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

RECEIVED
1985

Case 8550

APPLICATION FOR AUTHORIZATION TO INJECT

OIL CONSERVATION DIVISION

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.

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: 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.

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

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.

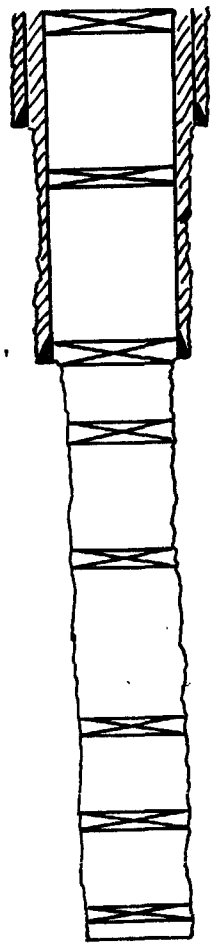
INJECTION WELL DATA SHEET

SIDE 1

R. N. Ainsworth	Ainsworth SWD			
OPERATOR	LEASE			
1	2310' S & 660' W	30	12 South	38 East
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, New Mexico

Schematic



10 sxs
30-0

13 3/8
@ 356'
Cement
circulated

35 sxs
1500-1400

8 5/8
@ 4500'
Cement
circulated

35 sxs
4550-4450

30 sxs
5920-5820

30 sxs
7890-7790

30 sxs
9100-9000

30 sxs
11000-10900

30 sxs
12164-12064

TD
12174

Tabular Data

Surface Casing

Size 13 3/8" " Cemented with 370 sx.

TOC Surface feet determined by ~~Circulated 70 sxs~~

Hole size 17"

Intermediate Casing

Size 8 5/8" " Cemented with 1600 sx.

TOC Surface feet determined by ~~Circulated 100 sx~~

Hole size 11"

Long string AFTER RE-ENTRY

Size 5 1/2" " Cemented with Tie into 85/8" sx.

TOC ~~Above 4500'~~ feet determined by ~~Temp. Survey~~

Hole size 7 7/8"

Total depth 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 (material) set in a

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

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Devoian

2. Name of Field or Pool (if applicable) Gladiola

3. Is this a new well drilled for injection? /_/ Yes /x/ No

   If no, for what purpose was the well originally drilled? Oil & Gas Test

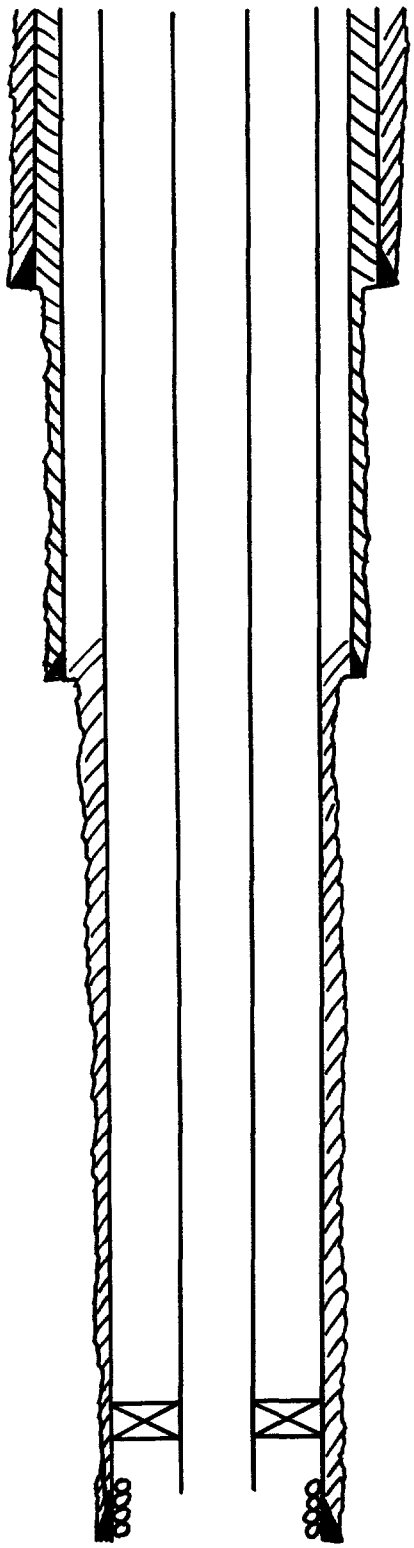
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) None. No production casing run in well.

