

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

Form C-101  
04  
Submit to appropriate District Office  
☐ AMENDMENT

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

<sup>1</sup> Operator Name and Address Plantation Operating, LLC 2203 Timberloch Place, Suite 229, The Woodlands, Texas 77380		<sup>2</sup> OGRID Number 237788
<sup>3</sup> Property Code 36402	<sup>3</sup> Property Name Sycamore	<sup>3</sup> API Number 30 - 005 - 63922
<sup>9</sup> Proposed Pool 1 Lost Lake (Strawn)		<sup>9</sup> 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
K	36	8S	29E		1980'	South	1980'	West	Chaves

**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

**Additional Well Information**

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code G	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code S	<sup>15</sup> Ground Level Elevation 4037'
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 8750'	<sup>18</sup> Formation Strawn	<sup>19</sup> Contractor To Be Determined	<sup>20</sup> Spud Date ASAP
Depth to Groundwater N/A		Distance from nearest fresh water well < 1,000'		Distance from nearest surface water < 1,000'
Pit: Liner: Synthetic <input checked="" type="checkbox"/> 12 mils thick Clay <input type="checkbox"/> Pit Volume: 10,000 bbls Drilling Method: Drilling Closed-Loop System <input type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input 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
17 1/2"	13 3/8"	48#	350'	350	Surface
12 1/4"	9 5/8"	40#	2650'	1250	Surface
8 3/4"	5 1/2"	17#	8750'	1100	Surface

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.

Operator proposes to drill well to 8,750' to the Lost Lake (Strawn) formation.

BOP Program: 2k Hydril (see Exhibit 2) from surface casing to intermediate TD. Schaffer LWS or equivalent (Double-Ram Hydraulic) 5k series with Hydril 5K.

Series (See Exhibit 2A) from intermediate casing to total depth. Rotating head, PVT, flow monitors and mud gas Separator from the San Andres to TD.

Mud Program: 0' - 500' Fresh Water, spud mud, lime for PH and LCM as needed for seepage.  
500' - 2650' Brine Water, lime for PH and LCM as needed for seepage.  
2650' - 8750' Fresh Water, lime for PH and LCM as needed for seepage.  
8750' - TD Cut brine. 9.3 #/g, Caustic for PH, Starch for WL control and LCM as needed for seepage.

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 ☐.

**OIL CONSERVATION DIVISION**

Approved by:

**BRYAN G. ARANT**  
DISTRICT II GEOLOGIST

Printed name: Kimberly Faldyn

Title:

Title: Production Tech

Approval Date: MAR 19 2007

Expiration Date: MAR 19 2008

E-mail Address: kfaldyn@plantationpetro.com

Date: 3/9/2007

Phone: 281-296-7222

Conditions of Approval Attached ☐

DISTRICT I  
1635 N. FRENCH DR., MORRIS, NM 88545

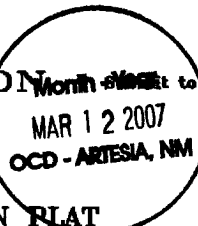
DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

DISTRICT IV  
1820 S. ST. FRANCIS DR., SANTA FE, NM 87505

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-10:  
Revised October 12, 2004  
Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 80693	Well Name Lost Lake (Strawn) Gas
Property Code	Property Name SYCAMORE	Well Number 1
OGRID No. 237788	Operator Name PLANTATION OPERATING, LLC	Elevation 4037'

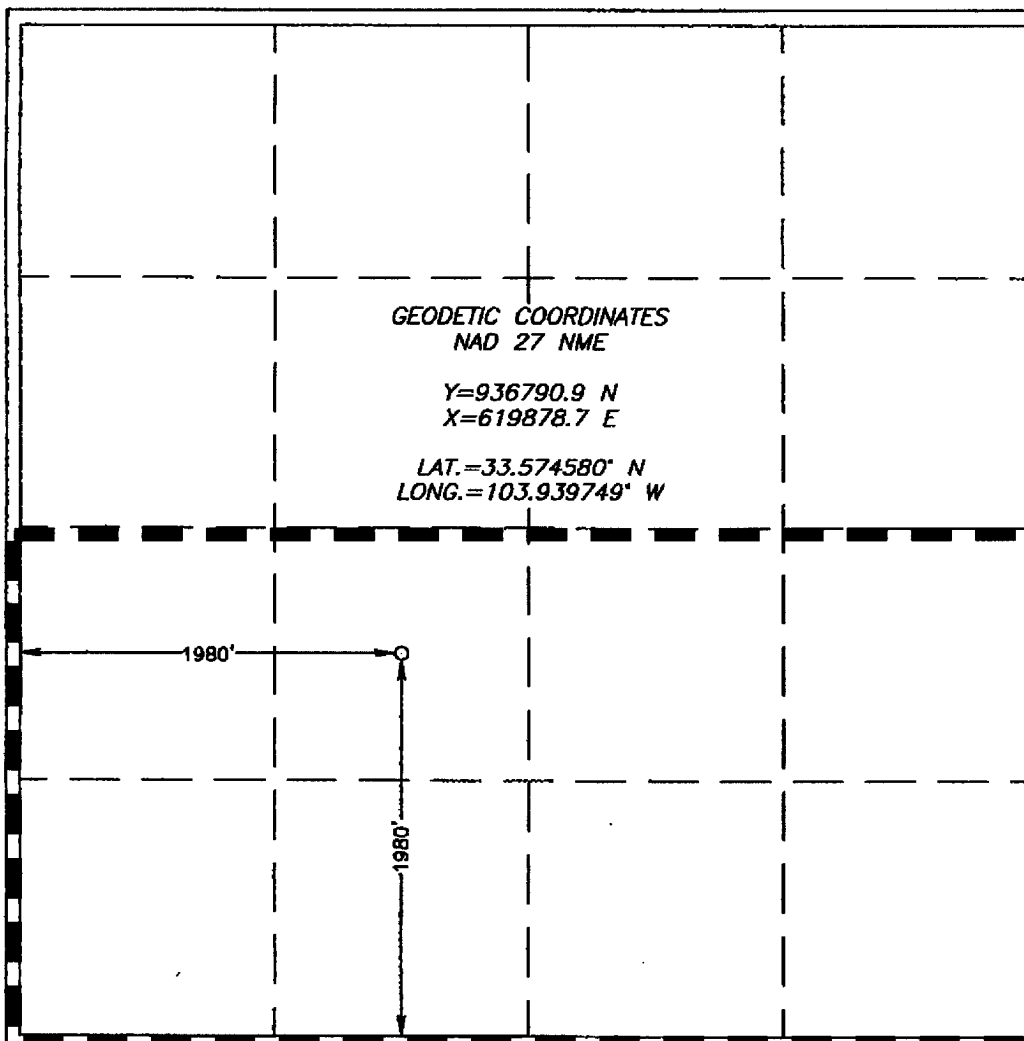
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	36	8-S	29-E		1980	SOUTH	1980	WEST	CHAVES

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



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: John Allred  
Date: 3/9/07  
Printed Name: John Allred

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.

