

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]**  
**[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**  
**[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**  
**[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]**  
**[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**  
**[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

- [1] **TYPE OF APPLICATION - Check Those Which Apply for [A]**  
 [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL  NSP  SD
- Check One Only for [B] or [C]  
 [B] Commingling - Storage - Measurement  
 DHC  CTB  PLC  PC  OLS  OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX  PMX  SWD  IPI  EOR  PPR
- [D] Other: Specify \_\_\_\_\_
- [2] **NOTIFICATION REQUIRED TO: - Check Those Which Apply, or  Does Not Apply**  
 [A]  Working, Royalty or Overriding Royalty Interest Owners  
 [B]  Offset Operators, Leaseholders or Surface Owner  
 [C]  Application is One Which Requires Published Legal Notice  
 [D]  Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
 [E]  For all of the above, Proof of Notification or Publication is Attached, and/or,  
 [F]  Waivers are Attached
- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

MIKE PIPPIN      *Mike Pippin*      PETR. ENGR.      4-17-08  
 Print or Type Name      Signature      Title      Date

MIKE@PIPPINLLC.COM  
 e-mail Address

2008 APR 21 PM 3 52  
 RECEIVED

PARAWON OPERATING LLC  
Mike Pippin  
3104 N. Sullivan Avenue  
Farmington, NM 87401  
505-327-4573 (phone) mike@pippinllc.com

April 18, 2008

NMOCD  
c/o Will Jones  
1220 South St. Francis Drive  
Santa Fe, NM 87505

**RE: Application for Authorization to Inject - C-108**  
NE HOGBACK UNIT #31 – API#: 30-045-09696  
Unit Letter “K” Section 10 T30N R16W  
~~Rio Arriba~~ County, New Mexico  
*San Juan*

Dear Mr. Jones:

Parawon Operating LLC would like to use this well for pressure maintenance in the NE Hogback Unit. A copy of the Pressure Maintenance order R-2026 is attached.

There are no other operators within the area of review. Most of the area of review has Navajo Tribe as the surface owner and BLM as the minerals owner with a small segment of the area having BLM as both the surface and minerals owner. A copy of the Navajo EPA Injection Permit for the subject well and its circulation to the BLM is attached at proof of notice.

The current operator, Parawon Operating LLC, obtained the property as a result of a bankruptcy by another operator. Parawon received no wellfiles, log files, or any other type of data on the wells. A wellbore diagram of all P&A'ed wells in the area of review is attached except for the Federal #2 (J Sec.10 T30N R16W – API#: 30-045-09693). No record of the P&A for Federal #2 exists on the State web site or the BLM records. A picture of the P&A marker is attached.

Please contact me at 505-327-4573 should you have any questions.

Very truly yours,



Mike Pippin  
Petroleum Engineer

cc. Charlie Perrin NMOCD Aztec

Enclosures

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery  Pressure Maintenance \_\_\_\_\_ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval?  Yes \_\_\_\_\_ No
- II. OPERATOR: PARAWON OPERATING LLC  
ADDRESS: 3104 N. Sullivan, Farmington, NM 87401  
CONTACT PARTY: Mike Pippin PHONE: 505-327-4573
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. **See Attached.**  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  Yes \_\_\_\_\_ No  
If yes, give the Division order number authorizing the project: R-2026
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. **See attached two maps.**
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. **See attached table & wellbore diagrams.**
- VII. Attach data on the proposed operation, including:
- Proposed average and maximum daily rate and volume of fluids to be injected; **Average=31 BWPD, Max.=50 BWPD**
  - Whether the system is open or closed; **Open**
  - Proposed average and maximum injection pressure; **Average=650 psi, Max.= 700 psi.**
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, **All injected water is produced water.**
  - If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. **See attached Geologic Data & Aquifer Data.**
- IX. Describe the proposed stimulation program, if any. **None**
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). **Logs are on the State web site.**
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken. **See attached water analysis.**
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Mike Pippin TITLE: Petroleum Engineer  
SIGNATURE:  DATE: April 15, 2008  
E-MAIL ADDRESS: mike@pippinllc.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

**INJECTION WELL DATA SHEET**

Tubing Size: 2-3/8" Lining Material: Plastic  
Type of Packer: Baker Model A-D  
Packer Setting Depth: 1520'  
Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes  No   
If no, for what purpose was the well originally drilled? Oil Production  
\_\_\_\_\_
2. Name of the Injection Formation: Gallup  
\_\_\_\_\_
3. Name of Field or Pool (if applicable): Horseshoe Gallup  
\_\_\_\_\_
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No  
\_\_\_\_\_
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: None  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INJECTION WELL DATA SHEET

OPERATOR: PARAWON OPERATING LLC

WELL NAME & NUMBER: Northeast Hogback Unit #31

WELL LOCATION: 1970' FSL 2210' FWL K 10 30N 16W  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC See Attached Wellbore Diagram

WELL CONSTRUCTION DATA  
Surface Casing

Hole Size: 12-1/4" Casing Size: 8-5/8"  
Cemented with: 160 sx. or          ft<sup>3</sup>  
Top of Cement: Surface Method Determined: Calc @ 75% Eff.

Intermediate Casing

Hole Size: None Casing Size:           
Cemented with:          sx. or          ft<sup>3</sup>  
Top of Cement:          Method Determined:         

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"  
Cemented with: 130 sx. or          ft<sup>3</sup>  
Top of Cement: 1240' Method Determined: Calc @ 75% Eff.

Total Depth: 1745'

Injection Interval

Perforated 1596' feet to 1628'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2-3/8" Lining Material: Plastic

Type of Packer: Baker Model A-D

Packer Setting Depth: 1520'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes  No   
If no, for what purpose was the well originally drilled? Oil Production

2. Name of the Injection Formation: Gallup

3. Name of Field or Pool (if applicable): Horseshoe Gallup

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: None

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# NE HOGBACK UNIT #31 GALLUP INJECTION

Horseshoe Gallup

(K) Section 10, T-30-N, R-16-W, San Juan County, NM

Today's Date: 3/17/05  
Spud: 6/19/59  
Completed: 8/17/59  
Elevation: 5492' GL

Cliffhouse @ 215'

Mancos @ 315'

With an oil cum of 13,890 BO,  
converted to water injection on  
8/5/74.

Gallup @ 1560'

7-7/8" hole

PBTD 1712'

TD 1745'

M. Pippin

12-1/4" hole

8-5/8" N/A# LS @ 214'  
Cmt w/160 sx

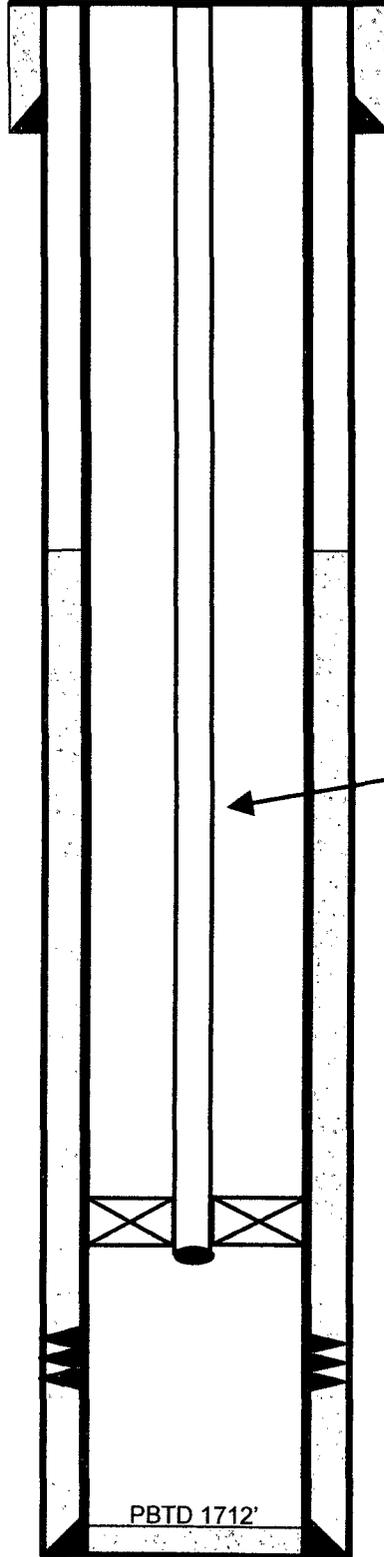
TOC @ 1240' (Calc.75%)

2-3/8" tbg @ 1528'

Baker Model "AD-1" pkr set @ 1528'

Perf @ 1596'-1628' & fraced  
w/40,000# sand in 42,000 gal oil.

