DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
P.O. Box Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Departr

OIL CONSERVATION DIVISION

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

Form C-101
Revised February 10,199
Instructions on bac
Submit to Appropriate District Offic
State Lease - 6 Copie
Fee Lease - 5 Copie
☐ AMENDED REPORT

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

1 Operator Name and Address	2 OGRID Number
CHEVRON USA INC 15 SMITH ROAD, MIDLAND, TX 79705	4323
	3 API Number 30-025-06830

4 Property Code	5 Property Name	6 Well No.
2593	J.N. CARSON (NCT-A)	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	28	21-S	37-E		1980'	SOUTH	1980'	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
PENROSE SKELLY GRAYBURG	

11 Work Type Code	12 WellType Code	13 Rotary or C.T.	14 Lease Type Code	15 Ground Level Elevation
D	O	ROTARY	P	3452' GL
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
No	3885'	GRAYBURG		2/10/2003

21 Proposed Casing and Cement Program

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
NO CHANGE					

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zoneand proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

CHEVRON U.S.A. INC. INTENDS TO DRILL DEEPER IN THE GRAYBURG FORMATION IN THE SUBJECT WELL, AND FRAC STIMULATE. THE INTENDED TOTAL DEPTH WILL BE ~~3885'~~ 3900'

THE INTENDED PROCEDURE, CURRENT WELLBORE DIAGRAM, AND PROPOSED WELLBORE DIAGRAM IS ATTACHED FOR YOUR APPROVAL.

Permit Expires 1 Year From Approval
Date Unless Drilling Underway
Deepen

23 I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature Denise Leake

Printed Name Denise Leake

Title Regulatory Specialist

Date 1/29/2003 Telephone 915-687-7375

OIL CONSERVATION DIVISION

Approved By: ORIGINAL SIGNED BY PAUL F. KAUTZ

Title: PETROLEUM ENGINEER

Approval Date: FEB 01 2003 Expiration Date:

Conditions of Approval:
Attached ☐

DeSoto/Nichols 3-94 ver 1.10

J. N. Carson (NCT-A) # 1
Penrose Skelly Field
T21S, R37E, Section 28
Job: Drill Well Deeper In Grayburg Formation And Frac Stimulate

Procedure:

1. Displace flowline with fresh water. Have field specialist close valve at header. Pressure line according to the type of line. AGU, EMSU, and EMSUB buried fiberglass lines will be tested with 300 psi. All polypipe(SDR7 and SDR11) will be tested w/100 psi. All steel lines will be tested w/500 psi. If a leak is found, contact Larry Williams for repair/replacement. If test is good, bleed off pressure and **open valve** at header. Document this process in the morning report.

2. MI & RU pulling unit. Bleed pressure from well, if any. Pump down csg with 2% KCl water, if necessary to kill well. POH with rods and pump. Remove WH. Install BOP's and test to 1000 psi. **Note: Minimize water pumped into well since deepening will be performed using foam due to low pressure Upper Grayburg open-hole interval.**

3. PU 4 ¾" MT bit & DC's and GIH on 2 7/8" work string to COTD at 3770'. MI & RU foam unit(s). LD and cleanout to 3785' using foam. POH with 2 7/8" work string, DC's and MT bit. LD MT bit. PU 4 ¾" sealed bearing bit and GIH on 2 7/8" drill string to 3785'. LD and drill well deeper to 3815' using foam. Circulate well clean from 3815'. POH with 4 ¾" bit and drill string. LD bit. **Note: Geology will be monitoring drilling penetration rate while deepening well. Swab depths will probably vary slightly due to exact depths of drilling breaks. Geology will furnish exact depths for swab testing.**

4. PU open-hole inflatable packer and GIH on 2 7/8" work string to 3785'. Set pkr at 3785' and conduct open hole swab test of interval 3785-3815'. Report oil cut, recovered fluid volumes, pressures, and/or swabbing fluid levels. Obtain 1 qt. sample of formation fluids and deliver to Cardinal Laboratories in Hobbs for analysis. Release inflatable pkr at 3785'. POH with inflatable pkr and 2 7/8" work string. LD inflatable pkr.

5. PU 4 ¾" sealed bearing bit and GIH on 2 7/8" drill string to 3815'. LD and drill well deeper to 3850' using foam. Circulate well clean from 3850'. POH with 4 ¾" bit and drill string. LD bit.