JANUARY 12, 2007

Date Surveyed: JR  
Signature & Seal of Professional Surveyor

Signature: Ronald J. Edson  
Date: 02/16/07  
Certificate No. 07-11-0192

Certificate No. GARY EDSON 12841  
RONALD J. EDSON 3239

## DISTRICT I

1625 N. FRENCH DR., HOBBES, NM 88240

## DISTRICT II

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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

Revised October 2005  
 Submit to Appropriate District  
 State Lease 4 Copies  
 Fee Lease

Month-Year  
 MAR 12 2007  
 OGD - ARTESIA, NM

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
Property Code	Property Name SYCAMORE		Well Number 1
OGRID No.	Operator Name PLANTATION OPERATING, LLC		Elevation 4037'

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	36	8-S	29-E		1980	SOUTH	1980	WEST	CHAVES

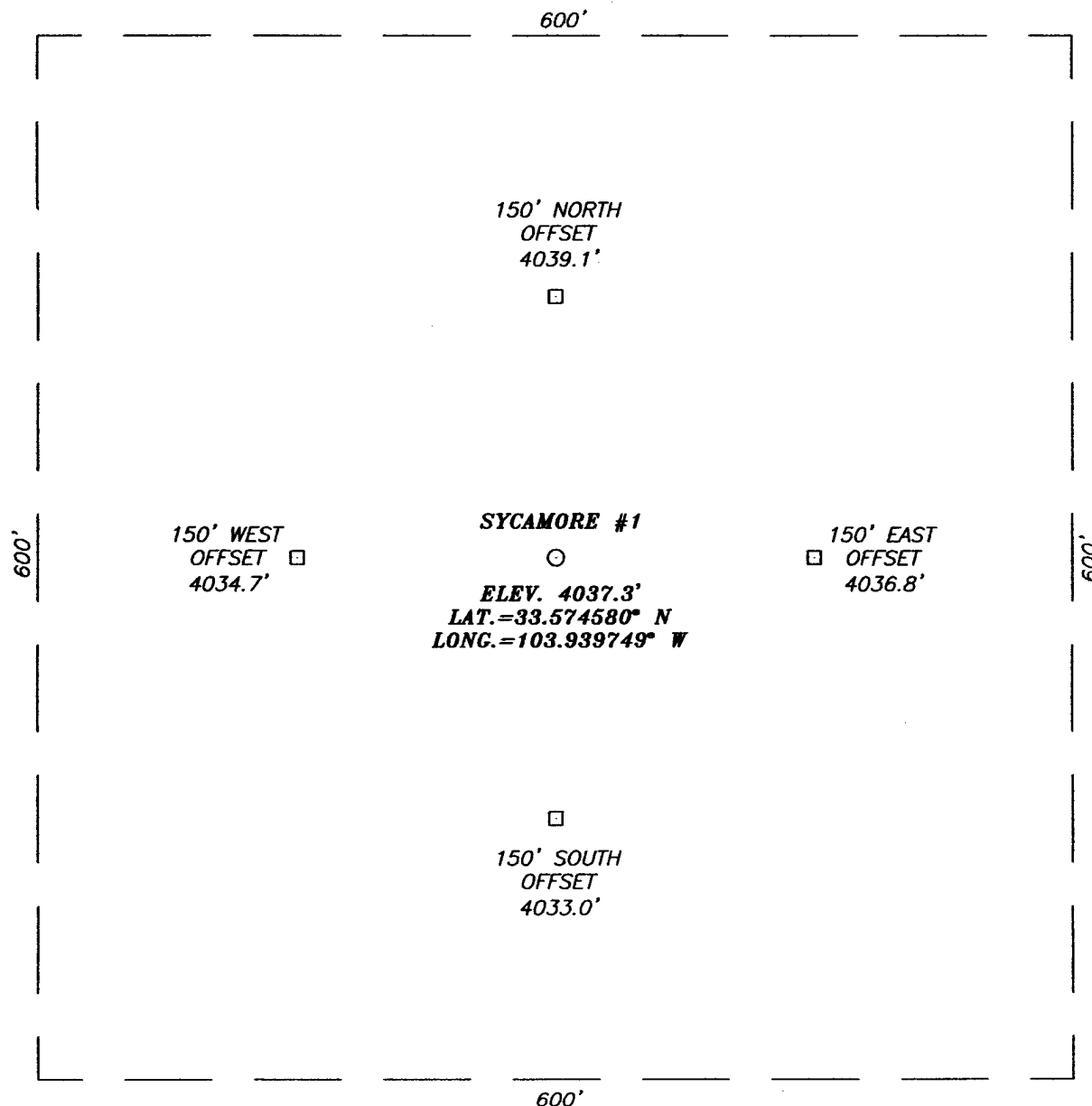
## Bottom Hole Location If Different From Surface

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

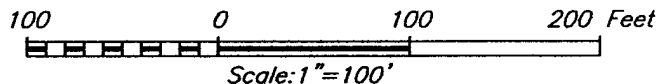
	<p>GEODETIC COORDINATES          NAD 27 NME</p> <p>Y=936790.9 N          X=619878.7 E</p> <p>LAT.=33.574580° N          LONG.=103.939749° W</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this 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> <p>Signature: <u>John Allred</u> Date: _____</p> <p>Printed Name: <u>JOHN ALLRED</u></p>
		<p><b>SURVEYOR CERTIFICATION</b></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 12, 2007</p> <p>Date Surveyed: _____ JR</p> <p>Signature &amp; Seal of Professional Surveyor: <u>Ronald J. Edson</u> 02/16/07</p> <p>07.11.0192</p>
		<p>Certificate No. GARY EDSON 12641          RONALD J. EDSON 3239</p>

