



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

April 9, 1985

POST OFFICE BOX 2068
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Mr. William O. Jordan
Attorney at Law
P. O. Box 40
Santa Fe, New Mexico 87504

Re: CASE NO. 8550
ORDER NO. R-7859

Applicant:

R. N. Ainsworth

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

R. L. STAMETS
Director

RLS/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other Joe D. Ramey



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

TONY ANAYA
GOVERNOR

David

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD *X* _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

R. D. Ainsworth State #1-L 30-12-38
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK SS

Yours very truly,

Jerry Sexton
Supervisor, District 1

/mc

WILLIAM O. (OSCAR) JORDAN

ATTORNEY AT LAW

FIRST NORTHERN PLAZA - P.O. Box 40

SANTA FE, NEW MEXICO 87504

(505) 982-4004

*Case
No 8550*

March 12, 1985

Halvey Energy Company
Post Office Box 3713
Midland, Texas 79702

Dyad Associates
1107 Petroleum Building
Midland, Texas 79701

Southern Union Exploration Company
1217 Main Street, Suite 400
Dallas, Texas 75202

Robert K. Field
Route 1, Box 28
Plains, Texas 79358

Sarah Burrus
& Robert K. Field
Route 1, Box 28
Plains, Texas 79358

Re: Halvey Energy Company, Well No. 1
State of New Mexico Lease #LH1327,
Unit L in SW/4, Section 30, Township 12 South,
Range 38 East, N.M.P.M., Lea County

CERTIFIED

Dear Madam and Sirs:

Enclosed herewith is a copy of an application filed with the O.C.D. on behalf of R.N. Ainsworth and James Duncan to convert the above described abandoned well into a salt water disposal well.

The matter is scheduled for hearing before the O.C.D. in Santa Fe on March 27, 1985.

Very truly yours,

William O. Jordan

William O. Jordan

WOJ/aa

Enclosure (as stated)

cc O.C.D. Principal Office
O.C.D. District I
R.N. Ainsworth
Joe D. Ramey

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: R. N. Ainsworth
Address: Box 7 Milnesand, N. M. 88125
Contact party: Joe D. Ramey Phone: 505 473-2120
- 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? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.
- 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.
- III. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- IV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Joe D. Ramey Title: Consultant
Signature: *Joe D. Ramey* Date: 3/11/85

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.

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.

INJECTION WELL DATA SHEET

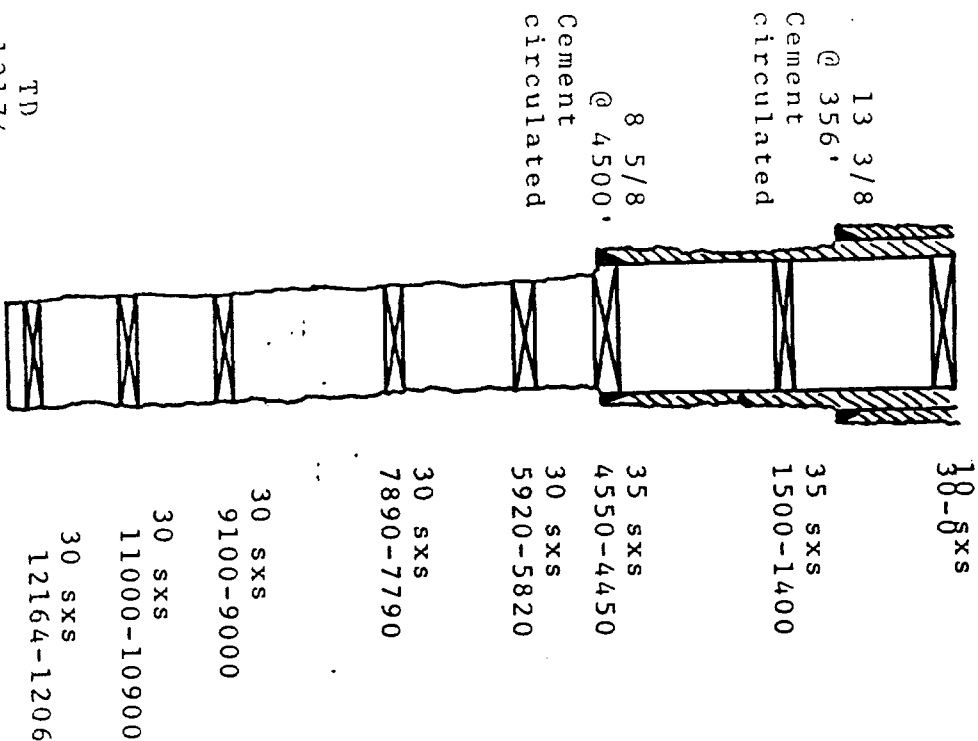
SIDE 1

R. N. Ainsworth
OPERATOR

Ainsworth SMD
LEASE

1 2310' S & 660' W SECTION 30 TOWNSHIP 12 South RANGE 38 East
WELL NO. FOOTAGE LOCATION Lea County, New Mexico