5-1/2" N/A# @ 1745'  
Cmt with 130 sx





NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY

P.O. Box 1999  
Shiprock, New Mexico 87420  
(505) 368-1040



Joe Shirley, Jr.  
PRESIDENT

Ben Shelley  
VICE-PRESIDENT

January 16, 2007

COPY

Parawon Operating, LLC  
Attn: Earl Hollingshead  
164 Saint Francis Street #205  
Mobile, Alabama  
36602

Re: UIC Permit (Class IIR-Multiwell) NN12  
N. E. Hogback Unit Nos. 29, 31, and 37  
San Juan County, NM

Dear Mr. Hollingshead:

Enclosed are copies of the Draft Permit, Statement of Basis, and Public Notice for the above Class IIR Permit. The Public Notice will be published in the Farmington Daily Times on 1/17/07, and the public comment period will be open for 30 days after that date.

All comments must be submitted in writing before 2/17/07, to:

NNEPA/UIC Program  
P.O. Box 1999  
Shiprock, NM 87420  
Attn: William Freeman

If a request for a public hearing and substantive comments are not received, the draft permit will become effective upon issuance. If you or members of the public request significant changes to the Draft Permit, the comments will be addressed and a revised permit may be issued. The permit would then become effective 30 days after issuance unless a petition for review by the Director is filed by any person that participated in a hearing or takes issue with any changes in the Draft Permit.

If you have any questions regarding administrative procedures or the permit issuance process, please call me at 505-368-1040 or e-mail: [nnepauic@frontiernet.net](mailto:nnepauic@frontiernet.net)

Sincerely,

William Freeman, Senior Hydrologist  
NNEPA/UIC Program - Shiprock

enclosures

cc:

1. Stephen B. Etsitty, Director  
Navajo Nation Environmental Protection Agency
2. US Department of Interior  
Attn: Steve Henke, Farmington District Mgr.  
Bureau of Land Management  
(with enclosure)
3. US Department of Interior  
Attn: Jerry Thomas, Natural Resources Mgr.  
Bureau of Indian Affairs, Shiprock Agency
4. US Department of Interior  
Attn: Bertha Spencer, Supervisor Realty Specialist  
Bureau of Indian Affairs, Navajo Area Office
5. Utah Land Administration Office (Aneth)  
Attn: Belinda Clark  
(with enclosure)
6. US EPA Office, Farmington, NM  
Attn: Jim Walker  
(with enclosure)

RECEIVED

2003 JAN -8 AM 8: 24

070 Farmington, NM  
Date: 1/7/03

Client: BLM-Farmington District

Lab ID: 0302W05018

Project: PHWW 12-8-1

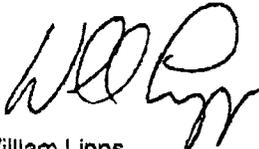
Dear Client:

The samples were received for analysis at Inter-Mountain Laboratories (IML), Farmington, New Mexico. Enclosed is the result of the analyses.

Comment:

The enclosed report has been independently reviewed for compliance with IML-Farmington's Quality Assurance Plan and Data Quality Objectives. IML has examined all of the data in the report and has made every effort possible to make sure it is complete, accurate, and compliant. Quality Assurance data, if not included, is on file and available upon request.

Unless otherwise noted, all results were obtained by approved methods. Practical Quantification Limits (PQLs) are based on statistically derived determinations, and upon any dilutions necessary to obtain proper method response without matrix interference.

  
William Lipps  
Laboratory Director/IML-Farmington, NM

Inter-Mountain Laboratories, Inc.

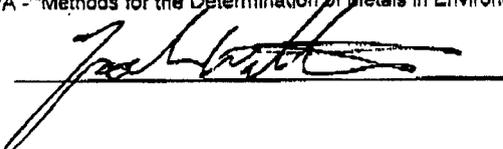
2506 West Main Street  
Farmington, NM 87401

Client: BLM - Farmington District  
Project: PHWW 12-8-1  
Sample ID: PHWW 12-8-1  
Lab ID: 0302W05018  
Matrix: Water  
Condition: Cool/Intact

Date Received: 12/04/02  
Date Reported: 01/07/03  
Date Sampled: 11/28/02  
Time Sampled: 1010

Parameter	Analytical Result	Units	Units	PQL	Method	Analysis			
						Date	Time	Init.	
<b>GENERAL PARAMETERS</b>									
PH	7.3	s.u.		0.1	EPA 150.1	12/04/02	1655	ZW	
Electrical Conductivity	3,170	µmhos/cm		10	SM 2510B	12/04/02	1855	ZW	
Alkalinity (CaCO <sub>3</sub> )	380	mg/L		1	SM 2320B	12/07/02	1340	AB	
Hardness (CaCO <sub>3</sub> )	357	mg/L		1	EPA 200.7	12/22/02	1500	WL	
Solids - Total Dissolved	2,290	mg/L		10	2540 C	12/07/02	1150	AB	
Oil & Grease (Water)	<1	mg/L		1	EPA 413.1	12/21/02	1100	ZW	
<b>Major Cations</b>									
Calcium	73.4	mg/L	3.66	meq/L	0.2	EPA 200.7	12/22/02	1422	WL
Magnesium	42.2	mg/L	3.47	meq/L	0.2	EPA 200.7	12/22/02	1422	WL
Potassium	5.9	mg/L	0.15	meq/L	0.2	EPA 200.7	12/22/02	1422	WL
Sodium	549	mg/L	23.88	meq/L	0.2	EPA 200.7	12/22/02	1422	WL
<b>Major Anions</b>									
Bicarbonate (HCO <sub>3</sub> )	464	mg/L	7.60	meq/L	1	SM 2320B	12/07/02	1340	AB
Carbonate (CO <sub>3</sub> )	<1	mg/L	<0.01	meq/L	1	SM 2320B	12/07/02	1340	AB
Chloride	168	mg/L	4.74	meq/L	1	EPA 300.0	12/11/02	1609	AB
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	SM 2320B	12/07/02	1340	AB
Sulfate	1,190	mg/L	24.73	meq/L	5	EPA 300.0	12/11/02	1609	AB
<b>Anion/Cation Balance QC Information</b>									
Anion Sum			37.06	meq/L	0.01	SM 1030	12/11/02	1700	AB
Cation Sum			31.16	meq/L	0.01	SM 1030	12/22/02	1500	WL
Cation/Anion Balance			8.85	%	0.01	SM 1030	12/22/02	1500	WL

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes (MCAWW)" - EPA/600/4-79-020 - March, 1983.  
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF, 19th Edition, 1995.  
EPA - "Methods for the Determination of Metals in Environmental Samples" - Supplement I - 800/R-94-111 - May, 1994.