**SECTION 36, TOWNSHIP 8 SOUTH, RANGE 29 EAST, N.M.P.M.,**  
**CHAVES COUNTY, NEW MEXICO**



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY. #380 AND CATO RD., TURN NORTH ON CATO RD. AND GO APPROX. 8.8 MILES, TURN LEFT AND GO WEST APPROX. 0.7 MILES. TURN LEFT AND GO SOUTH APPROX. 0.2 MILES. TURN RIGHT AND GO WEST APPROX. 0.2 MILES. TURN LEFT AND GO SOUTH APPROX. 0.2 MILES. TURN RIGHT AND GO WEST APPROX. 0.7 MILES. TURN RIGHT AND GO NORTH APPROX. 0.4 MILES. TURN RIGHT AND GO EAST APPROX. 0.1 MILES. TURN LEFT AND GO NORTH APPROX. 1.6 MILES. TURN LEFT AND GO WEST APPROX. 0.8 MILES. THIS LOCATION IS APPROX. 1140 FEET SOUTH.



**PLANTATION OPERATING, LLC**

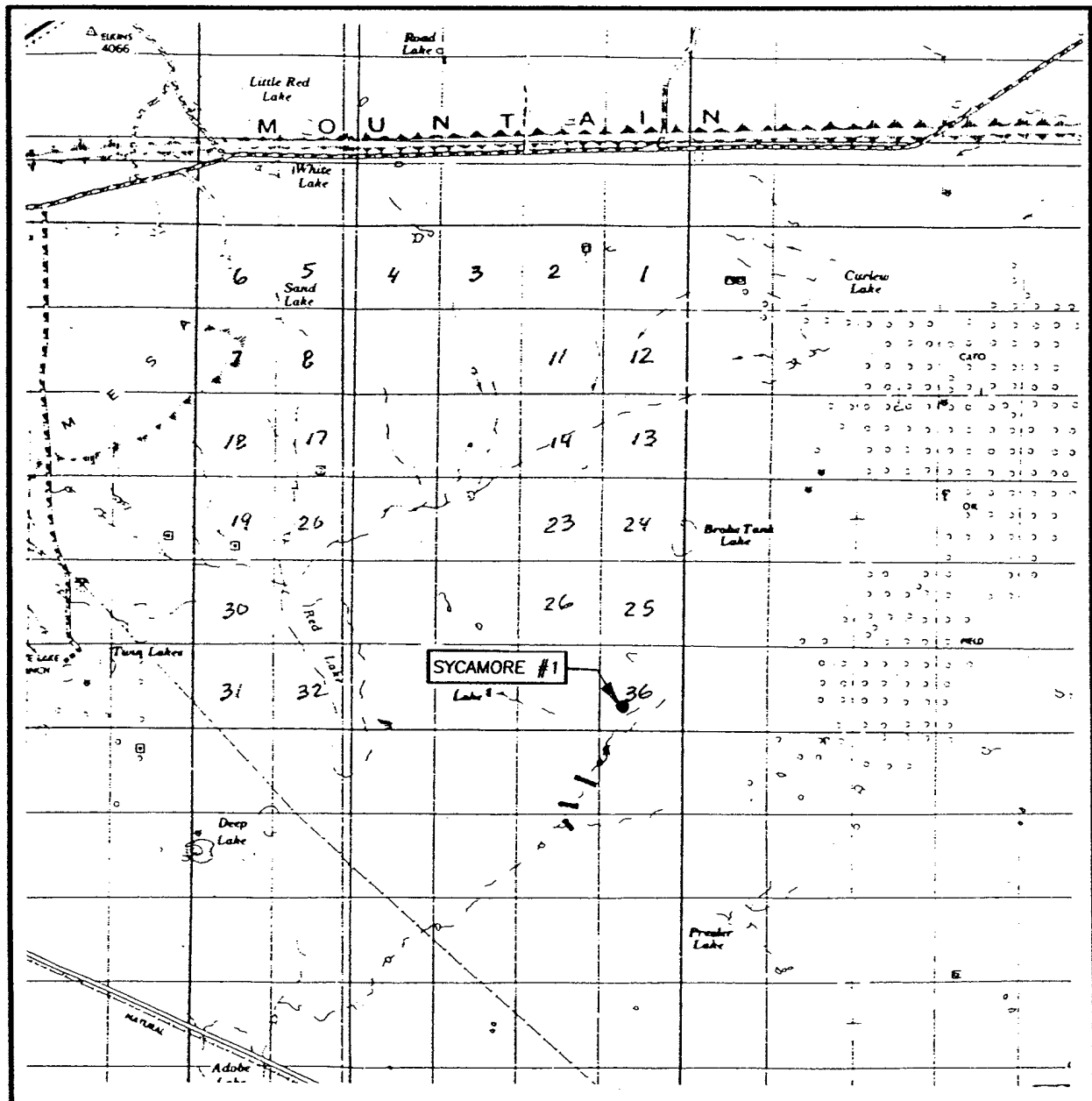
**SYCAMORE #1 WELL**  
 LOCATED 1980 FEET FROM THE SOUTH LINE  
 AND 1980 FEET FROM THE WEST LINE OF SECTION 36,  
 TOWNSHIP 8 SOUTH, RANGE 29 EAST, N.M.P.M.,  
 CHAVES COUNTY, NEW MEXICO.