Schematic



Tabular Data

Surface Casing	Intermediate Casing	Long string	AFTER RE-ENTRY
Size 13 3/8"	Size 8 5/8"	Size 5 1/2"	
TOC Surface	TOC Surface	TOC Above 4500'	
Hole size 17"	Hole size 11"	Hole size 7 7/8"	
		Total depth	
		Injection Interval	
		Approx. 12,170	
		feet to 12,220	
		feet	

Cemented with 370 sxs.
feet determined by Circulated 700 sxs
Cemented with 1600 sxs.
feet determined by Circulated 1400 sxs
Cemented with Tie into 85/81x.
feet determined by Temp. Surv.
Approx. 12,230
Injection Interval Perforate at approx.
Approx. 12,170 feet to 12,220 feet
(perforated or open-hole. Indicate which)

Tubing size 2 7/8" lined with PVC set in a

(brand and model) Baker Lok Tension Set packer at Approx. 12,100' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Devonian

2. Name of field or pool (if applicable) Gladiola

3. Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil & Gas Test

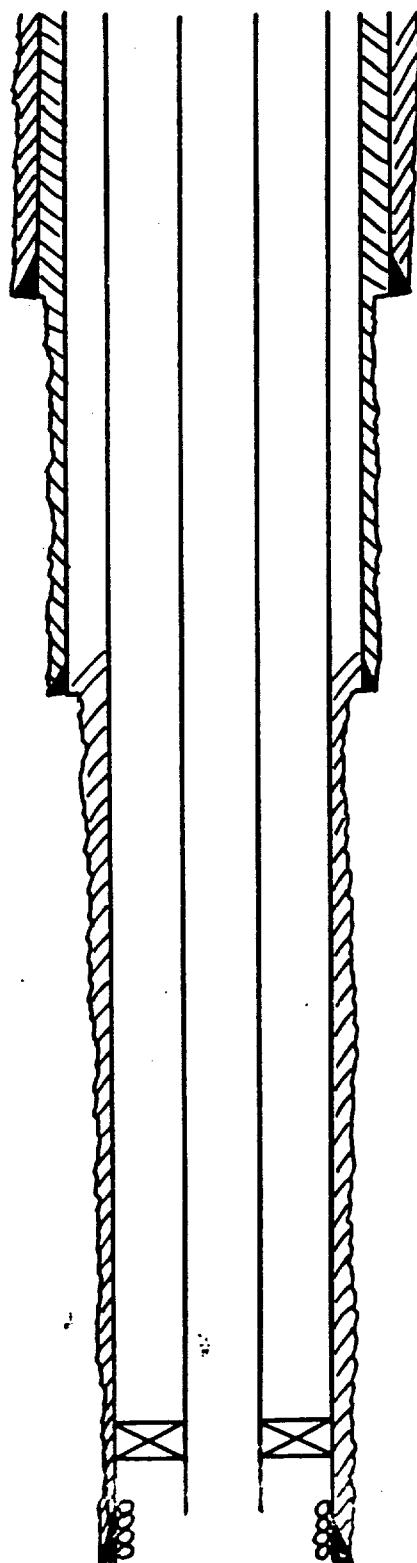
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) None. No production casing run in well.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Gladiola Devonian 11,860'

Gladiola Wolfcamp 9580'

AINSWORTH SWD WELL NO. 1

SCHEMATIC AFTER RE-ENTRY AND COMPLETION



13 3/8 @ 356'
Cemented circulated

8 5/8 @ 4500
Cement circulated

2 7/8 Plastic lined tubing
Baker Lok Tension Set Packer
@ approximately 12100

Perforations @
12170-12220

5 1/2 @ 12230
Cement to tie back into 8 5/8

TD 12230

AINSWORTH SWD WELL NO. 1

DATA SHEET

The applicant will re-enter the P&A Halvey Energy Company State No. 1. All existing plugs will be drilled out and the well deepened from 12,174' to approximately 12,230'. A string of 5 1/2" casing will be run to total depth and cemented with a sufficient volume of cement to tie back into the 8 5/8" intermediate casing set at 4500'.

The 5 1/2" casing will be perforated at approximately 12,170-12,220 and treated with 500 gals. acid. A string of 2 7/8" plastic lined tubing will be run in the well with a Baker Lok Tension Set packer to be set at around 12,100'. Injection will be through tubing below a packer. The casing-tubing annular space will be filled with an inert fluid and will be equipped with a guage for monitoring for leaks.

It is anticipated that injection will average 10,000 bbls. per day with a maximum of 12,000 bbls. per day. Produced water from wells in the area will be trucked and possibly pipelined to the disposal facility and the system will be an open system. Produced waters from the Wolfcamp and Devonian will be accepted for disposal and compatability results will be presented at the hearing. It is anticipated that the well will accept this volume of water on a vacuum but a limiting pressure of 2430 psi is requested.

The Devonian in the area can be described as a light tan, porous, vuggy dolomite and is around 240' thick. There is faulting noted in the Devonian, in the area, but it does not extend through the overlying Woodford Shale. The Woodford Shale is an effective seal against fluid migration upward from the Devonian.

The Ogallala is present in the area and contains the only available fresh water. Depth to fresh water is around 60' and the base of the Ogallala is at around 150'.