6. PU open-hole inflatable packer and GIH on 2 7/8" work string to 3815'. Set pkr at 3815' and conduct open hole swab test of interval 3815-3850'. Report oil cut, recovered fluid volumes, pressures, and/or swabbing fluid levels. Obtain 1 qt. sample of formation fluids and deliver to Cardinal Laboratories in Hobbs for analysis. Release inflatable pkr at 3815'. POH with inflatable pkr and 2 7/8" work string. LD inflatable pkr.

7. PU 4 ¾" sealed bearing bit and GIH on 2 7/8" drill string to 3850'. LD and drill well deeper to 3885' using foam. Circulate well clean from 3885'. POH with 4 ¾" bit and drill string. LD bit.

8. PU open-hole inflatable packer and GIH on 2 7/8" work string to 3850'. Set pkr at 3850' and conduct open hole swab test of interval 3850-3885'. Report oil cut, recovered fluid volumes, pressures, and/or swabbing fluid levels. Obtain 1 qt. sample of formation fluids and deliver to Cardinal Laboratories in Hobbs for analysis. Release inflatable pkr at 3850'. POH with inflatable pkr and 2 7/8" work string. LD inflatable pkr.

9. PU 4 ¾" MT bit & DC's and GIH on 2 7/8" work string to 3885'. Circulate well clean from 3885' using foam. Conduct deviation survey at new TD of 3885'. POH with 4 ¾" bit and drill string. LD bit. RD and release foam unit(s).

10. MI & RU electric line unit. GIH and conduct logs as directed by Geology (Contact: **Robert Martin**, telephone **687-7267**). POH. RD & release electric line unit.

11. PU & GIH 5 ½" Lok-Set pkr and On-Off tool w/ 2.25" "F" profile on 2 7/8" EUE 8R L-80 work string. Set pkr at approximately 3550'.

12. MI & RU DS Services. Acidize open-hole from 3608-3885' with 6,000 gals antisludge 15% HCl acid *** at a maximum rate of **6 BPM** and a maximum surface pressure of **3500 psi**. Pump job as follows:

    Pump 1,500 gals acid at 6 BPM
    Pump 500 gals gelled 10 PPG brine containing 1000 lbs GRS at 6 BPM
    Pump 1,500 gals acid at 6 BPM
    Pump 500 gals gelled 10 PPG brine containing 1000 lbs GRS at 6 BPM
    Pump 1,500 gals emulsified acid at 6 BPM
    Pump 500 gals gelled 10 PPG brine containing 1000 lbs GRS at 6 BPM
    Pump 1,500 gals non-emulsified acid at 6 BPM

    Displace acid with 2% KCl water -- do not overdisplace. Record ISIP, 5, 10, & 15 minute SIP's. RD and release DS Services. **Note: It is not necessary to pickle tbg due to the low BHP.**

*** Acid system is to contain:	1 GPT A264	Corrosion Inhibitor
	8 GPT L63	Iron Control Agent
	2 PPT A179	Iron Control Aid
	20 GPT U66	Mutual Solvent
	2 GPT W53	Non-Emulsifier

13. Open well and flow/swab back spent treatment fluids. Recover 100% of spent acid and load before SI well for the night. Report oil cut, recovered fluid volumes, pressures, and/or swabbing fluid levels.

14. Open well. Pump down tbg with 2% KCl water to kill well, if necessary. Release pkr. POH with 2 7/8" work string and packer. LD pkr.

15. PU 4 ¾" MT bit and GIH on 2 7/8" work string to TD at 3885'. If fill is encountered, MI & RU foam unit(s) and cleanout to 3885' using foam. POH with 2 7/8" work string and MT bit. LD MT bit.

16. PU and GIH w/ 5 1/2" Lok-Set pkr & On-Off tool w/ 2.25" "F" profile and 115 jts. of 3 ½" EUE 8R L-80 work string, testing to 7500 psi. Set pkr at approximately 3550'. Install frac head. Pressure annulus to 500 psi to test csg and pkr. Leave pressure on csg during frac job to observe for communication.