Reviewed By: 

Inter-Mountain Laboratories, Inc.

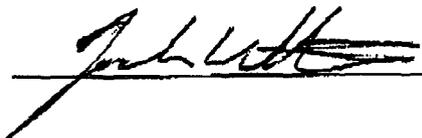
2506 West Main Street  
Farmington, NM 87401

Client: BLM - Farmington District  
Project: PHWW 12-8-1  
Sample ID: PHWW 12-8-1  
Lab ID: 0302W05018  
Matrix: Water  
Condition: Cool/Intact

Date Received: 12/04/02  
Date Reported: 01/07/03  
Date Sampled: 11/28/02  
Time Sampled: 1010

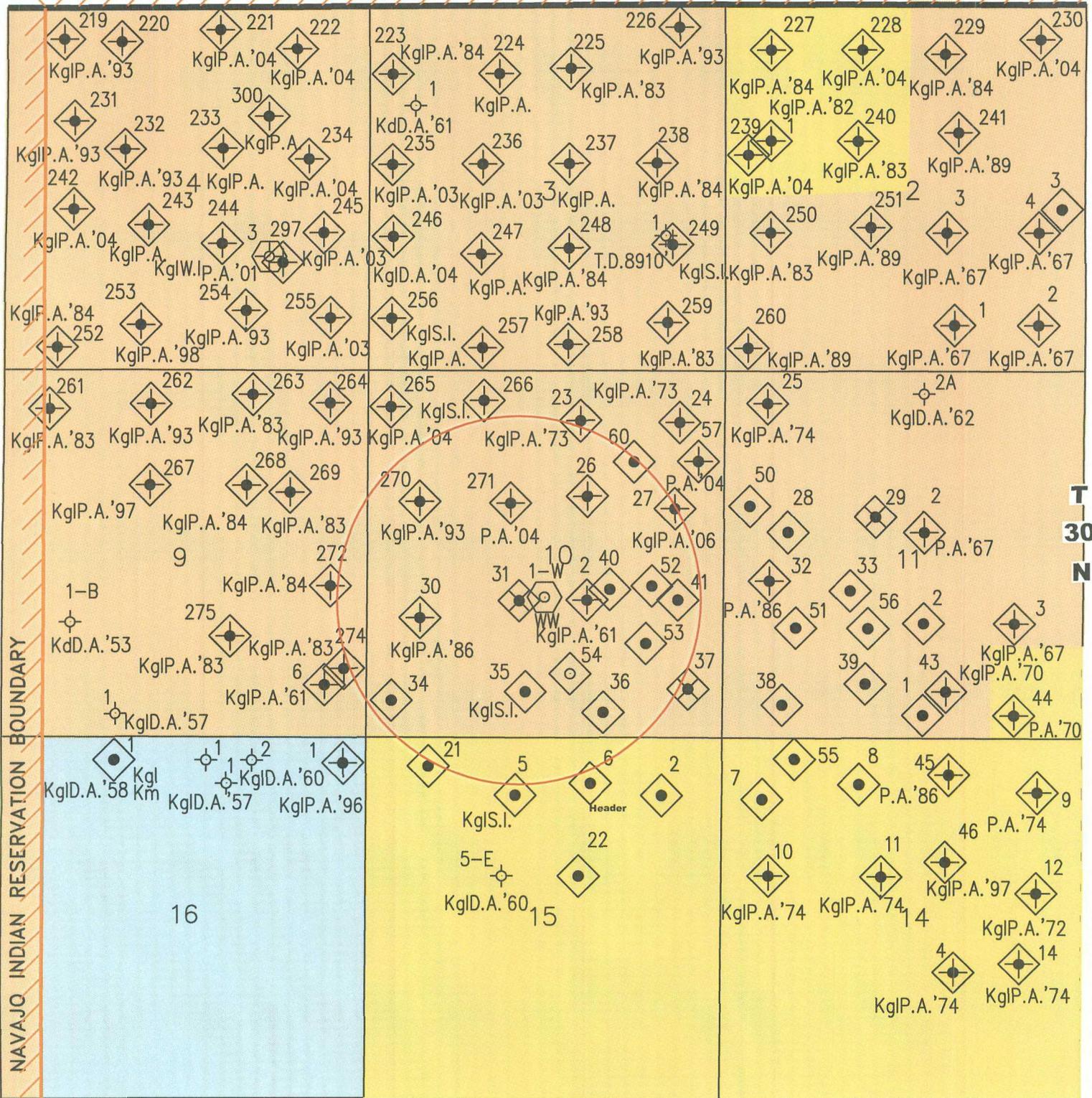
Parameter	Analytical Result	Units	Units	PQL	Method	Analysis		
						Date	Time	Init.
<b>TOTAL METALS</b>								
Aluminum	0.51	mg/L		0.05	EPA 200.7	12/05/02	1501	WL
Arsenic	<0.02	mg/L		0.02	EPA 200.7	12/05/02	1501	WL
Boron	0.80	mg/L		0.01	EPA 200.7	12/05/02	1501	WL
Cadmium	0.005	mg/L		0.001	EPA 200.9	12/05/02	1501	WL
Chromium	<0.01	mg/L		0.01	EPA 200.7	12/05/02	1501	WL
Cobalt	<0.01	mg/L		0.01	EPA 200.7	12/05/02	1501	WL
Copper	0.04	mg/L		0.01	EPA 200.7	12/05/02	1501	WL
Lead	<0.005	mg/L		0.005	EPA 200.9	12/11/02	1300	WL
Mercury	<0.001	mg/L		0.001	EPA 245.1	12/20/02	1610	ZW
Selenium	<0.005	mg/L		0.005	SM 3114B	12/17/02	1600	WL
Vanadium	<0.01	mg/L		0.01	EPA 200.7	12/05/02	1501	WL
Zinc	0.076	mg/L		0.025	EPA 200.7	12/05/02	1501	WL

Reference: EPA - "Methods for the Determination of Metals in Environmental Samples" - Supplement 1 - 600/R-94-111 - May, 1994.  
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF, 19th Edition, 1995.

Reviewed By: 



UTE MOUNTAIN INDIAN RESERVATION BOUNDARY



R-16-W

-  Surface Management – Indian
-  Surface Management – State
-  Surface Management – BLM

-  FARMINGTON Kfm
-  KIRTLAND Kk
-  FRUITLAND Kfs
-  FRUITLAND Kfc
-  PICTURED CLIFFS Kpc
-  CHACRA Kc
-  MESAVERDE Kmv
-  GALLUP Kgl
-  DAKOTA Kd
-  ALL PRODUCTION BELOW CRETACEOUS Je
-  Pbc
-  MI

**PARAWON OPERATING, LLC**

164 St. Francis Street, Suite 201 Mobile, Alabama 36602

SAN JUAN BASIN DEVELOPMENT MAP

**NE Hogback Unit #31**  
Half Mile Radius

SAN JUAN CO., NEW MEXICO

POSTED TO: 1-25-2008

SCALE: 1"=2000'

Prepared by: **HOPKINS MAP SERVICE**  
P. O. BOX 536 FARMINGTON, N.M. 87499

**PARAWON OPERATING LLC  
Northeast Hogback Unit #31**

APPLICATION FOR AUTHORIZATION TO INJECT -- PART VI

Data on all wells in the area of review that penetrate the proposed injection zone.  
Northeast Hogback Unit Wells

