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 Department

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 30-025-06922

4 Property Code	5 Property Name	6 Well No.
29952 2682	H.T. MATTERN (NCT-B)	10

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
C	31	21-S	37-E		660'	NORTH	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	3504' GL
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
No	3970'	GRAYBURG		7/15/2003

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 THE SUBJECT WELL DEEPER IN THE GRAYBURG FORMATION & FRAC STIMULATE.

THE INTENDED PROCEDURE AND WELLBORE DIAGRAMS 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 7/2/2003 Telephone 915-687-7375

OIL CONSERVATION DIVISION

Approved By: [signature]

Title: PETROLEUM ENGINEER

Approval Date: JUL 10 2003 Expiration Date:

Conditions of Approval: Attached ☐

DeSoto/Nichols 3-94 ver 1.10

H. T. Mattern (NCT-B) # 10
Penrose Skelly Field
T21S, R37E, Section 31
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 8.6 PPG cut brine 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 interval.**

3. PU 4 ¾" MT bit & DC's and GIH on 2 7/8" work string to COTD at 3786'. MI & RU foam unit(s). LD and cleanout to 3820' 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 3820'. LD and drill well deeper to 3970' using foam. Circulate well clean from 3970'. POH with 4 ¾" bit and drill string. LD bit. **Note: Geology will be monitoring drilling penetration rate while deepening well. Proposed TD may be adjusted during drilling operation.**

4. PU treating packer and GIH on 2 7/8" work string to 3800'. Set pkr at 3800' and conduct open hole swab test of interval 3809-3970'. 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 pkr at 3800'. POH with pkr and 2 7/8" work string. LD pkr.

5. PU 4 ¾" MT bit & DC's and GIH on 2 7/8" work string to 3970'. Circulate well clean from 3970' using foam. Conduct deviation survey at new TD of 3970'. POH with 4 ¾" bit and drill string. LD bit. RD and release foam unit(s).

6. 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.

7. 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 3650'. Pressure test pkr and csg to 350 psi. **Note: Do not exceed 350 psi csg pressure due to cmt sqzd perfs 2695-3635'.**

8. MI & RU DS Services. Acidize Grayburg interval from 3736-3970' 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 2000 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 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

   Displace acid with 8.6 PPG cut brine 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

9. 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.

10. Open well. Pump down tbg with 8.6 PPG cut brine water to kill well, if necessary. Release pkr. POH with 2 7/8" work string and packer. LD pkr.

11. PU 4 ¾" MT bit and GIH on 2 7/8" work string to TD at 3970'. If fill is encountered, MI & RU foam unit(s) and cleanout to 3970' using foam. POH with 2 7/8" work string and MT bit. LD MT bit.

12. PU and GIH w/ 5 ½" Lok-Set pkr & On-Off tool w/ 2.25" "F" profile and 118 jts. of 3 ½" EUE 8R L-80 work string, testing to 7500 psi. Set pkr at approximately 3650'. Install frac head. Pressure annulus to 350 psi to test csg and pkr. Leave pressure on csg during frac job to observe for communication.

13. MI & RU DS Services. Frac well down 3 ½" tubing at **40 BPM** with 66,000 gals of YF135, 138,000 lbs. 16/30 mesh Jordan Sand, and 30,000 lbs **resin-coated** 16/30 mesh CR4000 proppant. Observe a maximum surface treating pressure of **7400 psi**. Pump job as follows:

   Pump 2,000 gals 2% KCL water containing 110 gals Baker SCW-358 Scale Inhibitor
   Pump 1,000 gals 2% KCL water spacer

Pump 25,000 gals YF135 pad containing 5 GPT J451 Fluid Loss Additive
Pump 5,000 gals YF135 containing 1.5 PPG 16/30 mesh Jordan Sand
Pump 6,000 gals YF135 containing 2.5 PPG 16/30 mesh Jordan Sand
Pump 7,000 gals YF135 containing 3.5 PPG 16/30 mesh Jordan Sand
Pump 8,000 gals YF135 containing 4.5 PPG 16/30 mesh Jordan Sand
Pump 10,000 gals YF135 containing 5.5 PPG 16/30 mesh Jordan Sand
Pump 5,000 gals YF135 containing 6 PPG **resin-coated** 16/30 mesh CR4000 proppant

Flush to 3693' with 1,375 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.**

14. Open well. GIH and swab well until there is no sand inflow. Release pkr and POH with 3 ½" work string. Lay down work string and pkr.

15. PU 4 ¾" MT bit and GIH on 2 7/8" work string to TD at 3970'. If sand fill is encountered, MI & RU foam unit(s) and cleanout to 3970' using foam. POH with 2 7/8" work string and MT bit. LD work string and bit.