17. MI & RU DS Services. Frac well down 3 ½" tubing at **40 BPM** with 68,000 gals of YF135, 127,000 lbs. 16/30 mesh Jordan Sand, and 33,000 lbs **resin-coated** 16/30 mesh CR4000 proppant. Observe a maximum surface treating pressure of **7400 psi**. Pump job as follows:

    Pump 28,000 gals YF135 pad containing 5 GPT J451 Fluid Loss Additive
    Pump 4,000 gals YF135 containing 1 PPG 16/30 mesh Jordan Sand
    Pump 4,000 gals YF135 containing 2 PPG 16/30 mesh Jordan Sand
    Pump 6,000 gals YF135 containing 3 PPG 16/30 mesh Jordan Sand
    Pump 8,000 gals YF135 containing 4 PPG 16/30 mesh Jordan Sand
    Pump 10,000 gals YF135 containing 5 PPG 16/30 mesh Jordan Sand
    Pump 2,500 gals YF135 containing 6 PPG 16/30 mesh Jordan Sand
    Pump 5,500 gals YF135 containing 6 PPG resin-coated 16/30 mesh CR4000 proppant

    Flush to 3550' with 1,300 gals WF135. **Do not overflush.** Shut well in. Record ISIP, 5, 10, and 15 minute SI tbg pressures. SWI. RD & Release DS Services. **Leave well SI overnight.**

18. Open well. Release pkr and POH with 3 ½" work string. Lay down work string and pkr.

19. PU 4 ¾" MT bit and GIH on 2 7/8" work string to TD at 3885'. If sand fill is encountered, MI & RU foam unit(s) and cleanout to 3885' using foam. POH with 2 7/8" work string and MT bit. LD work string and bit.

20. PU and GIH w/ BP mud anchor jt of 2 7/8" tbg, 2 7/8" x 4' perforated sub, SN, 10 jts 2 7/8" EUE 8R J-55 tbg, TAC, and 114 jts 2 7/8" EUE 8R J-55 tbg, testing to 5000 psi. Set TAC at 3525', with EOT at 3850' and SN at 3815'.

21. Remove BOP's and install WH. GIH with rods, weight bars, and pump per ALS recommended design. RD & release pulling unit.

22. Turn well over to production. Report producing rates, choke sizes, flowing pressures and/or fluid levels.

AMH
1/29/2003

Well: **J. N. Carson (NCT-A) # 1** Field: **Penrose Skelly** Reservoir: **Grayburg**

Location:
1980' FSL & 1980' FWL
Section: 28
Township: 21S
Range: 37E
County: Lea State: NM

Elevations:
GL: 3452'
KB: 3462'
DF: 3461'

Blk Sqz Perfs @ 1000'
(Sqzd w/ 150 sks, TOC at 886' by TS)

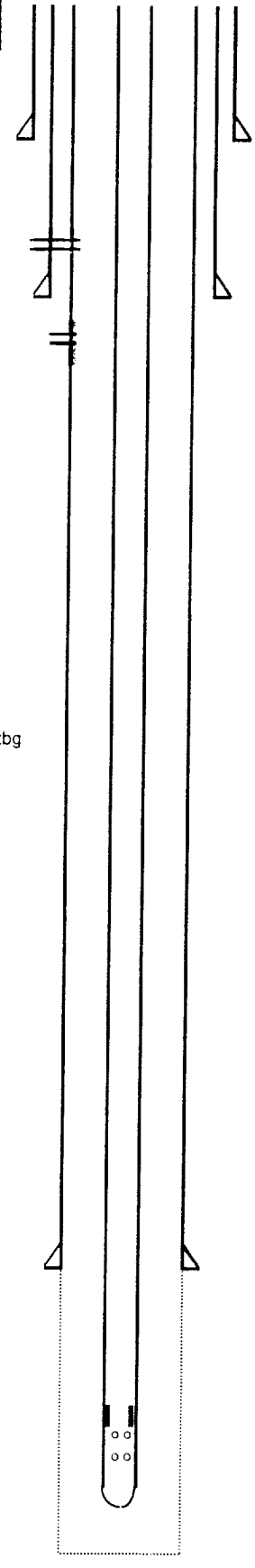
Blk Sqz Perfs @ 1250'
(Sqzd w/ 125 sks, TOC at 1082' by TS)

Tbg Detail:
BP @ 3752'
1 jt. 2 3/8" tbg
2 3/8" x 4' perf sub
SN @ 3718'
127 jts. 2 3/8" EUE 8R J-55 tbg

