1/2"	13.5#	13,700'	245	11,300'

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. SEE ATTACHMENT

Permit Expires 1 Year 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. Signature: <i>James M. Tully</i> Printed name: James M. Tully Title: Sr. Drilling Engineer Date: 2/17/99		OIL CONSERVATION DIVISION Approved by: ORIGINAL SIGNED BY CHRIS WILLIAMS DISTRICT I SUPERVISOR Title: Approval Date: FEB 22 1999 Expiration Date: Conditions of Approval: Attached <input type="checkbox"/>	
Phone: (281) 618-4720			

5/24

MP

GENERAL DRILLING PROGRAM- Attachment to Form C-101

Southwestern Energy Production Company- Caballo "9" #1
1650' FNL 660' FWL Section 9-T23S-R34E
Lea County, New Mexico

Elevation: 3419' GR

Proposed Total Depth: 13,700'

Estimated Formation Tops

Bell Canyon	5280'	Atoka Bank	12,233'
Cherry Canyon	5886'	Morrow	12,681'
Brushy Canyon	7387'	Morrow Clastics	12,920'
Bone Spring	8600'	Gaucha Pay	12,935'
2 nd Bone Spring	10,178'	Middle Morrow	12,986'
3 rd Bone Spring	11,088'	Middle Morrow A	13,040'
Wolfcamp	11,440'	Middle Morrow C	13,203'
Strawn	11,853'	Lower Morrow	13,362'

Casing/Cement Program

<u>Hole Size</u>	<u>Casing Size/Weight/Grade</u>	<u>Setting Depth</u>	<u>Cement</u>	<u>Est. TOC</u>
	30" Conductor pipe	40'	ready mix	surface
26"	20" 94# J-55 Butt	750'	1500 sx 15:85 Poz: Class C + 0.25 pps D29+2% S1+2% D20	surface
17-1/2"	13-3/8" 61# J-55 ST&C	2250'	Lead: 1260 sx 35:65 Poz: Class C + 6% D20+ 0.25 pps D29 Tail: 235 sx Class C+ 2% S1 +0.25 pps D29	surface
12-1/4"	9-5/8" 40# N-80/K-55 LT&C	5200'	Lead: 825 sx 35:65 Poz: Class C + 6% D20+0.25 pps D29 Tail: 200 sx Class C Neat	2000'
8-1/2"	7" 26# S-95 LT&C	11,800'	860 sx 50:50 Poz: Class H + 6% D44 +2% D20+0.4% D59	5000'
6-1/8"	4-1/2" 13.5# P-110 LT&C liner 11,500'-13,700'	13,700'	245 sx Class H+1 gps D600+0.03 gps M45+0.1 gps D801+0.05 gps D604AM	11,300'

Drilling Fluids Program

<u>Depth</u>	<u>Mud Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Comments</u>
0-1200'	8.6-9.5	45-150	NC	fresh gel,caustic,paper
1200'-5400'	9.0-9.1	28-29	NC	cut brine water,paper,caustic
5400'-11,700'	8.4-9.2	28-29	NC	fresh water,caustic,paper
11,700'-12,700'	10.0-10.1	28-29	NC	brine water, Star NP-110
12,700'-13,700'	10.0-13.5	36-42	<15 cc	xanthan gum,white starch, caustic,barite

Blowout Prevention Program- Attachment to Form C-101

0'-750'	None
750'-2250'	20" 2000# annular preventer system.
2250'-5200'	13-5/8" 3000# double ram type preventers and a 3000# annular preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Test BOP to 1000 psi.
5200'-11,800'	11" 10,000# triple ram type preventers, 5000# annular preventer and rotating head body. Test BOP to 3000 psi. Install hydraulic drilling choke and mud/gas separator prior to 11,000'.
11,800'-13,700'	11" 10,000# triple ram type preventers, 5000# annular preventer and rotating head body. Test all rams, choke manifold, kill line, upper and lower kelly valves to 10,000 psi. Test annular BOP to 3000 psi.

Any equipment failing to test satisfactorily, will be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log.

The BOP's will be maintained ready for use until drilling operations are completed. BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties.

