

NEW MEXICO ENERGY, MINERALS and  
NATURAL RESOURCES DEPARTMENT

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DHC

NA

BILL RICHARDSON

Governor

Joanna Prukop  
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

MEMO

DATE:

5/7/03

TO:

William Jones

FROM:

Donna Mull

To: Kathy

- |   |   |
|---|---|
| <input type="checkbox"/> For Your Files               | <input type="checkbox"/> Prepare a Reply for My Signature |
| <input type="checkbox"/> For Your Review and Return   | <input type="checkbox"/> For Your Information             |
| <input checked="" type="checkbox"/> For Your Handling | <input type="checkbox"/> For Your Approval                |
| <input type="checkbox"/> As Per Your Request          | <input type="checkbox"/> For Your Signature               |
| <input type="checkbox"/> Please Advise                | <input type="checkbox"/> For Your Attention               |

**District I**

1025 N. Fourth Street, Suite 100, P.O. Box 1025

**District II**

1201 W. Grand Avenue, Suite 100, P.O. Box 1201

**District III**

1020 N. Fourth Street, Suite 100, P.O. Box 1020

**District IV**

1025 N. 3rd Street, Suite 100, P.O. Box 1025

State of New Mexico  
Energy, Minerals and Natural Resources Department**Oil Conservation Division**1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505Form C-107A  
Revised May 15, 2000**APPLICATION TYPE**☒ Single Well☒ Establish Pre-Approved Pools**EXISTING WELLBORE**☒ Yes ☐ No**APPLICATION FOR DOWNHOLE COMMINGLING**

**E.G.L. Resources Inc.** **P. O. Box 10886** **Midland, TX 79702**  
**Operator** **Address**  
**Sun Bright Federal 1 Unit C, Sec. 21, T19S, R33E** **Lea**  
**Lease** **Well No.** **Unit Letter-Section-Township-Range** **County**  
**OGRID No. 173413 Property Code 29661 API No. 30-025-29140 Lease Type: ☒ Federal ☐ State ☐ Fee**

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
<b>Pool Name</b>	<del>North Gam</del> <b>Tonto (Bone Springs)</b>		<b>North Gam (Wolfcamp)</b>
<b>Pool Code</b>	<del>59475</del> <b>59476</b>		<b>28210</b>
<b>Top and Bottom of Pay Section (Perforated or Open-Hole Interval)</b>	<b>10602-10623</b>		<b>11089-11108</b>
<b>Method of Production (Flowing or Artificial Lift)</b>	<b>Flowing</b>		<b>Flowing</b>
<b>Bottomhole Pressure</b> <small>(Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)</small>	<b>2241 psia based on pressure data dated 7/5/2000</b>		<b>2290 psia based on pressure data and cumulative production</b>
<b>Oil Gravity or Gas RTU (Degree API or Gas BTU)</b>	<b>39.6</b>		<b>41.8</b>
<b>Producing, Shut-in or New Zone</b>	<b>Producing</b>		
<b>Date and Oil/Gas/Water Rates of Last Production</b> <small>(Note: For new zones with no production history, estimated rates will be required to match production estimates and supporting data.)</small>	<b>Date: 7/6/2000</b> <b>Rates: 7 oil, 2.8 mcf/d, 0 water</b>	<b>Date:</b> <b>Rates:</b>	<b>Date: 6/20/2000</b> <b>Rates: 25 oil, 40 mcf/d, 0 water</b>
<b>Fixed Allocation Percentage</b> <small>(Note: If allocation is based upon comparing other zone current or past production, supporting data or explanation will be required.)</small>	<b>Oil 22 % Gas 38 %</b>	<b>Oil % Gas %</b>	<b>Oil 78 % Gas 52 %</b>

**ADDITIONAL DATA**

Are all working, royalty and overriding royalty interests identical in all commingled zones?  
 If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?

Yes ☒ No ☐  
 Yes ☐ No ☐

Are all produced fluids from all commingled zones compatible with each other?

Yes ☒ No ☐

Will commingling decrease the value of production?