**PROVIDING SURVEYING SERVICES**  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

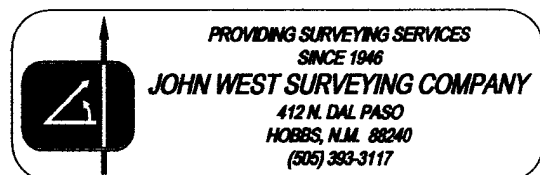
Survey Date: 02/12/07		Sheet 1 of 1 Sheets	
W.O. Number: 07.11.0192		Dr By: J.R.	Rev 1:N/A
Date: 02/15/07	Disk: CD#7	07110192	Scale: 1"=100'

# VICINITY MAP

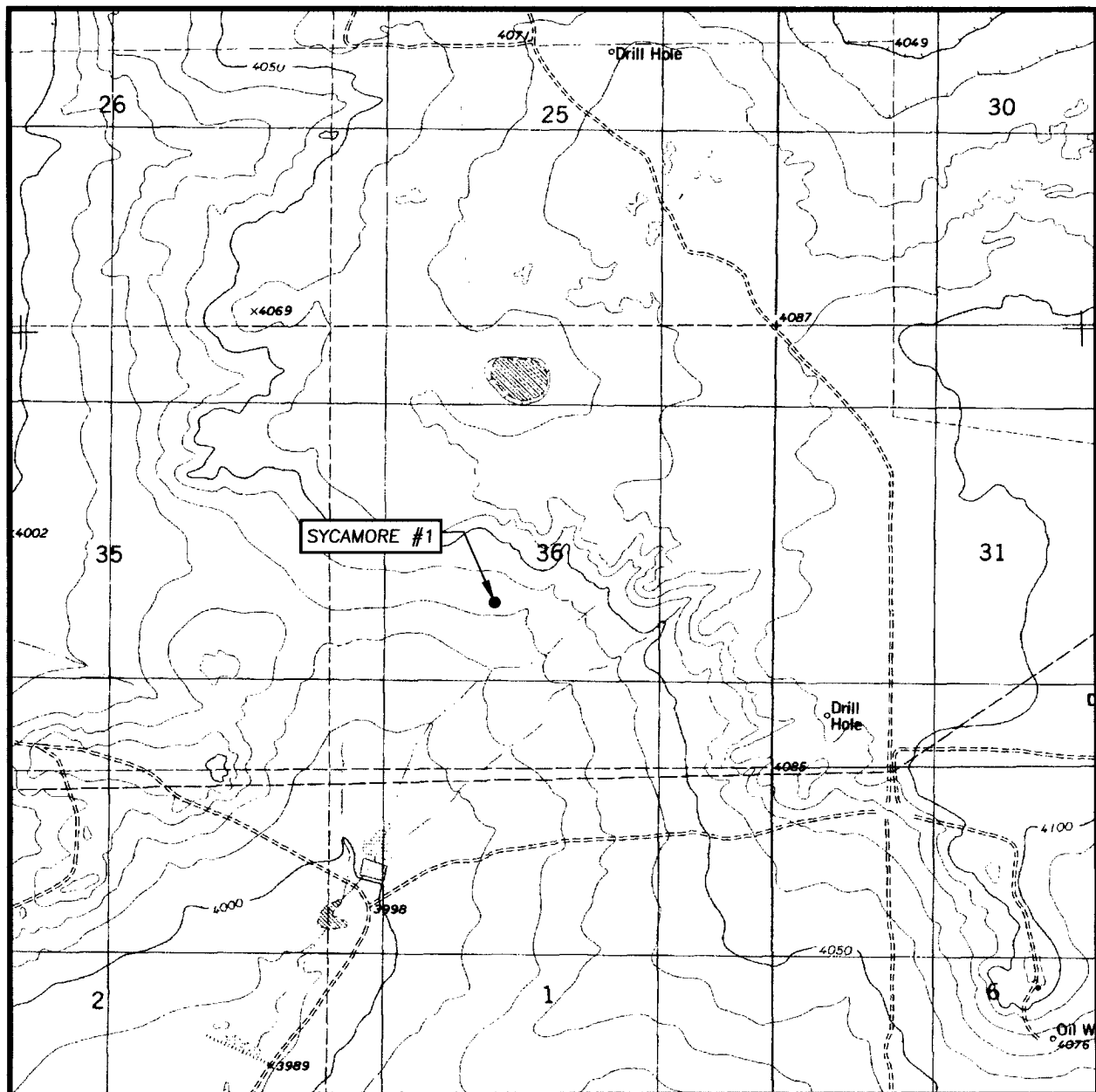


SCALE: 1" = 2 MILES

SEC. 36 TWP. 8-S RGE. 29-E  
 SURVEY N.M.P.M.  
 COUNTY CHAVES STATE NEW MEXICO  
 DESCRIPTION 1980' FSL & 1980' FWL  
 ELEVATION 4037'  
 OPERATOR PLANTATION OPERATING, LLC  
 LEASE SYCAMORE



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
PRESLER LAKE, N.M. - 10'

SEC. 36 TWP. 8-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

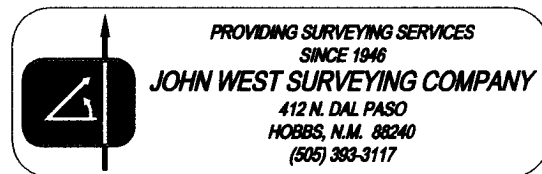
DESCRIPTION 1980' FSL & 1980' FWL

ELEVATION 4037'

OPERATOR PLANTATION  
OPERATING, LLC

LEASE SYCAMORE

U.S.G.S. TOPOGRAPHIC MAP  
PRESLER LAKE, N.M.



**PLANTATION OPERATING, LLC**  
**DRILLING PROGNOSIS**

**I. WELL IDENTIFICATION**

Lease Name: Sycamore #1  
Location: 1980' FSL & 1980' FWL  
K - 36, T-8-S, R-29-E  
County: Chaves  
State: New Mexico  
Elevations: 4037' GL

**II. DRILLING OBJECTIVE**

Zone: Strawn  
Total Depth: 8,750'  
Pool Name: Lost Lake (Strawn)  
Productive Interval: Strawn

**III. FORMATION TOPS**

<u>ZONE</u>	<u>DRILLING DEPTH(KB)</u>	<u>SUBSEA DEPTH</u>	<u>PROBABLE FLUID PRODUCTION</u>
	-		
San Andres	2500	1537	
Glorieta	3750	287	Potential BD LCM
Paddock	-		Potential BD LCM
Blinebry	-		Potential BD LCM
Tubb	5285	-1248	
Drinkard	5440	-1403	
Abo	6130	-2093	
Wolfcamp	6840	-2803	GAS (10.5-11.0#/gal)
Strawn	8060	-4023	GAS
Atoka	8440	-4403	

**Plantation Operating, LLC**

**Drilling Prognosis**

**Sycamore #1**

**IV. HOLE SIZE**

<u>Hole</u>	<u>Bit Size</u>	<u>T.D.</u>	<u>Gross Interval</u>
Surface	17-1/2"	350'	350'
Intermediate	12-1/4"	2650'	2650'
Production	8-3/4"	8750'	8750'

**V. CASING PROGRAM**

**A. Casing Design**

<u>Casing Size</u>					
<u>String</u>	<u>O.D.</u>	<u>Wt.</u>	<u>Amt.</u>	<u>Thread</u>	<u>Grade</u>
Surface	13-3/8"	48	350	ST&C	H-40
Intermediate	9-5/8"	40	2650	LT&C	J-55
Production	5-1/2"	17	8750	LT&C	J-55

**B. Float Equipment**

Surface Casing: 13 3/8-inch Texas Pattern guide shoe and 13 3/8-inch float collar. Wiper plug to displace cement.