16. PU and GIH w/ BP mud anchor jt of 2 7/8" tbg, 2 7/8" x 4' perforated sub, SN, 8 jts 2 7/8" EUE 8R J-55 tbg, TAC, and 118 jts 2 7/8" EUE 8R J-55 tbg, testing to 5000 psi. Set TAC at 3650', with EOT at 3935' and SN at 3900'.

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

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

AMH
7/1/2003

WELL DATA SHEET

Field: Penrose Skelly **Well Name:** H. T. Mattern (NCT-B) #10 **Lease Type:** Fee
Location: 660' FNL & 1980' FWL **Sec:** 31-C **Township:** 21S **Range:** 37E
County: Lea **State:** New Mexico **Refno:** FA8019 **API:** 30-025-06922 **Cost Center:** UCU490300
Current Status: PR
Current Producing Formation(s): Grayburg (Oil)
Initial Prod Field/Formation(s): Eumont/Queen (Gas)

CURRENT

Surface Csg.

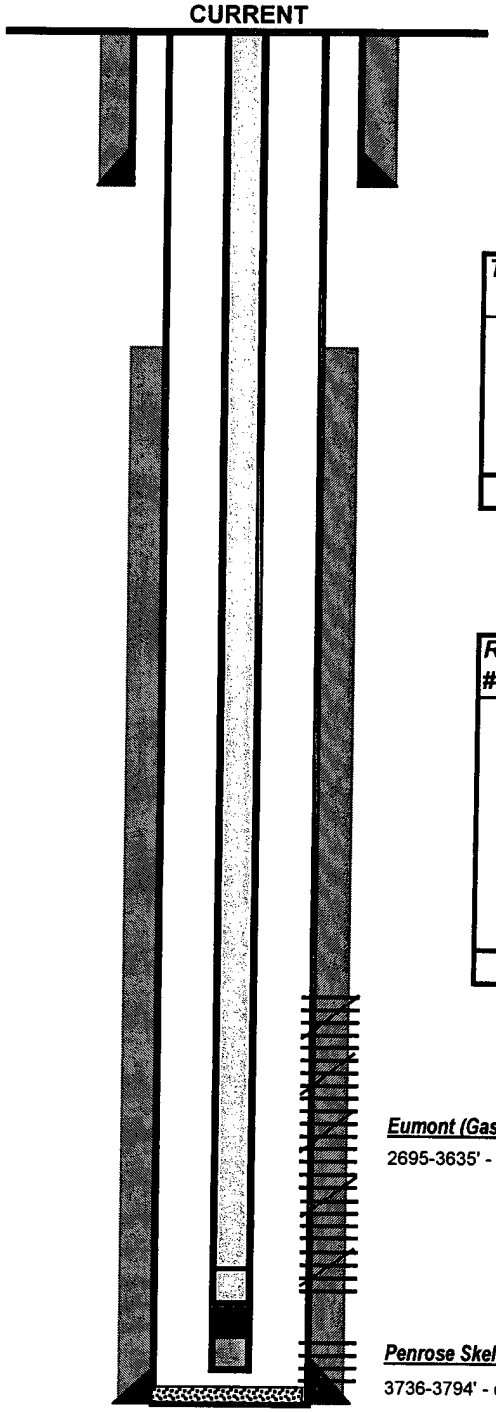
Size:	8 5/8"
Wt.:	24#
Set @:	421'
Sxs cmt:	300
Circ:	Yes w/15 sx cmt
TOC:	Surface
Hole Size:	11"

Production Csg.

Size:	5 1/2"
Wt.:	14#
Set @:	3809'
Sxs Cmt:	2100
Circ:	No
TOC:	940' by TS
Hole Size:	7 7/8"

Top Yates	2660'
Top Seven Rivers	2955'
Top Queen	3423'
Top Grayburg	3695'

PBTD: 3786'
TD: 3810'



Eumont (Gas) Perfs
2695-3635' - squeezed

Penrose Skelly (Oil) Perfs
3736-3794' - open

KB: 3512'
DF: 3511'
GL: 3504'
Spud Date: 3/10/1957
Compl. Date: 3/26/1957

Tubing Detail **3/9/2000**

# Jts.	Size	Footage
	KB to tbg head flange	0.00
118	2 3/8" J-55 4.7# tbg	3706.00
1	SN	1.10
1	2 3/8" perf sub	4.10
1	2 3/8" BPMA	31.76
121	EOT >>>	3742.96