Accumulator shall maintain a pressure capacity reserve at all times to provide for the close-open-close sequence of the blind and pipe rams of the hydraulic preventers.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-34577	Pool Code 71920	Pool Name Bell Lake; Morrow, North
Property Code 24257	Property Name CABALLO 9 State	Well Number 1
OGRID No. 148111	Operator Name SOUTHWESTERN ENERGY PRODUCTION CO.	Elevation 3419

Surface Location

UL or lot No. E	Section 9	Township 23 S	Range 34 E	Lot Idn	Feet from the 1650	North/South line NORTH	Feet from the 660	East/West line WEST	County LEA
--------------------	--------------	------------------	---------------	---------	-----------------------	---------------------------	----------------------	------------------------	---------------

Bottom Hole Location If Different From Surface

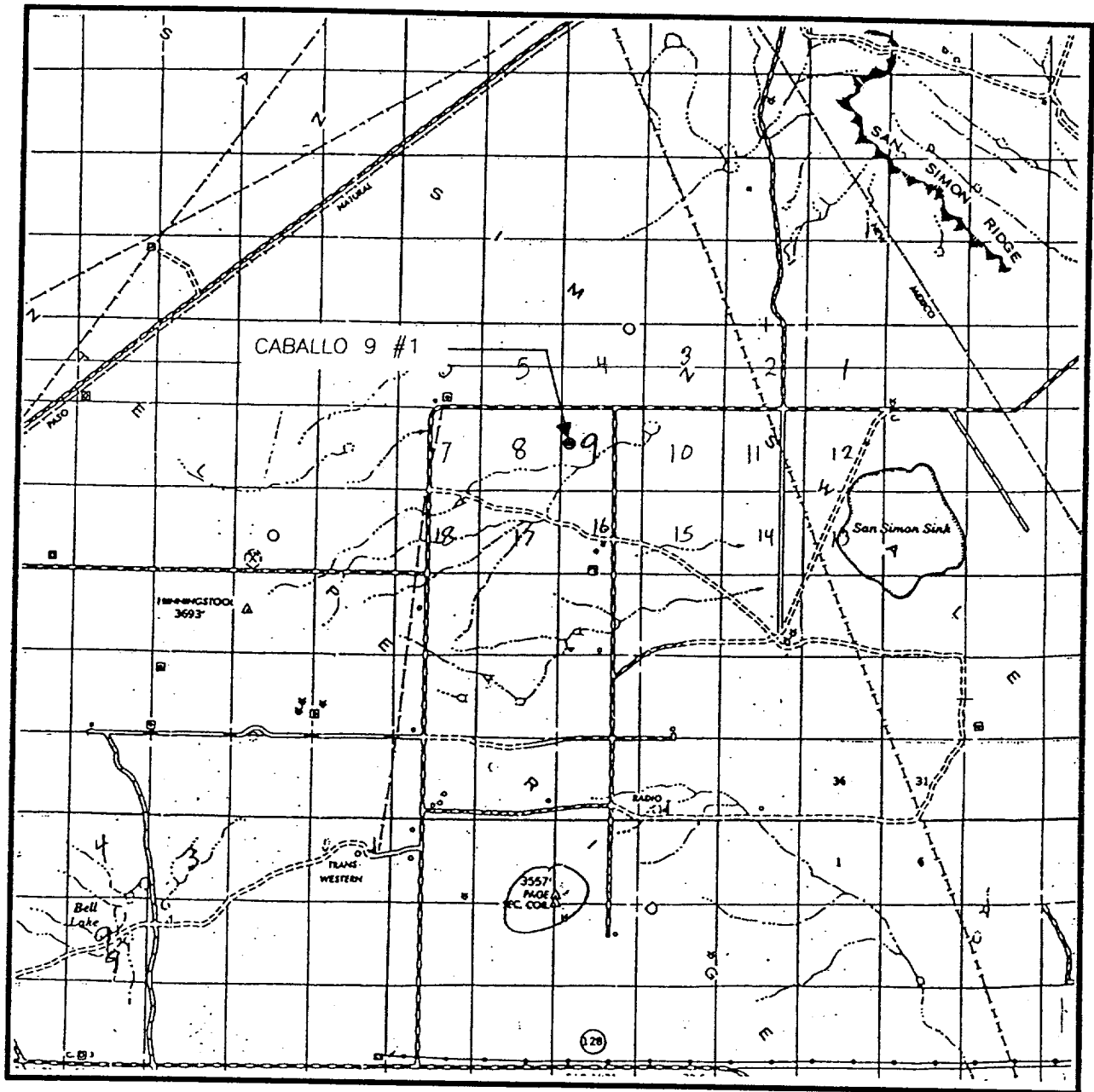
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Dedicated Acres 320	Joint or Infill	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

<p>1650'</p> <p>660'</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>James M. Tully</i> Signature James M. Tully Printed Name Sr. Drilling Engineer Title February 17, 1999 Date</p>
	<p>SURVEYOR CERTIFICATION</p> <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> <p>JANUARY 21, 1999</p> <p>Date Surveyed Signature & Seal Professional Surveyor NEW MEXICO RONALD S. EIDSON 12641 McDONALD 12185</p>