Intermediate Casing: 9 5/8-inch Texas Pattern guide shoe and 9 5/8-inch float collar. Wiper plug to displace cement.

Production Casing: 5-1/2-inch super seal float shoe with latch down plug and baffle.

**C. Centralizers**

Surface Casing: One centralizer at the float collar and five centralizers every other joint thereafter.

Production Casing: Run a total of 18 centralizers. Place one centralizer at the guide-shoe with fifteen (15) centralizers being placed every 80 to 90 feet apart or every other joint in the case of 40-foot joint lengths thereafter. One centralizer inside the bottom of the surface casing and one near surface.

**D. Wellhead Equipment**

WKM type 9-5/8" x 5-1/2" slip type casinghead with bowl, slips and packoff. Prod 5-1/2" x 2 3/8" male-tubinghead complete with Mandrel, 2 inch outlets, stripper bowl and rubber and slip casing collar.



**Plantation Operating, LLC**

**Drilling Prognosis**

**Sycamore #1**

**VI. MUD PROGRAM**

- A. Drill the surface hole with a fresh water gel spud mud & paper (approximately 8.6 lb./gal) while maintaining a high enough viscosity to adequately clean the hole. Circulate through working pits and sweep for surface casing. Add paper as needed to control excess seepage.

Before drilling below the surface pipe, jet cuttings out of working pit into auxiliary pit and then switch from circulating through the working pit to circulating through the reserve pit with 10 ppg brine.

- B. Production Hole

Prior to drilling the cement plug, add ASP-725 through the hopper over 1 to 2 circulations at the rate of 20 gallons per 1000 barrels of fluid. Make certain to mix and agitate ASP 725 prior to adding to brine. ASP-725 is a cationic, liquid polyacrylamide designed to prevent hydration and migration of clays. Due to its cationic nature, bentonite and attapulgite will not hydrate and are useless in this fluid. If additional viscosity is required, use XCD, or Drispac plus.

Since ASP-725 is depleted from the system, some maintenance is required. Recommended maintenance is 5-6 gallons per tour through the mud hopper.

Lime should be used to control pH at 9.0. Paper may be used to control seepage losses.

**Water flows** while drilling the Delaware (Canyon Group) formations may require deviation from this program.

Depth: 8750. Weight: 9.4 – 9.6. Viscosity: 30-31. Filtrate: 6 or less.

At 5000 begin to lower the fluid loss with starch. **Fluid loss to be 10 cc's or less at 5000.**

Continue to add ASP-725 to the system at the rate of 5-6 gallons per tour. Caustic soda should be used to control pH at 9.0. Use paper and LCM to control seepage losses below 12,100'.

At TD, sweep the hole using a high viscosity 100 barrel pill with Dynasweep and/or XCD or as recommended.

**VII. CEMENTING PROGRAM**

- A. Surface Pipe

Cement surface pipe with approximately 350 sacks (or as required to circulate cement to surface) of API Class-C cement containing 2% Calcium Chloride. Before resuming drilling

operations, allow cement to set for a sufficient time to gain a 500-psi compressive strength (18 hours). Nipple up 3000# 12" Shaffer Type E Double Ram BOP and test rams. Also before drilling the surface cementing plug, the pipe shall be tested to 1000 psi for 15 minutes.

- B. Intermediate Pipe

Cement surface pipe with approximately 1250 sacks (or as required to circulate cement to surface) of API Class-C cement containing 2% Calcium Chloride. Before resuming drilling operations, allow cement to set for a sufficient time to gain a 500-psi compressive strength

## Plantation Operating, LLC

### Drilling Prognosis

#### Sycamore #1

(18 hours). Nipple up 5000# 12" Shaffer Type E Double Ram BOP and test rams. Also before drilling the surface cementing plug, the pipe shall be tested to 1000 psi for 15 minutes.

#### C. Production String

Cement the long string with approximately 700 sacks (or as required) of API Class-C cement containing 3% Halliburton Econolite, 5 lbs/sx Gilsonite and 1/2 lb./sx Floseal mixed to a slurry weight of 11.2 lb./gal followed by 400 sacks of a 50-50 blend of Pozmix "A" and API Class-C cement containing 18% salt, 2% gel, 1/4 lb./gal Floseal and a slurry weight of 14.1 lb./gal. Pump 30 barrels of water ahead of the cement to help remove the mud filter cake.

Once the plug has been bumped and latched, pressure test the casing to 1500 psig.

The total estimated cement volume of 1100 sacks provides for an excess that should be sufficient to the cement the production string. Before the cement job is actually performed, the required cement volume shall be checked against the open hole caliper log to determine the actual amount of cement necessary.

## VIII. FORMATION EVALUATION

#### A. Drilling Rate

1. The drilling rate shall be monitored with a geograph from the surface to total depth.
2. Plantation Operating, LLC requires that the penetration rate be tabulated in 10 feet increments over the entire hole.

#### B. Well Cutting Samples

One set of wet cutting samples shall be gathered every ten (10) feet from 350' to total depth. Five-foot (5') samples may be required during the Strawn interval as specified. **Two sets of dried cuttings** cleaned, bagged, tagged, and then grouped into bundles of ten samples per bundle with one bundle representing each 100 feet drilled.

After the cutting samples have been reviewed by the well site geologist, they shall be delivered to the Midland Sample Cut, 704 S. Pecos Street, Midland, Texas.

If required by the well site geologist, a second set of samples shall be gathered over the entire Strawn Formation Section.