Rod Detail **3/9/2000**

# Rods	Size	Footage
1	1-1/4" polish rod w/1-1/2" x 8' liner	16.00
1	3/4" pony rod Grade D	4.00
1	3/4" pony rod Grade D	8.00
147	3/4" sucker rods Grade D	3675.00
1	3/4" pony rod Grade D	2.00
	Insert pump (20-125-RHBC-12-3)	
	Gas Anchor 1" x 6'	
151	Total	3705.00

epared by: K M Jackson
Date: 6/30/2003

WELL DATA SHEET

Field: Penrose Skelly **Well Name:** H. T. Mattern (NCT-B) #10 **Lease Type:** Fee
Location: 660' FNL & 1980' FWL **Sec:** 31-C **Township:** 21S **Range:** 37E
County: Lea **State:** New Mexico **Refno:** FA8019 **API:** 30-025-06922 **Cost Center:** UCU490300
Current Status: PR
Current Producing Formation(s): Grayburg (Oil)
Initial Prod Field/Formation(s): Eumont/Queen (Gas)

PROPOSED

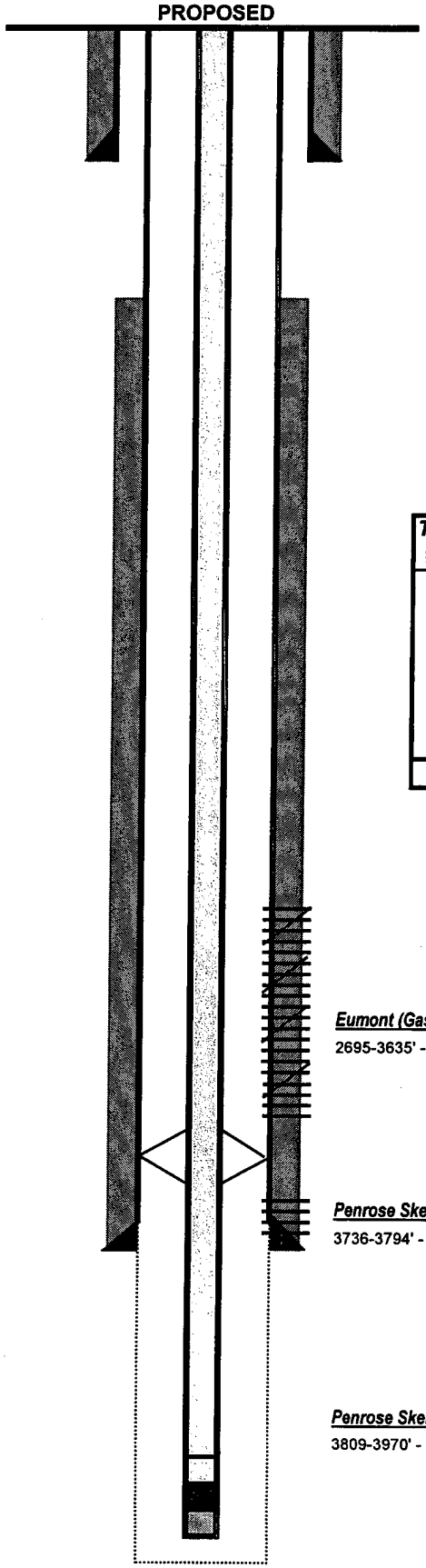
Surface Csg.

Size:	**8 5/8"**
Wt.:	**24#**
Set @:	**421'**
Sxs cmt:	**300**
Circ:	**Yes w/15 sx cmt**
TOC:	**Surface**
Hole Size:	**11"**

Production Csg.

Size:	**5 1/2"**
Wt.:	**14#**
Set @:	**3809'**
Sxs Cmt:	**2100**
Circ:	**No**
TOC:	**940' by TS**
Hole Size:	**7 7/8"**

KB:	3512'
DF:	3511'
GL:	3504'
Spud Date:	3/10/1957
Compl. Date:	3/26/1957



Tubing Detail **3/9/2000**

# Jts.	Size	Footage
	KB to tbg head flange	8.00
118	2 7/8" J-55 6.5# tbg	3640.00
1	TAC	4.00
8	2 7/8" J-55 6.5# tbg	250.00
1	SN	1.10
1	2 7/8" perf sub	4.10
1	2 7/8" BPMA	31.76
130	**EOT >>>**	3938.96

Top Yates	2660'
Top Seven Rivers	2955'
Top Queen	3423'
Top Grayburg	3695'

Eumont (Gas) Perfs
2695-3635' - squeezed

Penrose Skelly (Oil) Perfs
3736-3794' - open

Penrose Skelly Open-Hole
3809-3970' - open

PBTD: **3970'**
TD: **3970'**

Prepared by: K M Jackson
Date: 7/1/2003