District I
1625 N. French Dr., Hobbs, NM 88240
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

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised March 12, 1999

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.	[2] OGRID Number
Lindenmuth & Associates, Inc. 510 Hearn Street Austin, Texas 78703	013343
	[3] API Number 30 - 025-28198

[4] Property Code	[5] Property Name	[6] Well No.
013912	Barnhill	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
L	1	145	37E		1650	South	990	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	[10] Proposed Pool 2
King Wolfcamp	

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
D	M		P	3831 GR
[16] Multiple	[17] Proposed Depth	[18] Formation	[19] Contractor	[20] Spud Date
		Strawn / Wolfcamp		

[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		405	500	
12 1/4	8 5/8		4668	2200	
7 7/8	5 ½		12744	2975	

[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.

Lindenmuth & Associates, Inc. proposes to test the Strawn & Middle Wolfcamp in the following manner (current interval 9403'-9453'--Upper Wolfcamp):

1). Perforate and acidize the Strawn from 11,134-11,140 w/ 4 SPF & 1000 gal. HCL. Swab to test.

2). If the Strawn is commercial, return to production from Strawn. If uncommercial, set CIBP @ 11,000' +/- & dump 15 sx cement on top.

3). Perforate and acidize the Middle Wolfcamp from 10,084'-88', and 10,018'-26' w/ 4 SPF and 1500 gal. HCL. Swab to test.

4). If the Middle Wolfcamp is commercial, return to production from Middle and Upper Wolfcamp. If uncommercial, set CIBP @ 10,000' +/- & dump 15 sx cement on top. Return to production from Upper Wolfcamp.

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

Signature:

Printed name: Gordon H. Deen

Title: Operations Manager

Date: 7/2/00 Phone: 512-322-9779

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: Expiration Date:

Conditions of Approval Attached ☐

Permit Expires 1 Year From Approval Date Unless ~~Drilling~~ Underway

Deepening

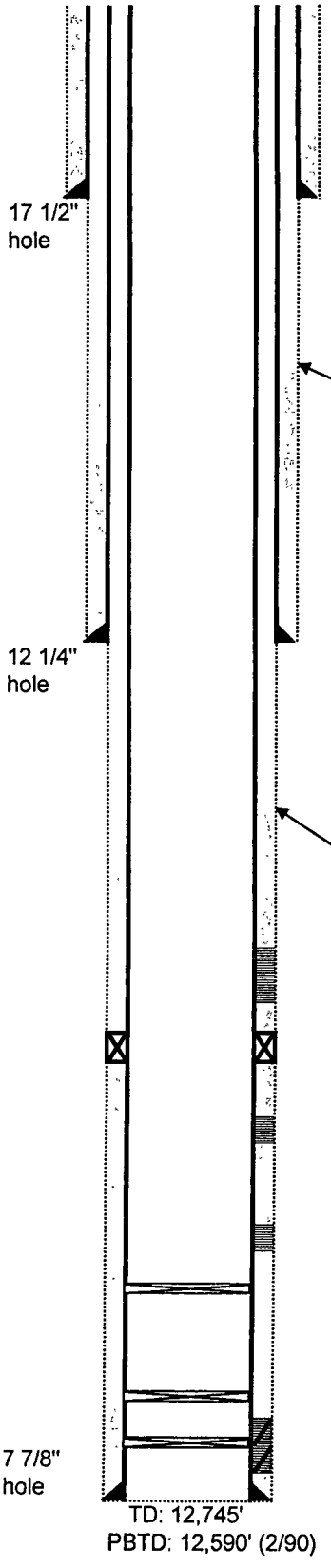
ECG 5-31-2011

JUL 18 2011

Barnhill No. 1

1650' FSL & 990' FWL
L, Sec 1, T-14-S, R-37-E
Lea County, NM
API# 30-025-28198

Well Type: Active (Wolfcamp)
Spud Date: (5/17/83)
Wolf Rec (2/90)



13 3/8" 48#, 54# & 72# @ 405' w/ 500 sx
TOC: Circulated to Surface

Current Eqpt

Tbg	299 jts 2-3/8", TAC, 4 jts, SN, PS, BPMA
Rods	3/4"x6' sub, 362 - 3/4", 16 - 7/8"
Pump	2-1/2x1-1/2"x22' RHBC
BPU	Cabqt 320D, SN D320 40B, 84" SL (84"-43", 5 holes)

TOC: 2760' by temp survey (5/83)

8 5/8" 32# @ 4668' w/ 2200 sx

Formation Tops	
T/Yates	3168
T/SA	4600
T/Wolf	9402
T/Atoka	11,424
T/Mssp	11,607
T/Dev	12,644

TOC: 6400' by temp survey (7/83)

Wolfcamp Perfs 9,406'-08, 9,414-18', 9,425-27', 9,432-36', 9,440-44' & 9,448-52' (1/90)
Acid w/ 100 g spot + 1900 g 15% w/ 104 BS. ReAcid w/ 5000 g 20% w/ 50 BS

DV tool @ 9985'

M/Wfmp Perfs 10,018'- 10,026' (7/00)
RBP @ 10119'. Acid w/ 250 spot. Swbd wtr ReAcid w/ 750 gals. Pkr failed. Swbd wtr w/ ssg
Recover RBP & DH commingle Strawn, M/Wfmp & Wfmp. POP.