WELL NUMBER	API#	LOCATION	DATE DRILLED	TYPE WELL	CASING @ DEPTH	PERFS	TOC*
2	3004509693	J 10	Apr-59	OIL-P&A	5-1/2"@1743'	1560'-1698'	400'
26	3004509751	G 10	Feb-59	OIL-P&A	5-1/2"@1682'	1480'-1606'	1018'
27	3004509736	H 10	Oct-58	OIL-P&A	4-1/2"@1738'	1500'-1622'	1089
30	3004509688	L 10	Mar-60	OIL-P&A	5-1/2"@1602'	1454'-1523'	938'
34	3004509640	M 10	Mar-60	OIL - PROD.	5-1/2"@1468'	1312'-1263'	804'
35	3004509644	N 10	Feb-60	OIL - PROD.	5-1/2"@1680'	1492'-1521'	1016'
36	3004509622	O 10	Jul-59	OIL - PROD.	5-1/2"@1748'	1533'-1689'	1084'
40	3004509698	J 10	Apr-59	OIL - PROD.	5-1/2"@1660'	1484'-1607'	996'
41	3004509694	I 10	Apr-60	OIL - PROD.	5-1/2"@1769'	1599'-1749'	1258'
52	3004529347	I 10	Apr-00	OIL - PROD.	4-1/2"@1766'	1506'-1626'	0
53	3004529348	I 10	May-00	OIL - PROD.	4-1/2"@1884'	1622'-1726'	0
60	3004530361	A 10	May-04	OIL - PROD.	4-1/2"@1807'	1580'-1620'	0
270	3004509745	E 10	Dec-58	OIL-P&A	5-1/2"@1461'	1306'-1344'	950'
271	3004509741	F 10	Dec-58	OIL-P&A	5-1/2"@1601'	1455'-1570'	1218'
1-W	3004509695	K 10	Aug-61	H2O SUPPLY P&A	10-3/4"@2990' DV @ 1877'	2312'-2933' **	2105' 1553'

TOC\* Calculated at 75% Efficiency & before P&A.

\*\* These water supply perfs for #1-W are in the Morrison.

**PARAWON OPERATING LLC  
NE HOGBACK UNIT #26 P&A**

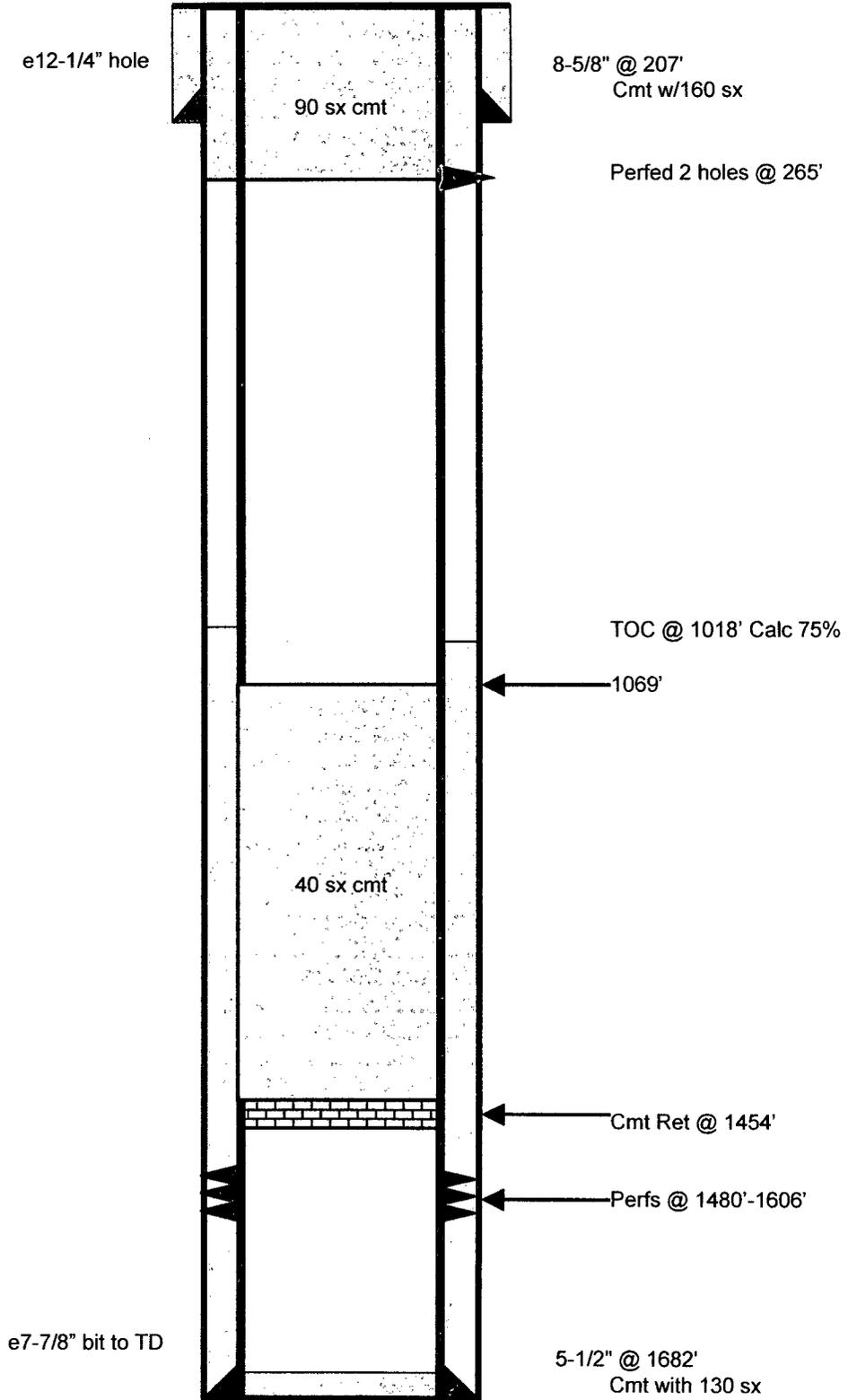
Current: Horseshoe Gallup

G Sec. 10 T30N R16W – API#: 30-045-09751  
San Juan County, New Mexico

Today's Date: 4/11/08

Drilled: 2/59

Elevation: 5554' GL



**PARAWON OPERATING LLC  
NE HOGBACK UNIT #27 P&A**

Current: Horseshoe Gallup

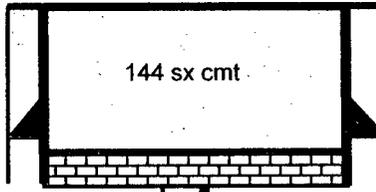
1980' FNL & 710' FEL (H) Sec. 10 T30N R16W  
San Juan County, New Mexico

Today's Date: 4/11/08

Drilled: 10/58

Elevation: 5482' GL

e12-1/4" hole

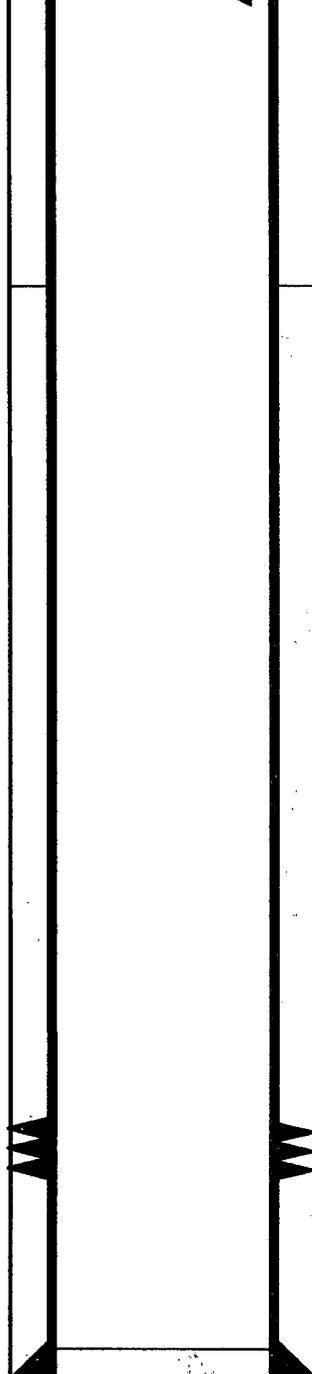


Cmt w/160 sx  
TOC @ Surface Calc.75%

Cmt Ret @ 289'

5/4/06: Set down @ 366'. Could  
Not circ. through w/water.