Yes ☐ No ☒

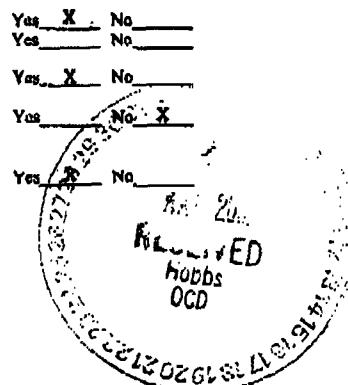
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?

Yes ☐ No ☐

NMOCD Reference Case No. applicable to this well: \_\_\_\_\_

**Attachments:**

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

**PRE-APPROVED POOLS**

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

**SIGNATURE** Linda Johnston **TITLE** Agent **DATE** 5/2/02  
**TYPE OR PRINT NAME** Linda Johnston **TELEPHONE NO. (915)** 694-8228

**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

## State of New Mexico

Energy, Minerals &amp; Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised August 15, 2000

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-29140		<sup>2</sup> Pool Code 59475	<sup>3</sup> Pool Name Tonto (Bone Springs)
<sup>4</sup> Property Code 29661	<sup>5</sup> Property Name Sun Bright Federal		<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 173413	<sup>8</sup> Operator Name E.G.L. Resources, Inc.		<sup>9</sup> Elevation 3,627.9'

<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 line	County
C	21	19S	33E		920	North	1,980	West	Lea

<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 line	County

<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill N	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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

	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature John A. Langhoff Printed Name Petroleum Engineer Title April 8, 2003 Date	
	<sup>18</sup> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of a final survey made by me or under my supervision, and that the same is true and correct to the best of my belief. 	
	Date of Survey Signature and Seal of Professional Surveyor:	
	Certificate Number	

District I  
PO Box 1988, Hobbs, NM 88241-1988  
District II  
PO Drawer DD, Artesia, NM 88211-8719  
District III  
1000 Rio Grande Rd., Alamosa, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-29140		Pool Code 27210	Pool Name North Gem Wolfcamp
Property Code 011961	Property Name Sun Bright Federal		Well Number 1
OGRIID No. 025542	Operator Name Yates-Energy-Corporation E.G.L. RESOURCES INC.		Elevation 3627.9'

18 Surface Location

U/L or lot no. C	Section 21	Township 19S	Range 33E	Lot Ids	Feet from the 920	North/South Line N	Feet from the 1980	East/West Line W	County Lea
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11 Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Ids	Feet from the	North/South Line	Feet from the	East/West Line	County
11 Dedicated Acre 40	11 Joint or Infill N	11 Consolidation Code		11 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>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Sharon R. Hamilton</i> Signature Sharon R. Hamilton Printed Name Landman Title 6/1/00 Date 6/1/00</p>	
	<p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was placed 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>Date of Survey Signature and Seal of Professional Surveyor: Certificate Number</p>	

**SUN BRIGHT FEDERAL NO. 1  
920' FNL & 1980' FWL  
SEC. 21, TWP. 19-S, RGE. 33-E  
LEA COUNTY, NEW MEXICO**

**ATTACHMENT TO APPLICATION FOR DOWNHOLE COMMINGLING**

Application is being made to downhole commingle production from the North Gem (Wolfcamp) field and the Tonto (Bone Springs) field within the Sun Bright Federal No. 1 wellbore. Neither completion has produced for an extended period of time. The following explanation and attachments are submitted as justification for the downhole commingling of production.

**North Gem (Wolfcamp) Field**

The Sun Bright Federal No. 1 was drilled in 1985 and drill stem tested the Wolfcamp formation from 11,069' to 11,113' during the drilling operation. The initial one-hour shut-in pressure was 5,616 psia following a 30-minute pre-flow and the final two-hour shut-in pressure was 5,195 psia following a 60-minute final flow period. The DST pressure information indicated that the Wolfcamp formation was a limited reservoir.

The well was subsequently drilled to the Morrow formation and has produced from the Morrow and Atoka formations (see attached well data sheet). In March 2000, Yates Energy re-completed the well from the Atoka formation to the Wolfcamp formation with perforations from 11,089' to 11,108'. The well was placed on production on April 1, 2000 with initial rate of 139 BOPD/ 5 BWPD/ 185 MCFD on 11/64 th's choke with 380 psig FTP (see attached production data).