#### C. Mud Logging

On at 2650' prepared to catch samples and monitor gas with instruments calibrated. Logs will be distributed as noted with Electric Logs. **Need two (2) sets of dry samples. Fax field mud logs by segments twice (2) daily to (281) 298-2333.**

#### D. Drill-Stem Testing

None

**Plantation Operating, LLC****Drilling Prognosis****Sycamore #1****E. Coring**

None

**F. Well Logging**

Well Logging information is now available on CD format. This format is to be requested on all work performed. Satellite data up to

**Open Hole Logs**

<u>Log</u>	<u>Interval</u>	
	<u>2" = 100'</u>	<u>5" = 100'</u>
GR-LDL-CNL *	T.D. – 2000'	T.D. – 2000'
Azimuthal Laterolog-	T.D. – 2000'	T.D. – 2000'
GR-MicroCFL		

\*Log and process on both lime and dolomite matrix based on a Platform Express output.

**Cased Hole Logs**

<u>Log</u>	<u>Interval</u>	
GR-CNL-DSL	T.D. – 2000'	T.D. – 2000'
CBL/VDL-GR-CCL	T.D. – 0'	T.D. – 0'

**Log Distribution**

	<u>No. of Copies</u>				
	<u>Field</u> <u>Prints</u>	<u>Final</u> <u>B/W</u> <u>Prints</u>	<u>Final</u> <u>Color</u> <u>Prints</u>	<u>Field</u> <u>Mud</u> <u>Logs**</u>	<u>Final</u> <u>Mud</u> <u>Logs</u>
Plantation Operating LLC 2203 Timberloch Place # 229 The Woodlands, Texas 77380	5	3	6	3	3
NMOCD District II Office 1301 W. Grand Avenue Artisa, New Mexico 88210	0	1	0	0	0

**\*\* Fax field mud logs by segments twice daily to (281) 298-2333.**

**Plantation Operating, LLC**

**Drilling Prognosis**

**Sycamore #1**

**IX. BLOWOUT PREVENTER SYSTEM**

Before drilling out from under the surface pipe, the well will be equipped with a 5000-psi 10 inch series 900 double-ram hydraulic blowout preventer. The blowout preventer shall be used through the running of the production string.

**X. HAZARDOUS ZONES**

**Note:** Be cautious of water flows while drilling below the Delaware formation. Check for water flows on each connection, during surveys and monitor pit gain/loss. Do not leave drill string on bottom and/or stationary while drilling through the porosity zones in the Strawn. This is to avoid differential sticking. Be cautious of lost circulation while drilling the Morrow formation at TD. Should circulation cease pump a standby 50 bbl LCM/XCD mix to regain circulation.

**XI. AUXILIARY EQUIPMENT**

Upper Kelly cock, full opening stabbing valve, rotating head as required.

**XII. COMPLETION**

Perforations, acid job, and additional stimulation to be determined after completion.

**XIII. DURATION OF OPERATIONS**

The total elapsed time required for drilling and completing the subject well is expected to be (40+) days.

**Distribution**

DD

GL

JA

File

Novo Mud

Morco



## Plantation Petroleum Companies

Plantation Petroleum Holdings III, LLC; Plantation Operating, LLC

**Kimberly Faldyn**  
Production Tech

2203 Timberloch Place, Ste. 229  
The Woodlands, TX 77380  
Tel: (281) 296-7222  
Fax: (281) 298-2333

March 9, 2007



**VIA DHL**

State of New Mexico  
Oil Conservation Division  
1301 W. Grand Avenue  
Artesia, NM 88210

Attn: Mr. Bryan Arrant

**RE: Sycamore #1  
H2S Analysis**

Dear Mr. Arrant:

Plantation Operating, LLC is planning to drill the Sycamore #1 well located in Chaves County, NM, and completing same in the Lost Lake-Strawn pool. Attached please find the New-Tex Lab Analysis which shows no H2S in the State "JA" #1 which was completed in the (Lost Lake-Strawn) pool. Plantation Operating, LLC does have a Contingency Plan for H2S already prepared in the event it should need to be implemented.

If you have any questions or need additional information, please feel free to call Kim Faldyn at (281) 296-7222 or e-mail at [kfaldyn@plantationpetro.com](mailto:kfaldyn@plantationpetro.com). Thank you for your attention to this matter.

Sincerely,

Kimberly Faldyn  
Production Tech

# NEW-TEX LAB

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

## ANALYSIS CERTIFICATE

CLIENT: JOHN WEST ENGINEERING  
ADDRESS: 412 N. DALPASO  
CITY, STATE: HOBBS NEW MEXICO 88240

ANALYSIS NUMBER: 859  
DATE OF RUN: 06/21/83  
DATE SECURED: 06/18/83

SAMPLE IDENT:  
SAMPLING PRESS:

AMOCO PROD. CO.

- STATE "JA" #1 (Lost Lake - Stream)  
SAMPLING TEMP:

F-36-T-8S, R-29E  
CHAVES, NM

REMARKS: SOME LIQUID IN SAMPLE

### \*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

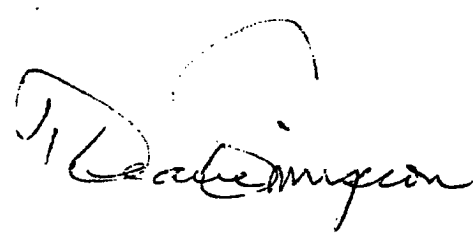
	MOLE PERCENT	GAL/ MCF
NITROGEN	1.605	
CARBON DIOXIDE	0.724	
METHANE	79.356	
ETHANE	9.806	2.615
PROPANE	4.757	1.306
ISO-BUTANE	0.942	0.307
NORMAL BUTANE	1.481	0.466
ISO-PENTANE	0.340	0.197
NORMAL PENTANE	0.346	0.125
HEXANES	0.214	0.088
HEPTANES PLUS	0.229	0.105
TOTAL	100.000	5.209

PROPANE GPM: 1.31 BUTANES GPM: 0.77  
ETHANE GPM: 2.61 PENTANES PLUS GPM: 0.52

SPECIFIC GRAV (CALC): 0.7246  
MOLE WEIGHT: 21.01

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		121.	1232
14.650		1207	1229
14.730		1214	1235
14.735		1214	1236