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'.

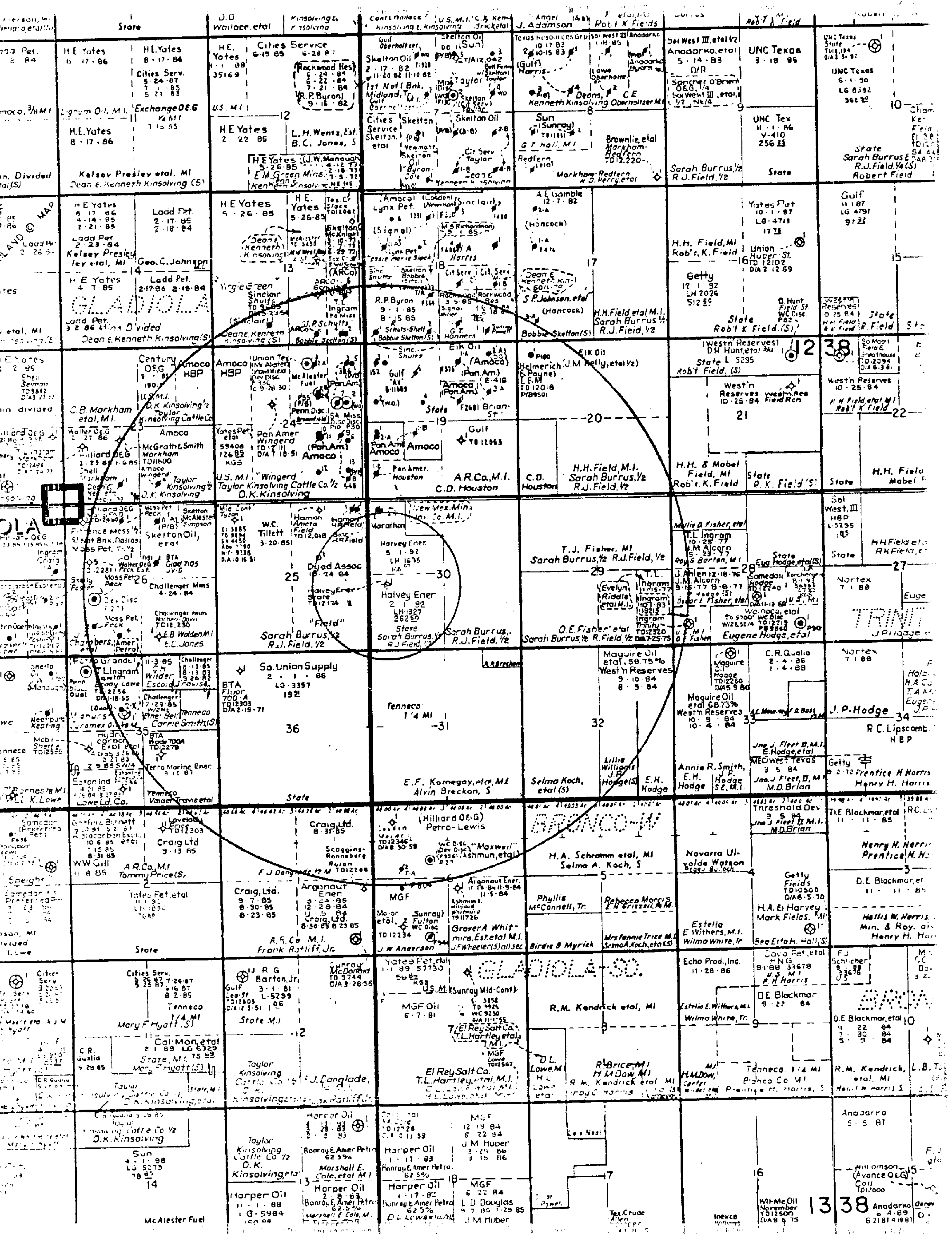
The 5 1/2" casing will be perforated at approximately 12,170-12,220 and treated with 500 gals. acid. A string of 2 7/8" plastic lined tubing will be run in the well with a Baker Lok Tension Set packer to be set at around 12,100'. Injection will be through tubing below a packer. The casing-tubing annular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