TOC @ 1089' (Calc.75%)



e7-7/8" bit to TD

# PARAWON OPERATING LLC NE HOGBACK UNIT #30 P&A

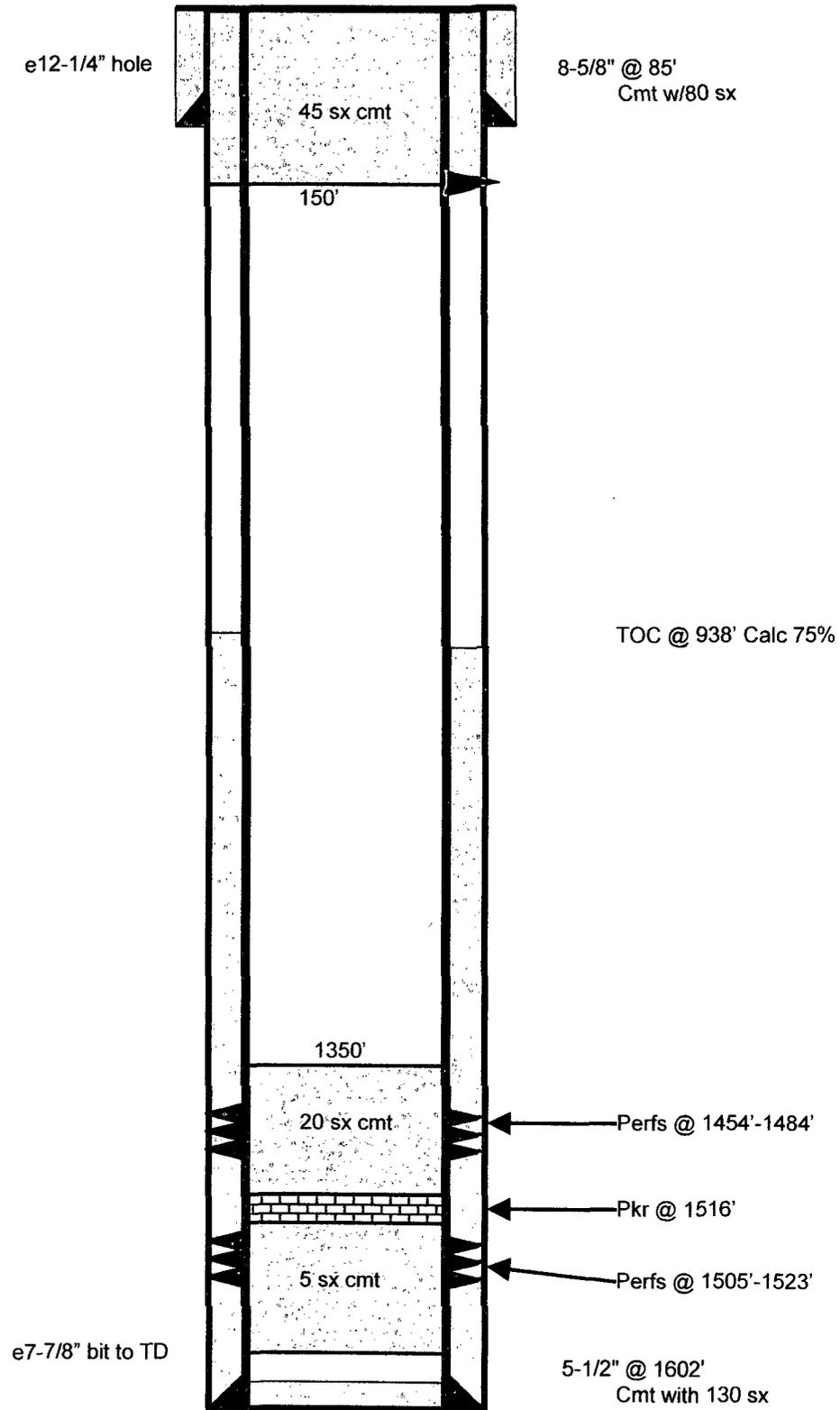
Current: Horseshoe Gallup

L Sec. 10 T30N R16W – API#: 30-045-09688  
San Juan County, New Mexico

Today's Date: 4/11/08

Drilled: 3/60

Elevation: 5424' GL



**PARAWON OPERATING LLC  
NE HOGBACK UNIT #270 P&A**

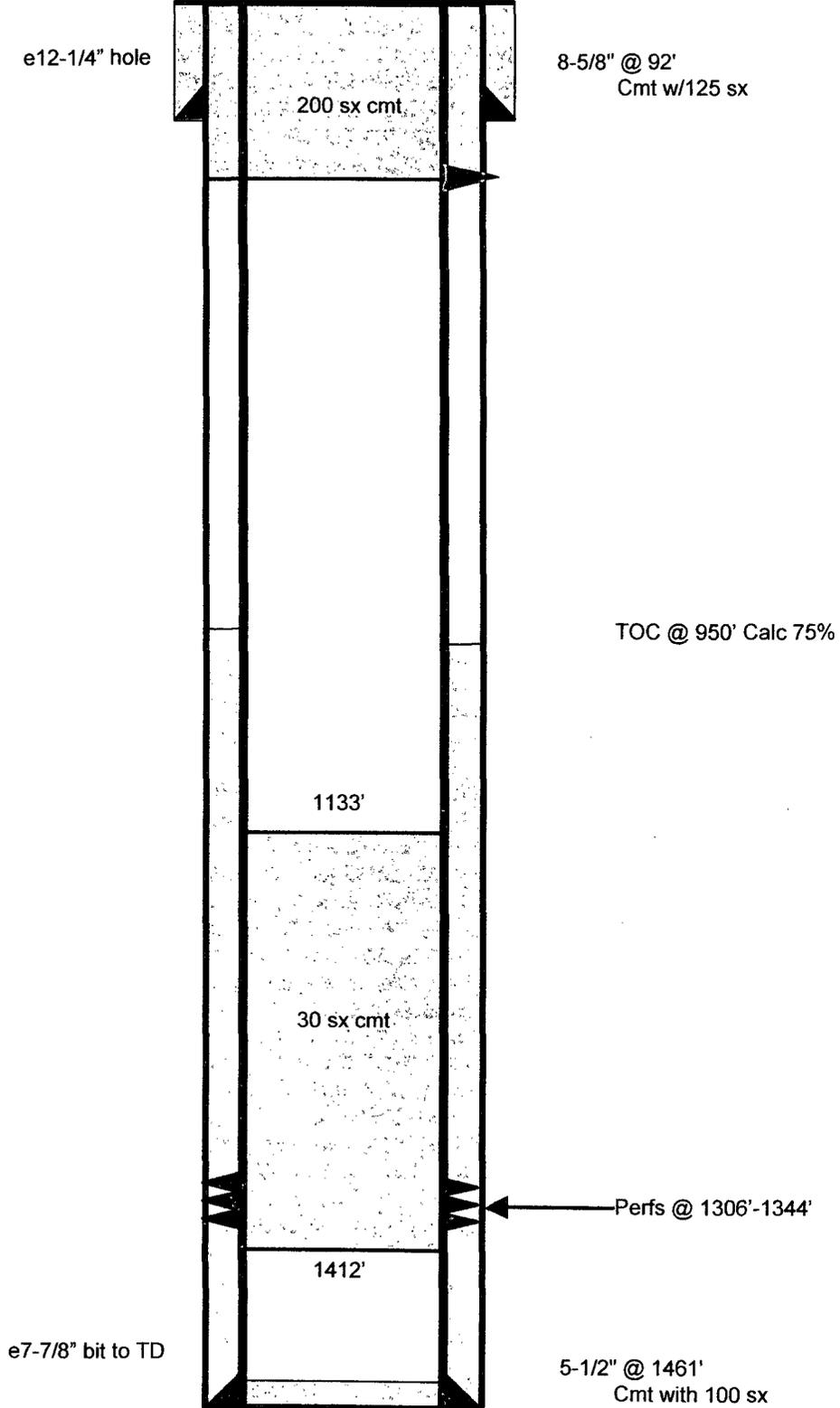
Current: Horseshoe Gallup

E Sec. 10 T30N R16W – API#: 30-045-09745  
San Juan County, New Mexico

Today's Date: 4/14/08

Drilled: 12/58

Elevation: 5454' GL



**PARAWON OPERATING LLC  
NE HOGBACK UNIT #271 P&A**

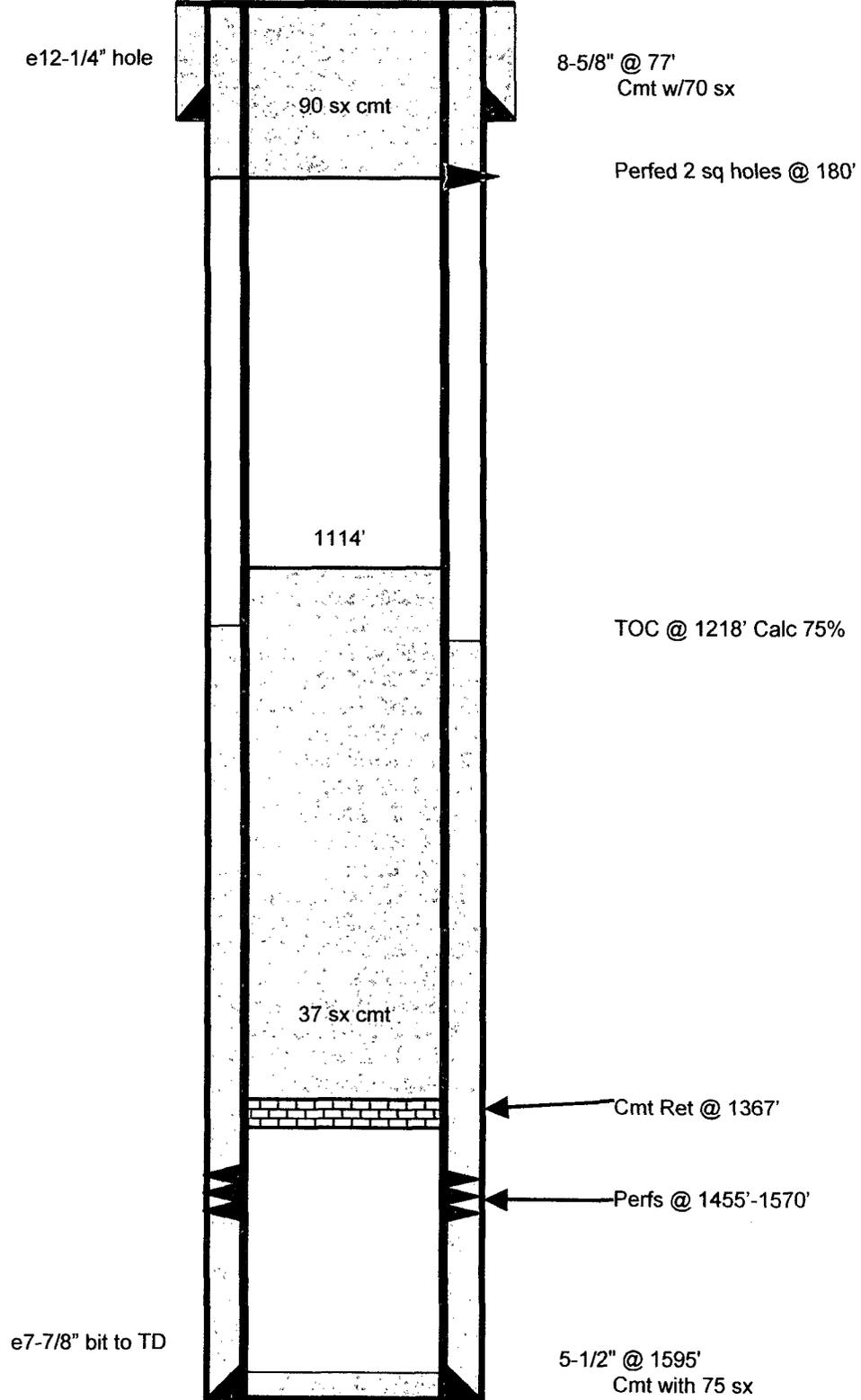
Current: Horseshoe Gallup

F Sec. 10 T30N R16W – API#: 30-045-09741  
San Juan County, New Mexico

Today's Date: 4/14/08

Drilled: 12/58

Elevation: 5593' GL