RH HAMILTON



**NEW MEXICO OIL CONSERVATION COMMISSION**  
**MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL**

Form C-122  
 Revised 9-1-65  
**JUL 22 1983**

40  
 File

**O.E.D.**

Type Test <input type="checkbox"/> Initial <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 5-19-93		ARTESIA, OFFICE	
Company AMOCO PRODUCTION COMPANY				Connection CITIES SERVICES COMPANY			
Pool LOST LAKE STRAIN				Formation STRAIN		Unit	
Completion Date 07/26/81		Total Depth 9300.		Plug Back TD 9230.		Elevation 4670.4-4690.	
Csg. Size 5.500		Wt. 17.0		Set At 9300.		Perforations From 8442. To 8476.	
Thp. Size 2.375		Wt. 4.7		Set At 8476.		Perforations From 0. To 0.	
Type Well—Single—Brokenhead—G.C. or G.O. Multiple SINGLE				Packer Set At 9334.		County CHAVES COUNTY	
Producing thru TUBING		Reservoir Temp. °F 162.0 9459.		Mean Annual Temp. °F 60.0		Base. Press. — P <sub>g</sub> 13.2	
L. 9459.		H. 9459.		G <sub>g</sub> 0.725		% CO <sub>2</sub> 0.72	
				% N <sub>2</sub> 1.61		% H <sub>2</sub> S 0.	
				Prover 0.		Meter Run 3.0	
						Type FLANGE	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							2293.	60.			72.0
1.	3.00 X 2.000			14.	2.0	109.	2195.	109.	0.	0.	1.0
2.	3.00 X 2.000			13.	5.0	110.	2143.	110.	0.	0.	0.7
3.	3.00 X 2.000			25.	10.0	107.	2057.	107.	0.	0.	0.7
4.	3.00 X 2.000			38.	20.0	94.	1920.	94.	0.	0.	0.7
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super. Comp. Factor, F <sub>sp</sub>	Rate of Flow Q, Mcfd
1.	21.53	7.39	27.2	0.9563	1.1743	1.0024	179.
2.	21.53	12.49	31.2	0.9551	1.1743	1.0027	303.
3.	21.53	19.54	38.2	0.9577	1.1743	1.0034	475.
4.	21.53	32.00	51.2	0.9638	1.1743	1.0043	735.
5.							

NO.	R <sub>1</sub>	Temp. °R	T <sub>1</sub>	Z	Gas Liquid Hydrocarbon Ratio	A.P.L. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	0.04	568.	1.45	0.995	0.	0.1	0.725	XXXXXX	567.	392.
2.	0.05	570.	1.45	0.995						
3.	0.06	567.	1.45	0.993						
4.	0.08	554.	1.41	0.990						
5.										

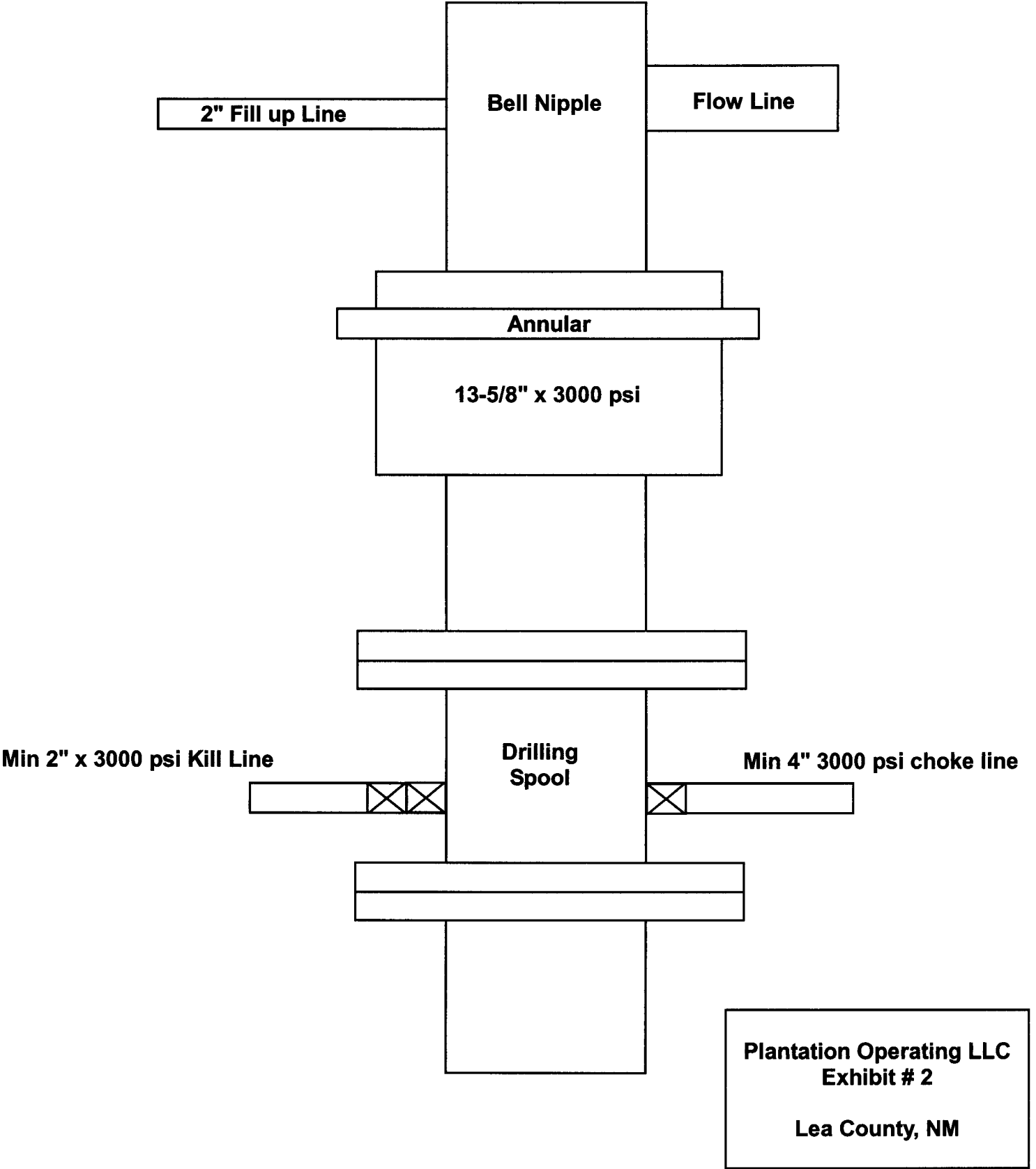
  

NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>1</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_1^2 - P_w^2} =$	(2) $\left[ \frac{P_c^2}{P_1^2 - P_w^2} \right]^n =$
1.	4991.	2153.	4635.	707.	3.0730	3.0730
2.	4649.	2099.	4406.	936.		
3.	4396.	2019.	4074.	1263.		
4.	3737.	1999.	3606.	1735.		
5.						

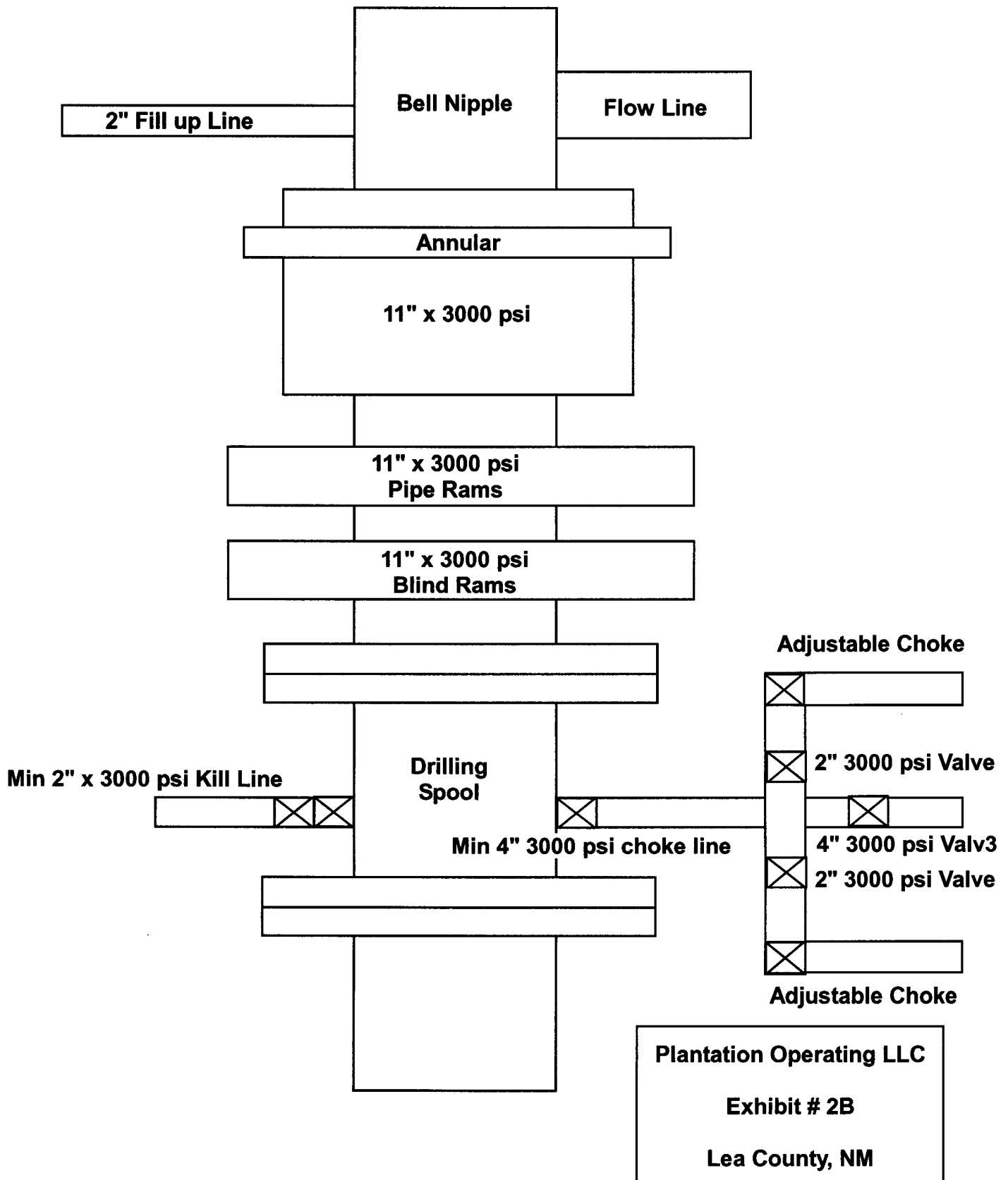
Absolute Open Flow		2425.	Width @ US 025	Angle of Slope	45.0	Slope, m	1.000
Approved By Commission: _____ Conducted By: _____ Calculated By: _____ Checked By: _____							

**Plantation Operating, LLC**  
**BOP Schematic for 12-1/4" Hole**



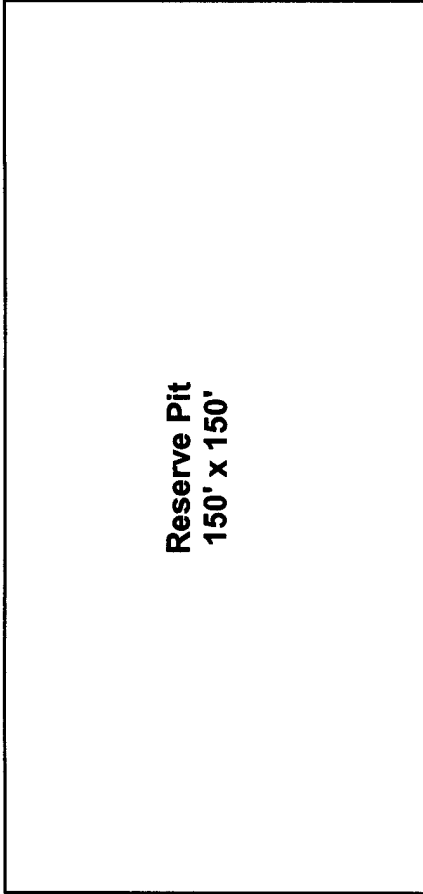
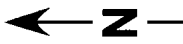


**Plantation Operating, LLC**  
**BOP Schematic for 8-3/4" or- 7-7/8" Hole**



# Plantation Operating, LLC

Drilling Schematic



Plantation Operating LLC  
Exhibit # 1  
Lea County, NM