COTD: 3770'
PBTD: 3780'
TD: 3780'

Updated: 1/27/03

Current
Wellbore Diagram



By: A. M. Howell

Well ID Info:
Refno: FA7927
API No: 30-025-06830
L5/L6: U491400
Spud Date: 3/20/37
Compl. Date: 4/21/37

Surf. Csg: 13 3/8", 27.8# Armco SS
Set: @ 33' w/ 50 sks
Hole Size: 17"
Circ: Yes **TOC:** Surface
TOC By: Circulated

Interm. Csg: 7 5/8", 22#, SCLW
Set: @ 1204' w/ 600 sks
Hole Size: 9 7/8"
Circ: Yes **TOC:** Surface
TOC By: Circulated

Prod. Csg: 5 1/2", 17#, SCLW
Set: @ 3608' w/ 150 sks
Hole Size: 6 3/4"
Circ: No **TOC:** 2700'
TOC By: Calculated

3608-3780' **Grayburg - Open Hole**

Property 2593

Well: **J. N. Carson (NCT-A) # 1** Field: **Penrose Skelly** Reservoir: **Grayburg**

Location:
1980' FSL & 1980' FWL
Section: 28
Township: 21S
Range: 37E
County: Lea State: NM

K

Proposed
Wellbore Diagram

Well ID Info:
Refno: FA7927
API No: 30-025-06830
L5/L6: U491400
Spud Date: 3/20/37
Compl. Date: 4/21/37

Oil 707810
MCF 707830
WTR 707850

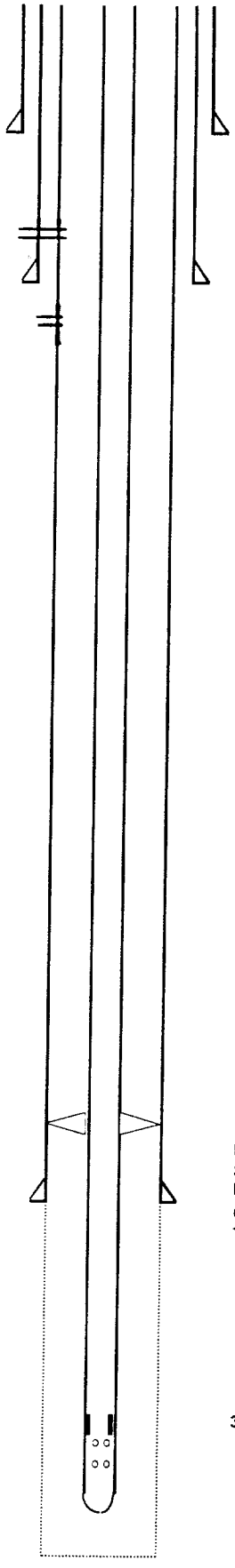
Elevations:
GL: 3452
KB: 3462
DF: 3461'

Surf. Csg: 13 3/8", 27.8# Armco SS
Set: @ 33' w/ 50 sks
Hole Size: 17"
Circ: Yes **TOC:** Surface
TOC By: Circulated

Blk Sqz Perfs @ 1000'
(Sqzd w/ 150 sks, TOC at 886' by TS)

Blk Sqz Perfs @ 1250'
(Sqzd w/ 125 sks, TOC at 1082' by TS)

Interm. Csg: 7 5/8", 22#, SCLW
Set: @ 1204' w/ 600 sks
Hole Size: 9 7/8"
Circ: Yes **TOC:** Surface
TOC By: Circulated



Tbg Detail:
BP @ 3850'
1 jt. 2 7/8" tbg
2 7/8" x 4' perf sub
SN @ 3815'
10 jts. 2 7/8" EUE 8R J-55 tbg
TAC @ 3525'
114 jts. 2 7/8" EUE 8R J-55 tbg

Prod. Csg: 5 1/2", 17#, SCLW
Set: @ 3608' w/ 150 sks
Hole Size: 6 3/4"
Circ: No **TOC:** 2700'
TOC By: Calculated

3608-~~3885~~ 3900' **Grayburg - Open Hole**

COTD: 3885'
PBTD: 3885'
TD: ~~3885'~~ 3900'
Updated: 1/27/03

By: A. M. Howell