By April 12, 2000 production had declined to 35 BOPD/ 0 BWPD/ 87 MCFD on 11/64 th's choke with 50 - 140 psig FTP. The well was shut-in for a 72-hour bottom hole pressure survey from April 12 through April 15, 2000. The pressure buildup data exhibits the characteristics of a limited reservoir. A maximum recorded pressure of 3,334 psia was obtained during the test. The pressure data was extrapolated to a Horner Time of 1 hour (infinite shut-in time) to obtain a P\* value of 4,195 psia (see attached pressure buildup data). Cumulative production at the time of the buildup data was 857 BO and 1,421 MCFG. The well remained shut-in until April 26, 2000 with the tubing pressure building to 1,050 psig.

The well was returned to production and produced until May 26, 2000 when the rate had once again declined to zero. The well was shut-in to allow the pressure to buildup so that production could be resumed. The shut-in tubing pressure rose to 180 psig and production was resumed on June 1, 2000.

The well produced until June 21, 2000 when wellwork was initiated to re-complete the well to the Bone Springs formation. At the time of the re-completion, the well was exhibiting signs of loading up and subsequent cessation of production.

RECEIVED  
Hobbs

**SUN BRIGHT FEDERAL NO. 1  
920' FNL & 1980' FWL  
SEC. 21, TWP. 19-S, RGE. 33-E  
LEA COUNTY, NEW MEXICO**

**ATTACHMENT TO APPLICATION FOR DOWNHOLE COMMINGLING**

Page 2

Final production rate was 25 BOPD/ 0 BWPD/ 40 MCFPD on 10/64 th's choke with 80 psig FTP. Cumulative production for the Wolfcamp formation was 2,477 BO and 4,410 MCFG.

The Wolfcamp formation pressure was estimated using the DST data, the buildup data from April 2000, and the cumulative production. The data indicates that the Wolfcamp formation has a current bottom hole pressure of 2,290 psia (see attached formation pressure estimate). This bottom hole pressure is similar to the bottom hole pressure observed in the Bone Springs formation (described below).

**Tonto (Bone Springs) Field**

Yates Energy initiated the Bone Springs formation re-completion in June 2000. The Wolfcamp formation was isolated and the Bone Springs formation was perforated from 10,602' to 10,614'. The new perforations were acidized and swabbed tested. The well was shut-in from June 26, 2000 to July 5, 2000 with a 211 hour SITP of 525 psig. A static bottom hole pressure survey on July 5, 2000 indicated a bottom hole pressure of 2,241 psia for the Bone Springs formation. The well was placed on production with an initial rate of 7 BOPD/ 0 BWPD/ 25 MCFPD on 24/64 th's choke with 60 psig FTP. The well produced for two days and production ceased due to the well being unable to produce against the line pressure. After seven days the shut-in tubing pressure had stabilized at 50 psig. Sustained flowing production was not established from the Bone Springs formation.

**Recent Wellwork**

E.G.L. Resources, Inc. replaced Yates Energy as the operator in March 2002. A workover was initiated to add perforations and stimulate the Bone Springs formation to establish commercial production. Perforations were added from 10,618' to 10,623' below existing perforations from 10,602' to 10,614'. The zone from 10,602' to 10,623' was then acidized and swab tested. Swab testing indicated that the Bone Springs reservoir would not continuously produce as a flowing completion. The isolation equipment between the Bone Springs reservoir and the Wolfcamp reservoir was removed in order to maximize recovery of reserves from both reservoirs. The well was placed on production using artificial lift equipment.

**Commingling Justification**

The pressure data and production data indicate that both the Bone Springs reservoir and the Wolfcamp reservoir in the Sun Bright Federal No. 1 are limited reservoirs. Combining the two completion intervals will allow the well to produce commercial

**SUN BRIGHT FEDERAL NO. 1  
920' FNL & 1980' FWL  
SEC. 21, TWP. 19-S, RGE. 33-E  
LEA COUNTY, NEW MEXICO**

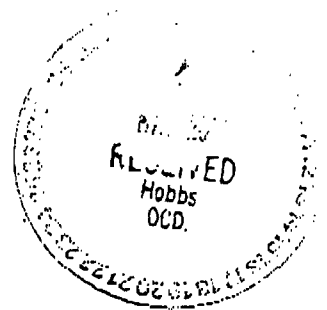
**ATTACHMENT TO APPLICATION FOR DOWNHOLE COMMINGLING**

Page 3

quantities of oil and gas for an extended period of time and maximize recovery from both reservoirs. Additionally, similar bottom hole pressures in the Bone Springs reservoir (2,241 psia) and the Wolfcamp reservoir (est. 2,290 psia) indicates crossflow between the reservoirs will not occur as the well is being produced.

In order to prevent waste and maximize oil and gas recovery, E.G.L. Resources, Inc. proposes to commingle production from the Tonto (Bone Springs) and the North Gem (Wolfcamp) fields within the Sun Bright Federal No. 1 well.

Attachments: Well Data Sheet  
Wolfcamp Production plot  
Wolfcamp Pressure Buildup plot  
Wolfcamp Formation Pressure Estimate plot



**WELL DATA SHEET****FIELD:** N. Gam**WELL NAME:** Sun Bright Federal No. 1**FORMATION:** Wolfcamp/  
Bone Springs**LOC:** 920' FNL & 1980' FWL  
**SEC:** 21 **TWP:** 19S **RGE:** 33E**COUNTY:** LEA  
**STATE:** NM**GL:** 3628'  
**KB to GL:** 25.5'**CURRENT STATUS:** Producing  
**API NO:** 30-026-2814013-3/8", 54.5# @ 437'  
425 sxs. 17-1/2" hole.8-5/8", 32# @ 5,205'  
w/ 3,050 sxs. 12-1/4" hole.

TOC @ 6,728' by TS.

2-7/8", 6.5#/ft, P-106 LJ 38S tbg

DV Tool @ 8,984'

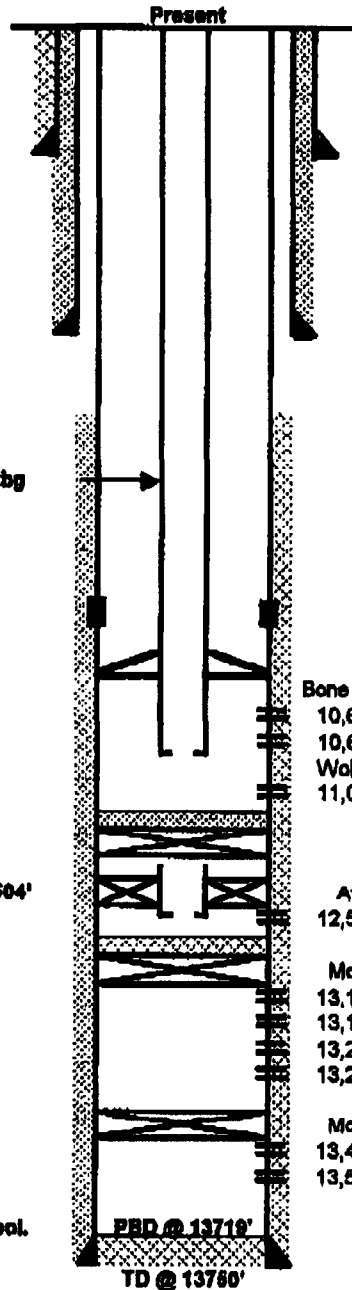
TAC @ 10,538'

CIBP @ 12,455' w/ 35' cmt

Oils Perma-Latch Pkr @ 12,504'

CIBP @ 13,000' w/ 25' cmt

CIBP @ 13,436'

5-1/2", 17# & 20#, N-80  
set @ 13,750' w/ 1,600 sxs in  
2 stgs. Circ 120 sxs off DV tool.  
7-7/8" hole. TOC @ 6,728'.**FILE:** SB\_1\_WBS.XLS  
**JAL** 04-17-2002**Date Completed:** 6/1/1985**Initial Production:** Flow 125 BCPD/1938 MCFPD**Initial Formation:** Morrow From: 13492' To: 13546'**Completion Data:** Completed natural. CAOF test rate of 9.8 MMCFGPD.**Wellbore History:**

03/07/88 Set CIBP @ 13,435'. Selectively perf Morrow 13130' to 13308'. Set pkr @ 13015'. IPF 24 BCPD/1800 MCFPD on 12/64" ok w/ 1700# FTP. Completed natural. CAOF 2.3 MMCFPD. Morrow cum 82 MBO & 3.1 BCF.

01/23/83 Set CIBP @ 13,000'. Perf Atoka 12584' to 89'. Set pkr @ 12,472'. IPF 58 BOPD/1050 MCFPD.

03/11/83 Acidz Atoka 12584' - 89' w/ 1000 gal 7.5% NEFE HCl & 1000 acf/bbl N2. Flush w/ Condensate & N2. RTP @ 41 BOPD/735 MCFPD. Atoka cum 8 MBO & 431 MMCF.

08/21/80 Load tbg & csg. Test csg to 775 psig. Held. Pkr would not rise. POOH w/ tbg. Ran gauge ring to pkr. Set CIBP @ 12,455' & cap w/ cmt. Pickle tbg. Spot 350 gal 15% NEFE DIHO acid across Wolfcamp. Ran GR-CCL w/ 11,432' to 10,600'. Perf 11,089' - 108' w/ 3 spf. Run pkr & set @ 11,014'. Test csg to 850 psig. Held. Pump acid away w/ 8 bbls 2% KCl pressuring from 1000 psig to 4000 psig. Flow well back. Set pig in profile nipple. Circ in pkr fluid. Pull plug. Flow & swab well in. PWOP. BHP = 3334# on 4-12-00. Cum 2.5 MBO & 4 MMCF by 6/21/00.

08/21/00 Rise pkr & POOH. Set Lock-set pkr w/ plug and On-Off tool @ 11,000'. Spot 250 gal 15% NEFE HCl w/ across Bone Springs. Test csg to 500 psig. Perf Bone Springs 10,602' - 14' w/ 3 spf. RIH w/ Baker Lock-set pkr on 328 jts. 2-7/8" LJ tbg to 10,543'. Rvce in acid & set pkr. Displace acid into formation increasing pressure to 2900#. Pump into 0.25 bpm @ 2900#. 5" - 2000#. 15" - 1500#. Flow back & dead in 3". Swb down to 10,540' w/ oil out increasing to 100%. Rec. 98 BO & 53.1 BW. SWI for 9 day w/ TP reaching 525#. Run static BHP showing 2231# @ 10,577'. Opm well & flowed 7.6 BO & 25 MCFG. Well died. Leave shut-in.

03/27/02 Rise pkr & POOH. Run GR-CCL log. Perf 10,618' - 23'. Run pkr. Acidz perfor 10,602' - 23' w/ 3000 gal 18% NEFE HCl. Swab/mow test well. POOH w/ pkr. Retrieve pkr & equalizing valve from 11,000'. Run tbg, pump, and rods. Set prmpg unit. PWOP.

**Additional Data:**

Orig Bore 9317'-28', 8814'-28', 8624'-58', 10604'-26', & 11003'-100'.  
DST 11088'-11113'. 2000' WB, 30" FF, re-op 60". RO 47 BO, gvy 41.8, 28 BW, SC R/ 6.9 c/g & 800 ac oil, 400 ac wt, 147,000 CL PFFP 1057-1605. 60" 5616, FFP 1739-2787#, 120" 5195#. HP 6389-6389.

**Drill Bore 12582'-802'.**

DST 12588'-805'. 3500' WB, Op 80". GTS 38" APO 621 MCF Inor. to 1921 MCF. RO 68 BC, 3600' WB, SC R/ 400 ac/gobd, gvy 48, 8.8 c/g @ 1800#, 60" 7151#, FFP 2204-3540, 120" 7204#. HP 7674-7674.

**Formation Tops**

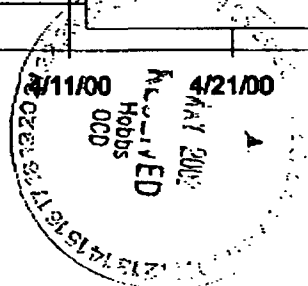
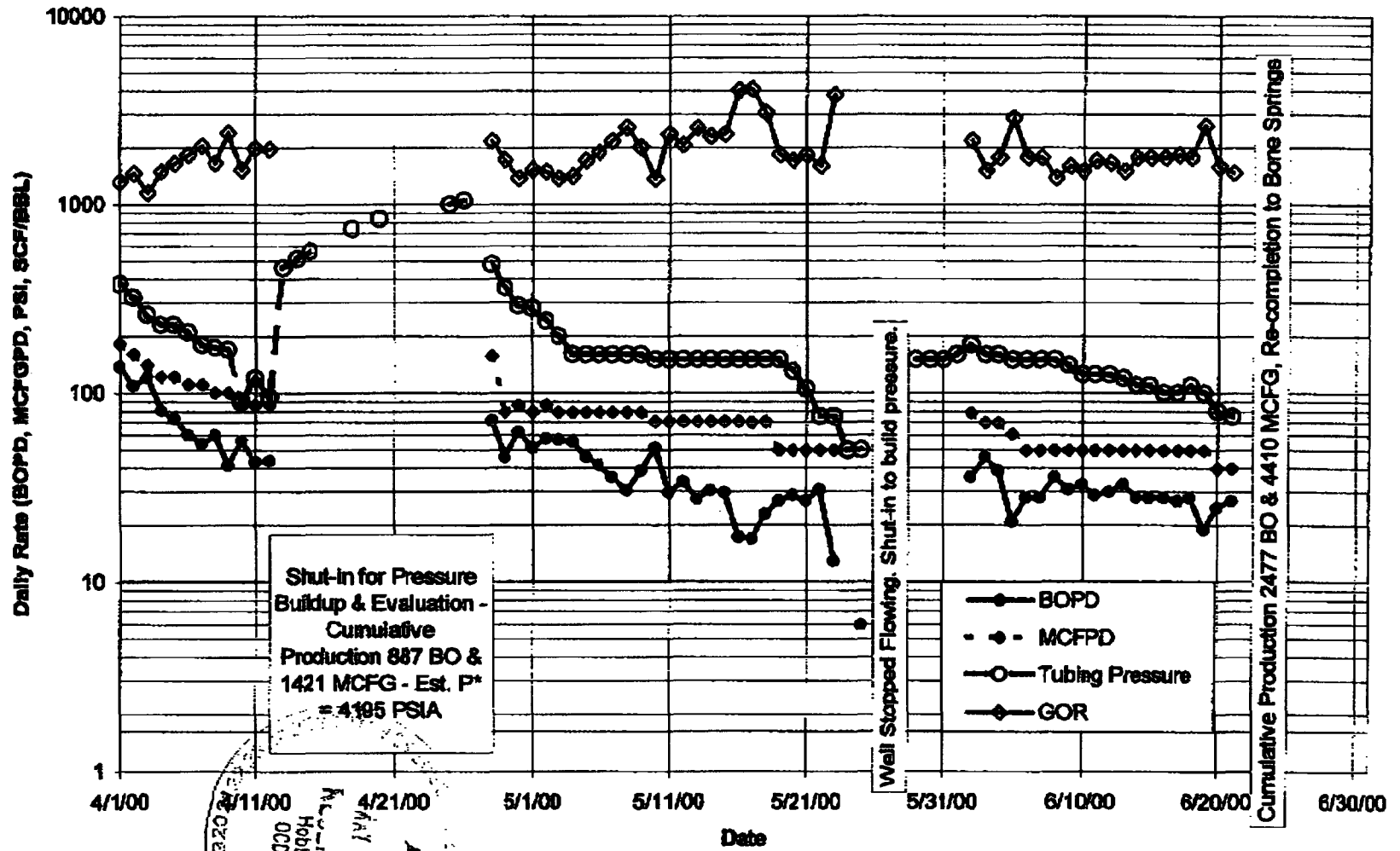
Rustler @ 1360'  
Salt @ 1490'  
Yates @ 3244'  
Delaware Mtn Grp @ 6320'  
Bone Spring @ 7880'  
W/Mkr @ 8837'  
1-st BS sand @ 8083'  
2-nd BS sand @ 8605'

3-rd BS sand @ 10,634'  
Wolfcamp @ 10900'  
Gwynn @ 1207'  
Atoka @ 12490'  
Atoka "C" Lm 12762'  
Morrow @ 12965'  
M/ Morrow @ 13126'  
L/ Morrow @ 13414'

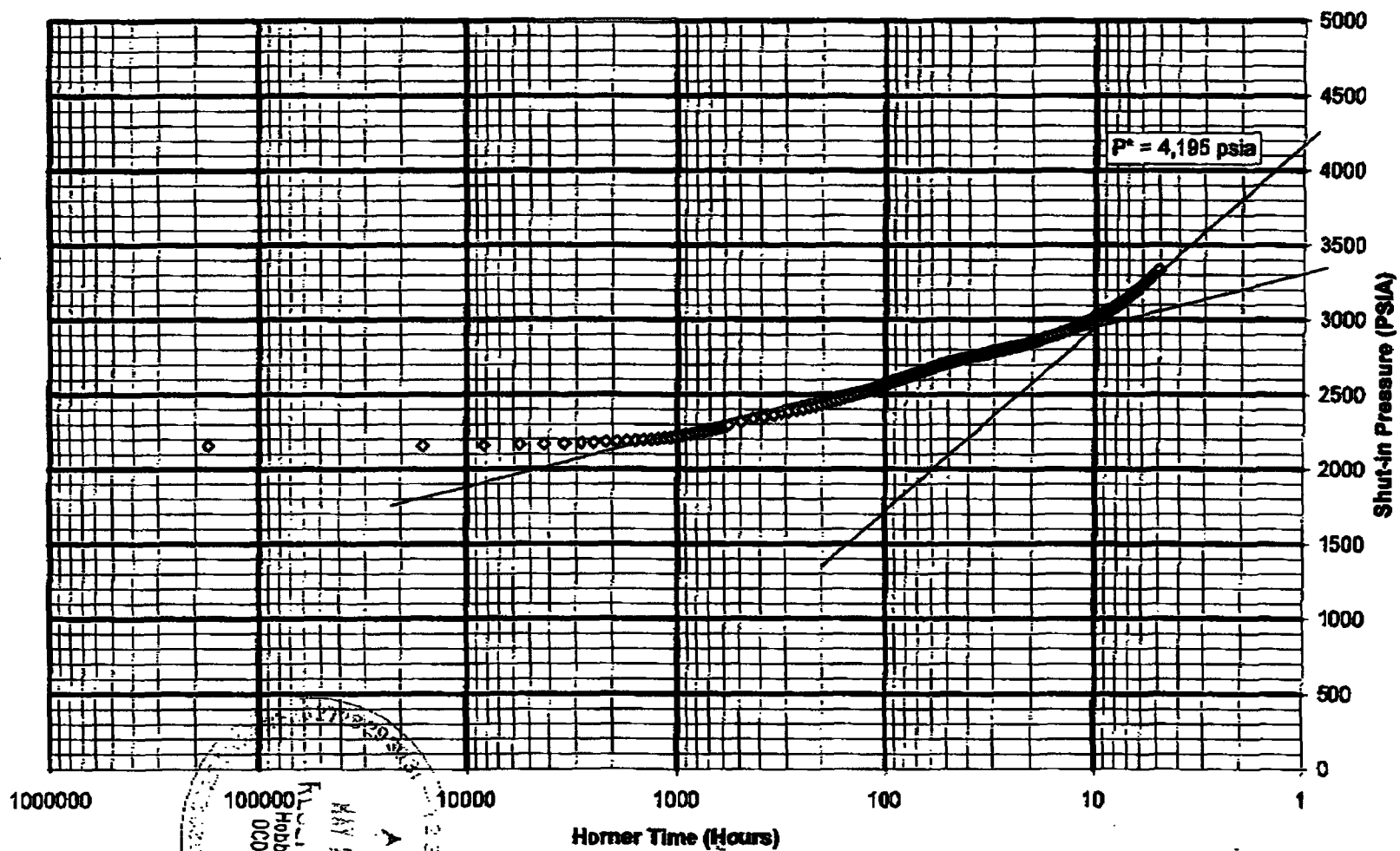
ED  
HUBBS  
OCD



# Sunbright Federal No. 1 - Wolfcamp Production

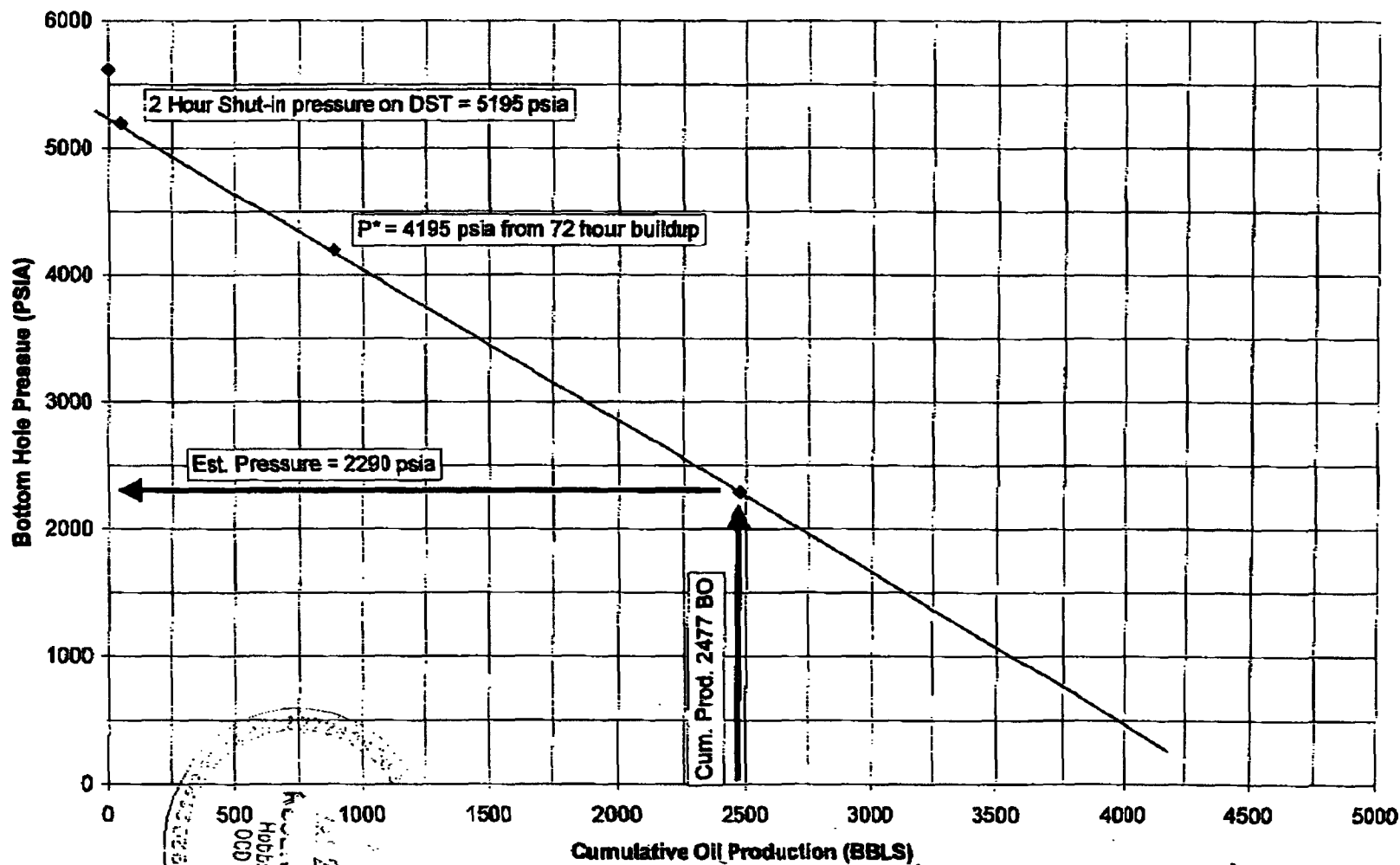


# Sun Bright Federal No. 1 - Wolfcamp Pressure Buildup April 12 - 15, 2000



15053338758  
MAY 2002  
Hobbs  
OCD  
FILED

# Sun Bright Federal No. 1 - Wolfcamp Formation Pressure Estimate



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OCD  
MAY 20 2011