The surface owner and all offset operators within one-half mile of the well have been notified by certified mail.

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-

3a. Indicate Type of Lease
State ☒ Fee ☐
3. State Oil & Gas Lease No.
LH 1327

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
Name of Operator Halvey Energy Co.	8. Farm or Lease Name State
Address of Operator P. O. Box 3713, Midland, TX 79702	9. Well No. 1
Location of Well UNIT LETTER <u>L</u> <u>2310</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>30</u> TOWNSHIP <u>12-S</u> RANGE <u>38-E</u> N.M.P.M.	10. Field and Pool, or Wildcat Gladiola Devonian
15. Elevation (Show whether DF, RT, GR, etc.) 3865' GL	12. County Lea

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <input type="checkbox"/> Drillstem Tests

Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

8-21-82 DST #1 11,716-776' (Miss.) Tool open 45 min., no surface indication of fluid entry. Rec. 1000' WB, 90' SG&WCDM plus 180' FW, 5000 ppm Cl. Sample chamber 150#, rec. 50cc water, 5000 ppm Cl. Pressures: IH 6086 psi, 15 min. IF 551-519 30 min. ISI 814, 30 min. FF 486-486, 60 min. FSI 747, FH 5956

8-26-82 DST #2 12,040-174' (Dev.) Tool open 45 min., rec. 1000' WB plus 5700' sulfur water. No shows. Pressure: IH 6020, 15 min. IF 317-1355, 60 min. ISI 4408, 30 min. FF 1355-2614, 120 min. FSI 4408, FH 6020

713-871-5000

915-682-6804

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

WED R. L. Halvorsen R. L. Halvorsen Owner DATE 9-24-82

APPROVED BY OIL & GAS INSPECTOR TITLE DATE 9-24-82

CONDITIONS OF APPROVAL, IF ANY:

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease

State ☒ Fee ☐

5. State Oil & Gas Lease No.

LH 1327

7. Unit Agreement Name

8. Farm or Lease Name

State

9. Well No.

1

10. Field and Pool, or Wildcat

Gladiola Devonian

12. County

Lea

25. Was Directional Survey Made

Yes

27. Was Well Cored

No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5	356'		370 sx Class "C"	None
8-5/8"	28&32	4,500'	11"	1300 sx HOWCO Light & 300 sx Class "C"	None

LINER RECORD

30. TUBING RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET

Perforation Record (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

PRODUCTION

First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio	
Well Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)	
Disposition of Gas (Sold, used for fuel, vented, etc.)						Test Witnessed By	

List of Attachments

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED R. L. Halvorsen TITLE Owner

DATE 9-21-82

R. L. Halvorsen

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn. "B"
T. Salt	T. Strawn	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt	T. Atoka 11,024	T. Pictured Cliffs	T. Penn. "D"
T. Yates	T. Miss	T. Cliff House	T. Leadville
T. 7 Rivers	T. Devonian 12,164	T. Menefee	T. Madison
T. Queen	T. Silurian	T. Point Lookout	T. Elbert
T. Grayburg	T. Montoya	T. Mancos	T. McCracken
T. San Andres 4,484	T. Simpson	T. Gallup	T. Ignacio Qtzite
T. Glorieta 5,928	T. McKee	Base Greenhorn	T. Granite
T. Paddock	T. Ellenburger	T. Dakota	T.
T. Blinbry	T. Gr. Wash	T. Morrison	T.
T. Tubb	T. Granite	T. Todillo	T.
T. Drinkard	T. Delaware Sand	T. Entrada	T.
T. Abo 7,890	T. Bone Springs	T. Wingate	T.
T. Wolfcamp 9,099	T.	T. Chinle	T.
T. Penn.	T.	T. Permian	T.
T. Cisco (Bough C)	T.	T. Penn. "A"	T.

OIL OR GAS SANDS OR ZONES

No. 1, from _____ to _____	No. 4, from _____ to _____
No. 2, from _____ to _____	No. 5, from _____ to _____
No. 3, from _____ to _____	No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from _____ to _____	feet
No. 2, from _____ to _____	feet
No. 3, from _____ to _____	feet
No. 4, from _____ to _____	feet

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
Surface	2,255	2,255	Surface sands & redbeds	11,415	12,065	650	Mississippian Limestone & Chert
2,255	2,300	45	Anhydrite				
2,300	3,070	770	Salt & Anhydrite				
3,070	3,210	140	Yates Sand	12,065	12,165	100	Woodford Shale
3,210	4,485	1,275	Alt. sand, shale, anhyd. & dol.	12,165	12,186	21	Devonian Dolomite
4,405	5,930	1,445	San Andres Dolomite				
5,930	7,210	1,270	Clearfork Sands & Dolomite				
7,210	7,890	680	Tubb sands & Dolomite				
7,890	9,100	210	Abo Shale & Dolomite				
9,100	9,700	600	Wolfcamp Limestone & Shale				
9,700	11,025	1,325	Pennsylvanian Limestone				
11,025	11,415	390	Atoka Sands & Shale				

RECEIVED

SEP 27 1962
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