Strawn Perfs 11,130'- 11,136' (7/00)
Acid w/ 250 spot + 500 gal + 750 gals w/ BS. Swbd dry
CIBP @ 11,300' (7/00)

Plug Back to 12,590' w/ CIBP (1/90)
Perfs 12,657'- 70' (2 JSPF) Acid w/ 100 gal 15% POP
CICR @ 12,690'
Perfs 12,706-18' (1 SPF) Acid w/ 100 gal 15%. Swbd 26 BW in 10 hrs
5 1/2" 17# & 20# @ 12,744' w/ 2975 sx in two stages

08/01 SIP @ 20# IFP @ 3000'
FFP @ 8600' Rec 85 BBls wtr
Slight gas blow after each run
SDFN

08/02 SIP @ Vac IFP @ 4500'
FFP @ 9400' Rec 61 BBls wtr
SI for 30 min. Fluid level increase
of 600'. SDFN

08/03 SIP @ VAC IFP @ 5700' Made 2 runs
Rec 6 BBls wtr. Release pkr and RIH
to PBR. Release plug & POH. LH & tbg
w/2 jts and laid down LH w/TA, PS,
SN, 4 jts, 5½ TAC & 299 jts. Remove BOP
Set TAC w/10 pts tension. Hanged up and
SDFN

08/04 RIH w/Pump (2 x 1¼ x 24) Rods (13-⅞, 365-¾)
Pony Rods (1-8', 6', 4' & 2-2') Hung well
on. RD Unit. Put well on Prod.

Koncewitch & Associates
Barnhill
Well #1

7/18/2000

07:18 - Move in Eunice Well Service

07:19 RU Unit Pok w/rods (2-2', 1-4', 1-6' & 1-8' x 7/8 Poly Rods, 365-3/4 & 13-7/8) Pump (2 x 1 1/4 x 24) Release TAC, & Hange up BOP. RIH w/paraffin Knife and cut paraffin for 3 1/2 Hrs. POH w/Tbg string (299-2 3/8, 5 1/2 TAC, 4-2 3/8, SN, PS & MA) SDFN

07:20 RU & RIH w/4 3/4 Bit & Scrapper. Tested Tbg in hole @ 7000#. RU extra 56 Jts and RIH to 11,300'. Total Jts RIH @ 359 Pok and laid down 2 Jts. POH w/rest of Tbg. Laid down Bit & scrapper. SDFN

07:21 RU Rotary Wireline RIH w/4" csg guns Correlated w/ Gearhart and perf 11130-11136 w/4 SPF. POH w/guns RU and RIH w/5 1/2 Baker packer & 356 Jts to 11130'. RU Maclaskey - Pumped 250 gals of 15% Flushed to Perfs w/43 BBL 2% KC. Pulled Packer to 11030'. Pumped 5 BBL 2% KCl down Csg. to clear Packer Set Packer. Open By-Pass Pumped

Cont.

07/21 500 gals 15% NEFE Pumped 10 BBls of 2% KCl.
Cont. Shut By-Pass and put acid away. Flushed to BTM Perf. Max Pres: 10.10# Ave Pres: 400
Ave: Rate 2BPM Isip - 560# 5 min: 360
10 min: 220 15 min: 90 Total Load: 112 BBls.
Rig up to Swab FL @ 800' FF @ 4600'
Rec 45 BBls KTR - 67 BBls

7/22 SITP @ 120# FL To Seat FL @ 6400' FF @ 8000'
Rec. 20 BBls KTR 47 BBls NO Oil SD

07/24 SITP @ 50# FL @ 8000' Last sample indicated 20% oil Cut. Pu & RIH w/ 5 Jts to 11201 and set Pkr Would not load and pres. Release Pkr RIH to 11232 Set Pkr would not load. Dropped SV. Loaded w/ 21 BBls Test tbg to 500#. POH w/ 359 Jts & Packer. Pu Rotary Wireline RIH and set CIBP @ 11300'. Pu & RIH w/ 5½ packer w/ 353 Jts SDFN.

07/25 RIH w/ retrieving 6 Jts to 11232' Set Packer Test plug to 600# Poh to 11030' and set Packer. Open By-Pass Pumped Acid to spot. Shut By-Pass Pumped 750 gals 15% w/ 48 BBls 2%. w/ Ball sealers. No Ball out But good Ball action seen. Max Pres - 3060# Ave 850 Isip 360#

Cont. 07/25 5 min - 0 - Pres Total Load 56 BBls
RU To Swab IF @ 100' FFL @ 10,700'
Rec. 43 BBls Swab wet dry.
SDFN.

07/26 IF @ 0 RU to swab. IF @ 9500'
Release packer RIH to 11140 to clear perfs.
POH to 11072 & reset packer. RU to swab.
IF @ 3600' Rec. 36 BBls wtr. Swab Dry to
10800'. Release Packer & POH. w/ Tbg & packer.
SDFN

07/27 RU Rotary Wireline Run 2000' correlation
log. Adjusted 20' uphole to open hole Log.
Ref. 10018-10026 @ 45ft. POH w/ Wireline
PU RBP & PKR RIH to 10119 & set RBP.
Set PKR & test Plug to 500#. Release PKR
POH to 10026 and spotted 250 gal acid.
POH to 9700' & Set Packer Starting Pumping
acid. Pres drop from 1360# to 1050# @ 2.75
BPM. Started flush. With 20 BBls pumped
started circulating fluid out Csg. Shut Csg
and monitored Pres. Pumped remaining flush
away @ Ave. 32 BPM @ 2400#. Flowed Csg down
No fluid return from Tbg. Release PKR POH to
9281 and reset. Loaded Backside w/ 6 BBls and
tested to 550#. Dropped SV Test Tbg to 1000#
Cont

Cont. 07/27 RIH and retrieved SV. RU to swab.
Rec. 20 BBls wtr. SDFN

07/28 RU to Swab. No S.L. Pres.
IF@ 1400' FF@ 4400' Rec. 20 BBls.
Release packer and POH. Changed out
packer and RIH to 9936'. RU to Swab.
IF@ 1200' FF@ 8000 Rec. 54 BBls wtr
No gas or oil. SDFN.

07/31 RU to Swab No S.L. Pres.
IF@ 2800' FF@ 5000' Rec. 10 BBls wtr.
RU to Acid well. Pumped 750 gals w/36
BBls 2% KCL Flush. Pumped 27 BBls
to fore pres. increase to 4100# Decreased rate
to 1 BPM. Acid on formation @ .81 BPM.
4800# pres. With 49 BBls pumped packer gave
way. Pumped 4 BBls to clear acid from Tbg.
SD ISIP@ 2280# 5 min- 1250# 10 min @ 640#
15 min- 220#. Max Pres @ 4900' Aver Pres @ 4820'
Aver Rate @ .81 BPM. Total load 56 BBls.
RU to Swab. IF@ 50 Swab well down to
7200' Rec 70 BBls Next run FF@ 6500'
Rec total 90 BBls w/ light gas Blow. SDFN.

Rotary Wire Line SERVICE, INC.

"Specializing in Pipe Recovery"

P.O. Box 2735 • Phone (505) 397-6302
HOBBS, NEW MEXICO 88241

INVOICE 10188

CUSTOMER LINDENMUTH & ASSOCIATES

DATE AUGUST 11, 2000

ADDRESS 510 HEARN STREET, SUITE 200

P. O. NO.

AUSTIN, TEXAS 78703

RONNIE ROGERS

Statement of Charges for Furnishing Personnel and Equipment to Perform the Following Itemized Services on Your Lease.

ITEM NO.	DESCRIPTION OF SERVICES	CHARGES
	WORK ORDER # 11727 BARNHILL # 1 LEA COUNTY, NEW MEXICO	
	07-21-00	
	PERFORATE 5½" CASING FROM 11130'-36' 4 SHOTS PER FOOT TOTAL 24 HOLES	
	07-24-00	
	SET 5½" CAST IRON BRIDGE PLUG @ 11,300'	
	07-27-00	
	RUN GAMMA RAY CORRELATION LOG FROM 10200' TO 8300'	
	PERFORATE 5½" CASING 4 SHOT PER FOOT FROM 10118' - 10126' TOTAL 32 HOLES	
	PRICE QUOTE	5,643.00
	6.0% TAX	338.58
	TOTAL DUE	$5,981.58

THANK YOU!

7/17/00 505-394-2901 (1)

Bornhill #1 Workover

Ronnie,

Attached is my procedure for the Bornhill recompletion. A couple of general points.

1.) I have shown shooting the 11,130' zone w/ a casing gun. If we cannot load the hole (if the current perfs drink all the fluid) this may not be a good idea, we will probably want to perf through tbg with a spiral strip sho-gun.

2.) I spec a lok-set packer. Talk to your packer man about this. The only problem is we may have trouble unsetting it if the tbg/csg are out of balance because it doesn't have an equalizing valve.

3.) I will overnight you the correlation log from 11,000' down & the open log if we do the upper zone for correlating a new log to.

4.) I would like to get at least 2 bids on the items on the "bid list" page.

5.) The Tubing is at Crozier pipe in Monahans. Ken Crozier is expecting your call about hauling it over there. 915-943-6797.

6.) If we put any of the deeper zones on prop, I will run a new rod design and forward it for the additional rods needed. This will be tricky & depend on the fluid rates.

Read this over and give me a call. I am open to suggestion.

Gordon
Cell (512)-940-9877

Barnhill #1

Current Downhole

Tbg: 2 3/8" N-80 8rd EUE – 299 jts, TAC, 4 jts, SN, Mud Anchor

Rods: 7/8" - 2x2' sub, 2x4' sub 1x6' sub, 16 rods. 3/4" - 362

Csg: 5 1/2" 17 & 20 lb @ 10,744'

PBTD: CIBP @ 12,590'

Perfs- Upper Wolfcamp: 9406-08, 9414-18, 9425-27, 9432-36
9440-44, 9448-52

Procedure

1.) POH w/ Rods & Pump. Send pump in for redress.

2.) ND W.H., NU BOPS. Unset TAC & POH w/ tbg. (Stand tbg!) Send TAC in for redress. * Load Hole w/ Fuild Salt Water *

3.) Run 4 3/4" bit & scraper to 11,300' +/-. Use 2 3/8" tbg from Crozier pipe to make up rest of string. Put new pipe on top.

4.) RU Wireline. Load 3 3/8" csg gun 4 SPF x 6'. RIH & correlate to Geohart GR log dated 7-29-83. Perf. 11,130-36. (Note: Short jt from 11,131'-68').

5.) PU 5 1/2" 10K-set PKr, SN, & TIH on tbg. Hydrotest tbg to 7000 psi above the slips.

6.) Spot 250 gal 15% HCL w/ iron sequestering agent and corrosion inhibitor across perfs. Pull 6 jts tbg & flush backside w/ 266bls. FSW.

Barnhill

(#6 Continued). Set pkr @ 10,956'+/-. Monitor backside & displace spot acid. Pump additional 500 gal 15% @ maximum rate 2 BPM & maximum pressure of 3000 psi.

7.) RU swab. Swab tbg to test. If well begins to flow, flow @ max rate of 10 BPH. Monitor csg. Test until oil cut & pressure on fluid level consistent.

8.) If abandon 11,130' zone, RIH w/ W.L. set CIBP. Set @ 11,000'+/-.

9.) RU Wireline. Run GR/CCL correlation strip from 10,300' to 9300' (or thin minimum interval).

10.) Load 3⅜" csg gun 4 SPF x 8'. RIH & correlate to new log. Perf from 10,018'-10,026'.

12.) RIH w/ Lok-set pkr & SN. Spot 250 gal 15% HCl w/ iron sequestering agent & corrosion inhibitor across perfs. Pull 6 jts tbg & flush backside w/ 2 bbls. FSW. Set pkr. @ 9846'+/-. Monitor backside & displace spot acid. Pump additional 500 gal 15% (w/ additives) @ maximum rate 2 BPM & maximum pressure of 3000 psi.

13.) RU swab. Swab tbg to test. If well flows, flow @ max rate of 10 BPH. Test until oil cut & pressure on fluid level consistent.

14.) If 10,018-26 zone wet, set CIBP @ 9900'+/- and return to prod. as before.

Barnhill

Bid Items

Wireline

(1.) Perf 4 SPF x 6' w/ 3 3/8" csg gun ; premium charges from 11,130'-36' w/ pack-off on BOP

(2.) Set CIBP @ 11,000' +/-

(3) Run GR/CCL strip from 10,300' to 9300'

(4.) Perf as #1 but 8'

Acid

(1.) Pump 750 gal 15% HCL w/ iron sequestering agent ; corrosion inhibitor 24 hrs @ 200°F

Tools

(1.) 5 1/2" Lok-set pkr (17-20#)

(2.) 5 1/2" scraper, used bit, crossover sub.

Tubing Testing

(1.) Test 11,150' 2 3/8 N-80 EUE to 7000# above slips

Barnhill #1 - Downhole

Tbg	Rods
302 jts 2 3/8 N-80	4' 8' x 7/8 ponies
5 1/2" TAC (12pk TSN)	362 x 3/4"
6 jts 2 3/8	16 x 7/8"
SN	2" x 1 1/16" x 20' RHBM (pump @ 9450')
PS	
MA	