# PARAWON OPERATING LLC NE HOGBACK UNIT WSW #1 P&A

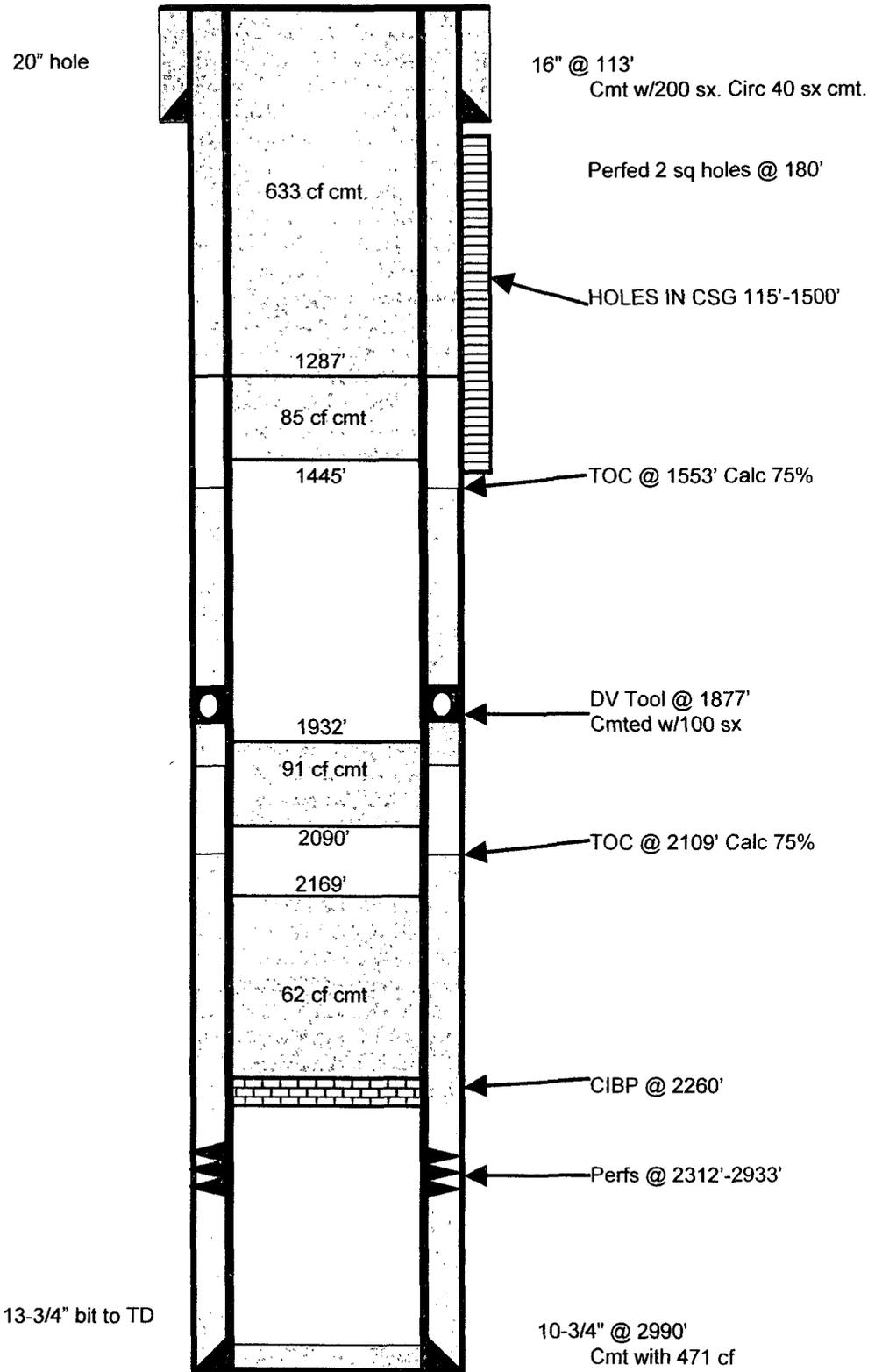
Current: Horseshoe Gallup

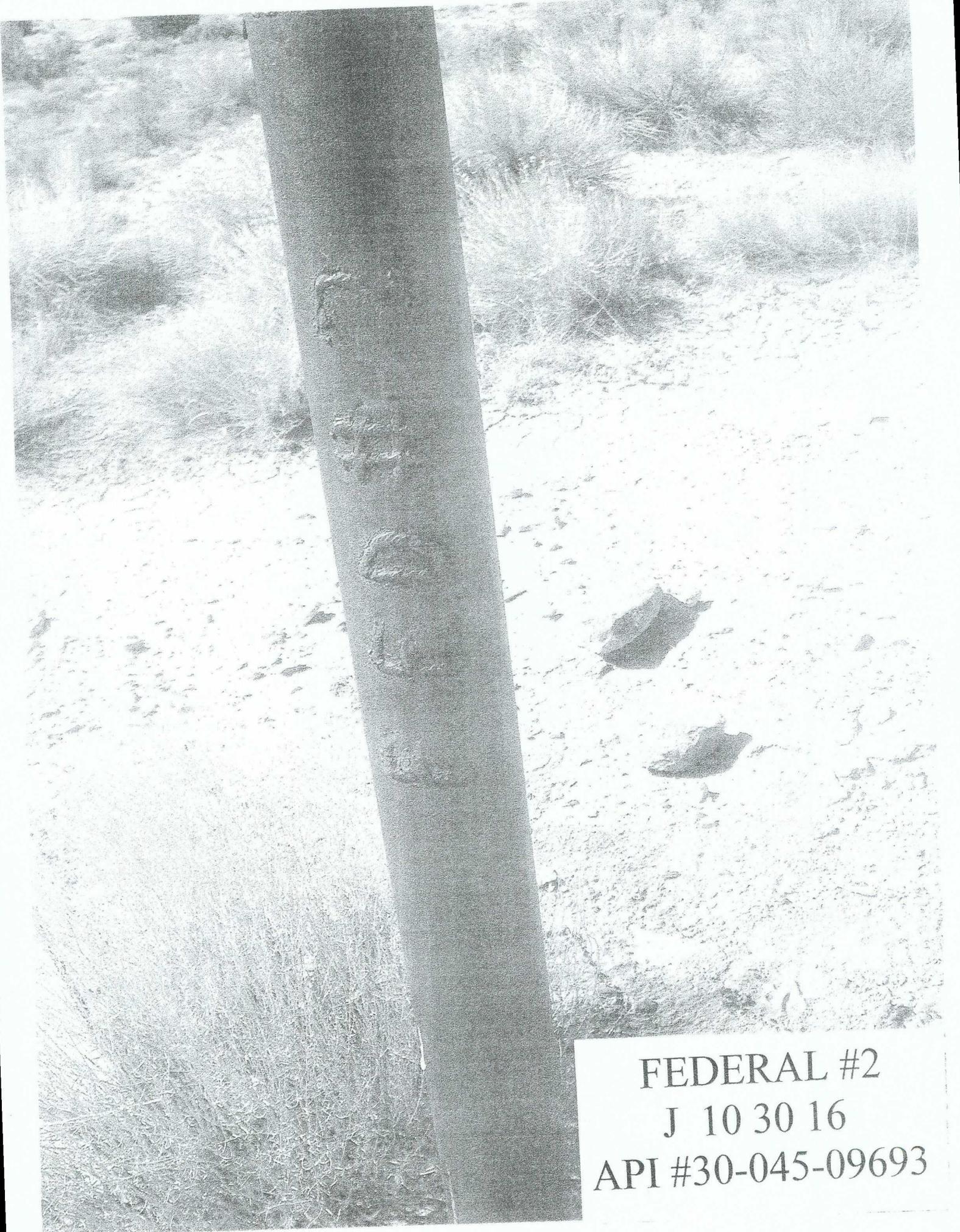
K Sec. 10 T30N R16W – API#: 30-045-09695  
San Juan County, New Mexico

Today's Date: 4/14/08

Drilled: 7/61

Elevation: 5492' GL





FEDERAL #2  
J 10 30 16  
API #30-045-09693

PARAWON OPERATING LLC  
Northeast Hogback Unit #31

**APPLICATION FOR AUTHORIZATION TO INJECT**  
Attachment to C-108 VIII

**GEOLOGIC DATA**

The injection interval is the Cretaceous, basal Niobrara age (transgressive "Gallup") sandstones. The upper sandstone thickness is 10 to 40 feet. The lower sandstone thickness is 0 to 40 feet. The interval is fine to coarse-grained, glauconitic, sometimes conglomeratic & commonly cross-stratified. The depth in the subject well is 1562'-1670'. See attached log section.

**AQUIFER DATA**

No water wells were found on the State Engineer's web site in the within one mile of the proposed injection well. However, the Public Health Well #12, drilled by the USGS is located at 492' FSL 437' FEL & (P) Section 10 T30N R16W. It was drilled by the USGS on 10/16/67 as a U. S. Public Health Service Project. This water well is open in the Fruitland Coal at a depth of 58 feet.

**Jones, William V., EMNRD**

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**From:** Jones, William V., EMNRD  
**Sent:** Wednesday, May 14, 2008 5:56 PM  
**To:** 'Mike Pippin'  
**Subject:** PMX application from Parawon Operating LLC: NE Hogback Unit #31

Hello Mike:

Did not see a newspaper notice or an "affirmative statement" - forget about them this time....