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 9 TWP. 23-S. RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1650' FNL & 660' FWL

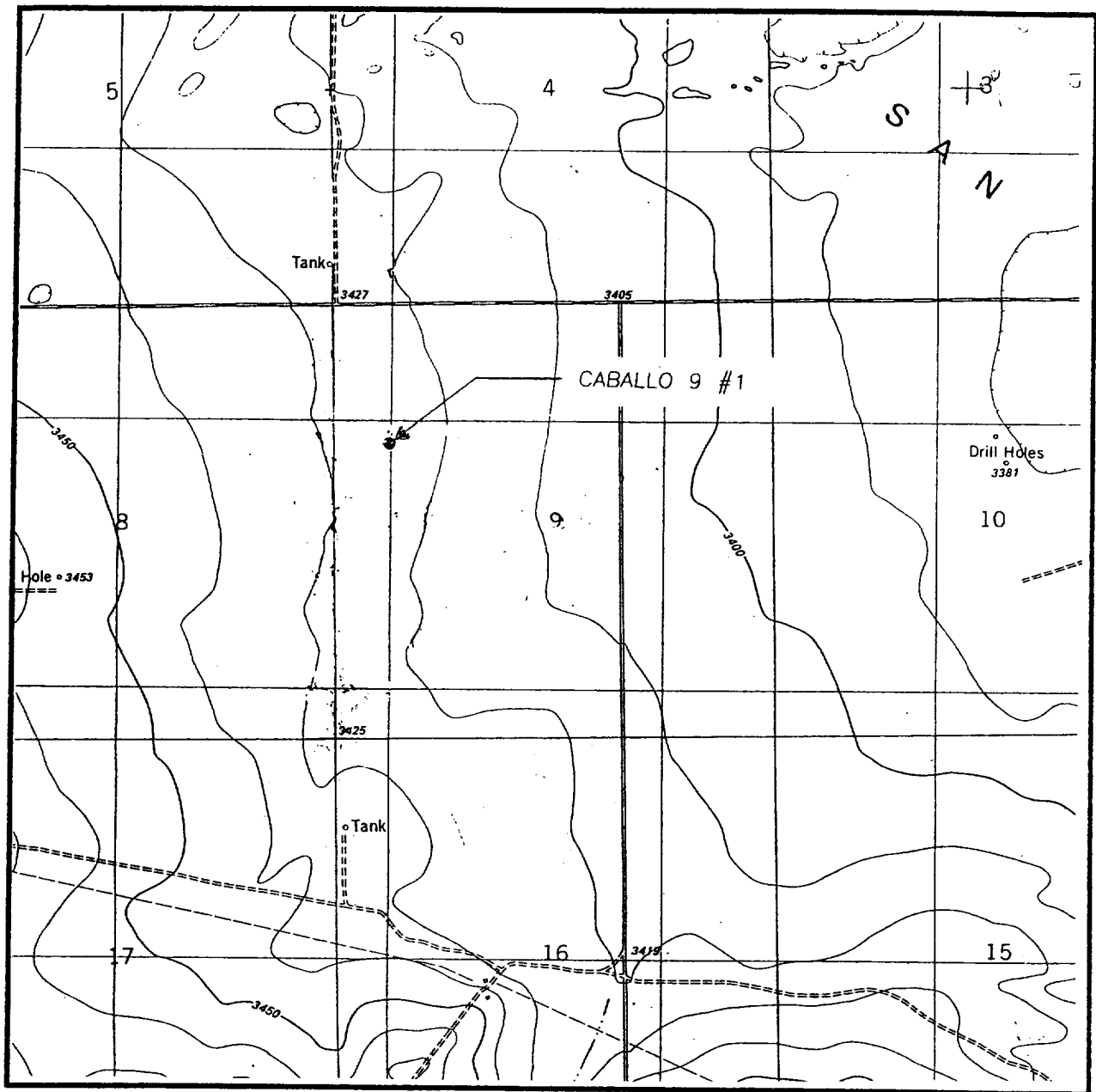
ELEVATION 3419

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION CO.

LEASE CABALLO 9

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
SAN SIMON SINK - 10'

SEC. 9 TWP. 23-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1650' FNL & 660' FWL

ELEVATION 3419

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION CO.

LEASE CABALLO 9

U.S.G.S. TOPOGRAPHIC MAP

SAN SIMON SINK, N.M.

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

ELF 7/27/99
ABOVE DATE DOES NOT
INDICATE WHEN
CONFIDENTIAL LOGS
WILL BE RELEASED