GLADIOLA
GLADIOLA-SO.
BRONCO
H.E. Yates
Cities Service
U.S. M.I.
Kelsey Presley etal, MI
Dean E. Kenneth Kinsolving (S)
Sun
Markham-Redfern
UNC Texas
State
Sarah Burrus, 1/2
R.J. Field, 1/2
Amoco
Gulf
Pan Amer
C.D. Houston
H.H. Field, M.I.
Taylor Kinsolving Cattle Co. 1/2
D.K. Kinsolving
Halvey Ener
Sarah Burrus, 1/2
R.J. Field, 1/2
T.J. Fisher, MI
Eugene Hodge, etal
So. Union Supply
Tenneco 1/4 MI
E.F. Komegay, etal, MI
Alvin Breckon, S
Selma Koch, etal (S)
J. P. Hodge
R C. Lipscomb
Craig Ltd.
H.A. Schramm etal, MI
Selma A. Koch, S
R.M. Kendrick etal, MI
El Rey Salt Co.
Harper Oil
Anadarko
13
38

STATE OF NEW MEXICO
GY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

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OPERATOR		

5a. Indicate Type of Lease: State [X] 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

TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] OTHER

TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER

Name of Operator: alvey Energy Co.

Address of Operator: . O. Box 3713, Midland, TX 79702

Location of Well: LETTER L LOCATED 2310 FEET FROM THE South LINE AND 660 FEET FROM West LINE OF SEC. 30 TWP. 12-S RGE. 38-E NMPM

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
-19-82	8-25-82	8-20-82 (P&A)	3865' GL	

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
2,,174'	12,174'		→	0-12,174'	

24. Producing Interval(s), of this completion — Top, Bottom, Name:

25. Was Directional Survey Made: Yes

26. Type Electric and Other Logs Run: orehole Compensated Sonic Log

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
3-3/8"	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

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

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

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas—Oil Ratio

Flow 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

INSTRUCTIONS

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 Qtzte	
T. Glorieta	5,928	T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		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
urface	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	12,065	12,165	100	Woodford Shale
3,070	3,210	140	Yates Sand	12,165	12,186 (TD)	21	Devonian Dolomite
3,210	4,485	1,275	Alt. sand, shale, anhyd. & dol.				
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				

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OIL CONSERVATION DIVISION

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

Form C-103
Revised 10-

5a. Indicate Type of Lease: State [X] Fee [ ]

5. 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.)

7. Unit Agreement Name:

OIL WELL [X] GAS WELL [ ] OTHER-

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 L, 2310 FEET FROM THE South LINE AND 660 FEET FROM THE West LINE, SECTION 30 TOWNSHIP 12-S RANGE 38-E NMPM.

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 [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [ ]	
OTHER [ ]		OTHER Drillstem Tests	

17. 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' SGCWCDM 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 5[illegible]

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

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

SIGNED [signature] R. L. Halvorsen TITLE Owner DATE 9-24-82

APPROVED BY [illegible] TITLE [ ] DATE [ ]

CONDITIONS OF APPROVAL, IF ANY: