Tenneco Oil
Exploration and Production
A Tenneco Company

Eastern Rocky Mountain Division

P.O. Box 3119
Englewood, Colorado 80155
(303) 740-4800

Delivery Address:
6162 South Willow Drive
Englewood, Colorado

November 5, 1984

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87501
Attention: Joe Ramey

State of New Mexico
Oil & Gas Conservation Commission
1000 Rio Brazos Road
Aztec, NM 87410

RE: Application for Authorization to Inject
Hospah #40
Unit H, Sec. 12, T17N, R9W
McKinley County, New Mexico

Gentlemen:

Attached you will find our Application for Authorization to Inject for the purpose of secondary recovery, including supportive information for the referenced well. The offset operators have been notified by mail of this application.

Please contact this office if you require additional information.

Very truly yours,

TENNECO OIL COMPANY

Scott McKinney
Sr. Regulatory Analyst

SMc:srp
Attachment

cc: Alex McLean

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [✓] yes [ ] no

II. Operator: Tenneco Oil E & P

Address: P. O. Box 3249 Englewood, CO 80155

Contact party: Alex McLean Phone: 740-2582

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [X] yes [ ] no
If yes, give the Division order number authorizing the project R3325.

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.

* 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.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. 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 geological data on the injection zone including appropriate lithologic detail, geological 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 source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* 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.

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 source 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: Alex M. McLean Title Production Engineer

Signature: Alexander M. McLean Date: October 9, 1984

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. April 19, 1983 - Application for Hospah #18

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Form C-108 Application For Authorization to Inject

VII. 1. Proposed average & max. daily rate of fluids to be injected;

Proposed ave. daily rate: Initially, to be limited to 25 BWIPD

Max daily rate: 1200 BWIPD

2. System - closed

3. Average Inj. Pressure: 650 psi

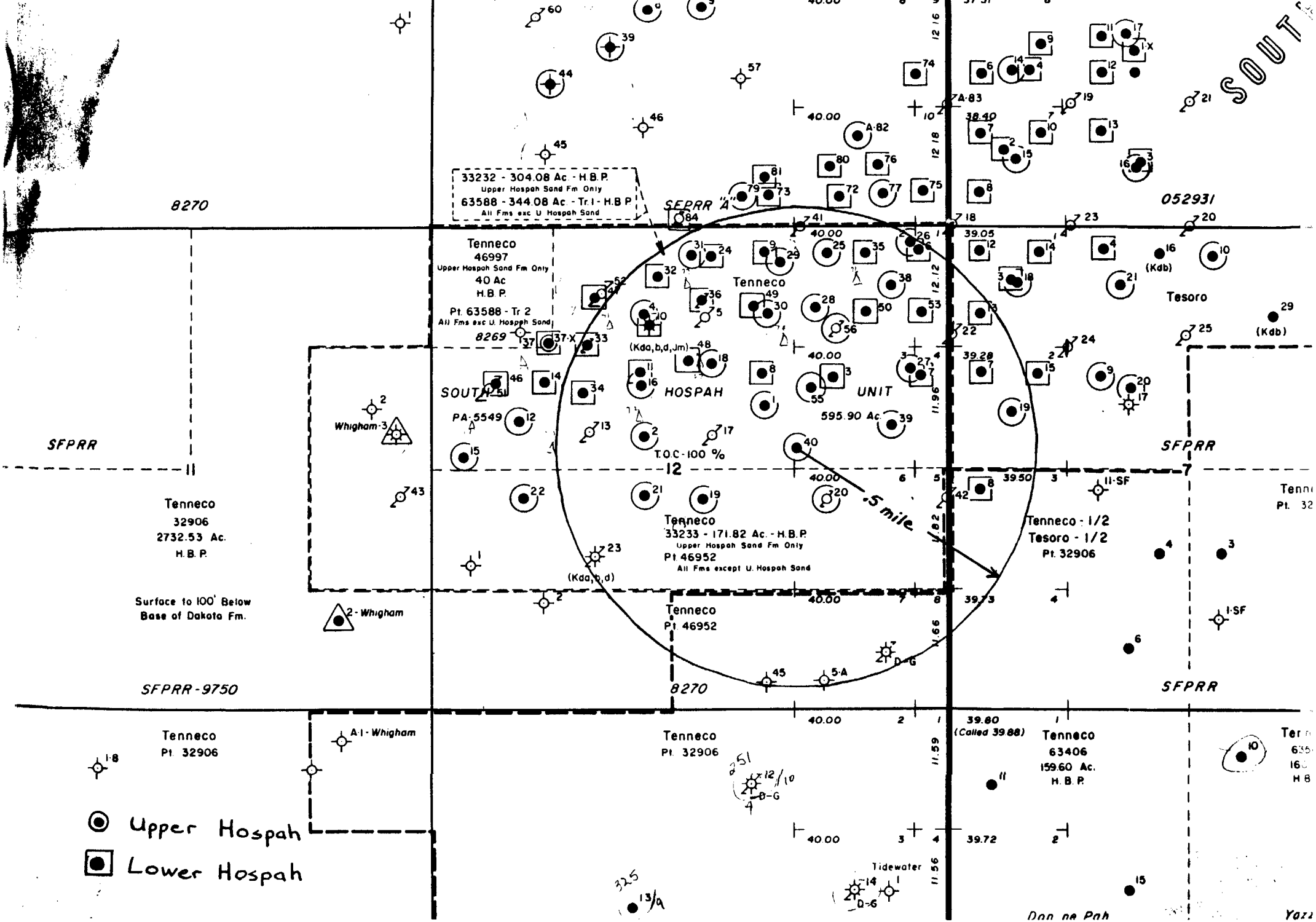
Max Inj. Pressure: 800 psi

4. Injected fluid will be produced water from the Hospah field

5. This well is <u>not</u> for disposal purposes.

IX. Stimulation program will initially consist of nothing, but at a later date, this well may be acidized.

XII. Not applicable


33232 - 304.08 Ac. - H.B.P.
Upper Hospah Sand Fm Only
63588 - 344.08 Ac. - Tr. I - H.B.P.
All Fms exc U. Hospah Sand
SFPRR "A"
8270
052931
Tenneco
46997
Upper Hospah Sand Fm Only
40 Ac
H.B.P.
Pt. 63588 - Tr 2
All Fms exc U. Hospah Sand
8269
Tenneco
Tesoro
(Kdb)
(Kda,b,d,Jm)
SOUTH HOSPAH UNIT
595.90 Ac.
PA-5549
Whigham-3
SFPRR
T.O.C.-100 %
.5 mile
Tenneco
32906
2732.53 Ac.
H.B.P.
Surface to 100' Below
Base of Dakota Fm.
2-Whigham
Tenneco
33233 - 171.82 Ac. - H.B.P.
Upper Hospah Sand Fm Only
Pt 46952
All Fms except U. Hospah Sand
Tenneco - 1/2
Tesoro - 1/2
Pt. 32906
Tenneco
Pt 46952
SFPRR-9750
8270
SFPRR
Tenneco
Pt. 32906
A-1-Whigham
Tenneco
Pt. 32906
Tenneco
63406
159.60 Ac.
H.B.P.
(Called 39.88)
Tidewater
Upper Hospah
Lower Hospah

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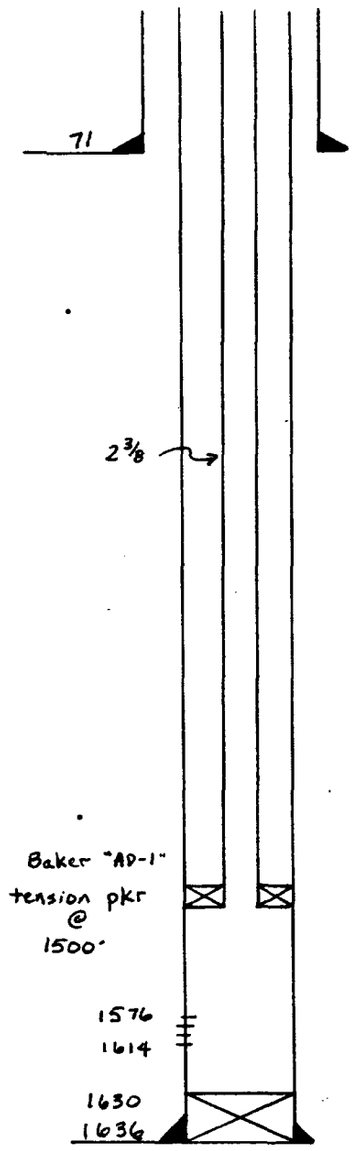
INJECTION WELL DATA SHEET

OPERATOR	LEASE			
Tenneco Oil E & P	S. HOspah Unit			
WELL NO.	**FOOTAGE LOCATION**	**SECTION**	**TOWNSHIP**	**RANGE**
40	2602 FNL, 1580 FEL	12	17N	9W

Schematic



Tabular Data

Surface Casing

Size 8 5/8" Cemented with 75 sx.

TOC Surface feet determined by circ. cmt to surf.

Hole size 12 1/4

Intermediate Casing

Size 5 1/2" Cemented with 100 sx.

TOC 947 feet determined by calculation

Hole size 7 7/8

Long string - N/A

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Total depth _____

Injection interval - perforated

1576 feet to 1614 feet
(perforated or open-hole, indicate which)

Tubing size 2 3/8" lined with - set in a
(material)

Baker AD-1 tension packer at 1500 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Upper Hospah

2. Name of Field or Pool (if applicable) S. Hospah Unit

3. Is this a new well drilled for injection? [ ] Yes [X] No

   If no, for what purpose was the well originally drilled? oil production

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

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Lower Hospah - 1630'
   Lower Pine Dakota - 2500'