The big issue I see is the pressure limit. We normally start out at 0.2 psi/ft which would be 319 psi in this case. Your application says 700 as a max pressure and 650 as the average. What pressure limit are you asking for in this case or what must they have? and can you support that number as being one that is not fracturing the formation? Has Parawon done ANYTHING to establish the pressure at which the injection zone fractures?

This was called a Pressure Maintenance Project in R-2026. Is it still that? What is the reservoir pressure out there? What is the injection/withdrawal ratio?

Thank You,

William V. Jones PE  
New Mexico Oil Conservation Division  
1220 South St. Francis  
Santa Fe, NM 87505  
505-476-3448

PARAWON OPERATING LLC  
Mike Pippin  
3104 N. Sullivan Avenue  
Farmington, NM 87401  
505-327-4573 (phone) mike@pippinllc.com  
May 15, 2008

NMOCD  
c/o Will Jones  
1220 South St. Francis Drive  
Santa Fe, NM 87505

**RE: Response to e-mail Questions of 5/14/08**  
**Application for Authorization to Inject - C-108**  
NE HOGBACK UNIT #31 – API#: 30-045-09696  
Unit Letter "K" Section 10 T30N R16W  
Rio Arriba County, New Mexico

Dear Mr. Jones:

This letter is in response to your e-mail of 5/14/08.

First a little background information on the NE Hogback Unit. The current operator, Parawon Operating LLC, obtained the property on 12/2/03 as a court appointed receiver resulting from a bankruptcy by another operator. The Unit had three injection wells at that time: #31, #29, and #37. The #37 has been injecting since October 1968 and has a cumulative injection of 1,529,293 bo. The #29 has been injecting since August 1962 and has a cumulative injection of 51,418 bw. The #31 has been injecting since August 1974 and has a cumulative injection of 119,841 bw. Injecting through order R-2026 all three injection wells have approved injection sundries on the State web site.

This is still a pressure maintenance project with a field injection/withdrawal ratio of 0.35. However, the Unit is currently receiving some much needed capital work, which may change the production volumes.

In our C-108 application, Parawon asked for 700 psi max pressure and 650 psi average injection pressure. These pressures were taken from the EPA Annual Injection Well Monitoring Report, but are incorrect and will be revised. Wellhead pressures taken on 5/15/08 on injection wells #37 & #29 indicate 475 psi. This would obviously be high since #31 is still shut-in. The pressures on the C-108 should be amended to read an average injection pressure of 450 psi with the maximum of 500 psi.

Parawon has not done any BHP or frac pressure studies to date. However, a primary Gallup frac treatment of #60 (A 10 30 16 – API: 30-045-30361) on 4/3/08 indicated a frac gradient of 0.67 psi/ft. Pressure/rate curve analysis shows that a pressure of about 1000 psi with a rate of about 40 bpm was required to frac the Gallup in #60. The distance between #60 and #31 is 2664'. The Four Corners Geological Society lists the Horseshoe Gallup field BHP as unknown with an initial field pressure (lower interval) as 215 psi.

Please contact me at 505-327-4573 should you have any questions.

Very truly yours,

Mike Pippin

Petroleum Engineer

Para-won Well #	Gallup Injection Interval	Surf Csg		Prod Csg		TDC	Tub Ing	Inj Press- Optr PSI	Max Allow Inj Press PSI	AVG Inj Rate- Optr B/D	Max Inj Rate- Optr B/D	Cum Vol @ Avg Inj Rate- 20 Yrs Mbbis	Calc Est Vol of Inj Intvl (r=2640") Mbbis	Avg Poro	So	h (calc)	r	
		Dia	Set @	Dia	Set @													Pkr
29	1776'-1818'	160sx to surf	1980'	4-1/2"	170sx	1230' Calc	3/8"	325 avg	700	33	35	256	18.1	14%	50%	70'	305'	29
31	1890'-1918'	160sx to surf	1745'	5-1/2"	130sx	1240' Calc	3/8"	325 avg	700	33	35	256	8.7	14%	50%	32'	451'	31
37	1698'-1720'	160sx to surf	1882'	5-1/2"	130sx	1218' Calc	3/8"	325 avg	700	33	35	256	16.9	14%	50%	62'	324'	37

\* Due to continuous production draw-down, The Max Inj Rate is not fixed in enhanced recovery (Class IIR ) wells as long as the Max Allow Inj Press is not exceeded.

Permit NN 12

TO: Will Jones MmocoD-Santa Fe FAX #: 505-476-3462	FROM: Bill Freeman MHERA UIC-Superior FAX #: 505-368-1047 PHONE #: 505-368-1041	DATE: 5/15/08 PAGES INCLUDING THIS PAGE: 1 PAGE # 1
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Will — I hope this helps.  
Thanks,

*Bill*

Injection Permit Checklist 2/8/07

SWD Order Number 249 Dates: Division Approved \_\_\_\_\_ District Approved \_\_\_\_\_

Well Name/Num: NE HOEBACK UNIT #31 Date Spudded: 6/19/1959

API Num: (30-) 045-09696 County: SAN JUAN

Footages 1970 FSL/2210' FWL Sec 10 Tsp 30N Rge 16W

Operator Name: PARAWON OPERATING LLC Contact MIKE PIPPIN

Operator Address: % MIKE PIPPIN 3104 N. SULLIVAN AVE. FARMINGTON, NM 87401

Current Status of Well: inj. Planned Work: inj. Inj. Tubing Size: 2 3/8 @ 1520'

	Hole/Pipe Sizes	Depths,	Cement	Top/Method
Surface	12 1/4 8 5/8	214'	150	Surf (cale)
Intermediate				
Production	7 7/8 6 1/2	1745'	130	1240' cale
Last DV Tool				
Open Hole/Liner				
Plug Back Depth				

Diagrams Included (Y/N): Before Conversion  After Conversion

Checks (Y/N): Well File Reviewed  ELogs in Imaging

Intervals:	Depths	Formation	Producing (Yes/No)
Salt/Potash			
Capitan Reef			
Cliff House, Etc:			
Formation Above			
Top Inj Interval	1596	Gallup Houshoo-Gallup 1/2	319 PSI Max. WHIP
Bottom Inj Interval	1628	"	NO Open Hole (Y/N)
Formation Below			Deviated Hole (Y/N)

R-2026 (7/13/01)  
Core 2317

Fresh Water: Depths: 58' FRCAL Wells (Y/N) \_\_\_\_\_ Analysis Included (Y/N): Yes Affirmative Statement OK

Salt Water Analysis: Injection Zone (Y/N/NA) (Disp Waters) (Y/N/NA) \_\_\_\_\_ Types: same

Notice: Newspaper (Y/N) \_\_\_\_\_ Surface Owner Houjo/Bum Mineral Owner(s) \_\_\_\_\_

Other Affected Parties: None

AOR/Repairs: NumActiveWells 8 Repairs? \_\_\_\_\_ Producing in Injection Interval in AOR Yes

AOR Num of P&A Wells 7 Repairs? \_\_\_\_\_ Diagrams Included? Yes RBDMS Updated (Y/N) \_\_\_\_\_

Well Table Adequate (Y/N) Yes AOR STRs: Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ UIC Form Completed (Y/N) \_\_\_\_\_

New AOR Table Filename \_\_\_\_\_ Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ This Form completed \_\_\_\_\_

Conditions of Approval: Sec \_\_\_\_\_ Tsp \_\_\_\_\_ Rge \_\_\_\_\_ Data Request Sent \_\_\_\_\_

AOR Required Work: \_\_\_\_\_

Required Work to this Well: \_\_\_\_\_

Rule 40 = OK 06/10/06 FAOR

1596  
3192