



The Dow Chemical Company
P.O. Box 150
Plaquemine, Louisiana 70765-0150

October 19, 2004

Ms. Laura Stuart
State Permits Branch - Water Division
Arkansas Department of Environmental Quality
8001 National Drive
Little Rock, Arkansas 72219

RE: Permit Modification Application for a Class I Hazardous Waste Injection Well
Permit: 17-U

Dear Ms. Stuart:

Enclosed is an application to convert The Dow Chemical Company's Class I non-hazardous waste disposal well, DWD #1, Permit: 17-U, to a Class I hazardous waste injection well. Four copies of the application are provided for your department.

Dow submitted the injection well no-migration petition demonstration for DWD #1 to the U. S. Environmental Protection Agency in July 2003 for their review.

Should you have any questions, please contact me at 225-353-1630, or Philip Grant, Terra Dynamics, Inc. at 512-795-8183.

Thank you for your attention.

Sincerely,

A handwritten signature in black ink that reads "Ivy Dupree". The signature is written in a cursive, flowing style.

Ivy Dupree
Remediation Leader

Enclosures

Cc: Philip Grant, Terra Dynamics, Inc.
Chad Dupree, URS Corporation
Trey Fortenberry, URS Corporation

***PERMIT MODIFICATION APPLICATION
FOR A CLASS I HAZARDOUS WASTE
INJECTION WELL***

Prepared for



***THE DOW CHEMICAL COMPANY
MAGNOLIA, ARKANSAS***

Prepared by



AUSTIN, TEXAS

Project No. 99-177

October 2004

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UNDERGROUND INJECTION CONTROL PERMIT APPLICATION

1. Application is submitted for which type of permit:

- | | |
|---|--|
| <input type="checkbox"/> New Permit | <input checked="" type="checkbox"/> New Well |
| <input checked="" type="checkbox"/> Modification of permit/facility | <input type="checkbox"/> Existing Well |
| <input type="checkbox"/> Change in Location | <input type="checkbox"/> Change in Ownership |
| <input type="checkbox"/> Renewal of Current Permit | |

Current Permit Number(s) 17-U

2. Organization requesting permit:

Name: The Dow Chemical Company

Address: P.O. Box 150, Bldg. 3502-E

City: Plaquemine State: Louisiana Zip: 70765-0150

Telephone Number: (225) 353-1630

3. Facility to be permitted:

Name: The Dow Chemical Company c/o Albemarle Corporation

Address: Highway 371 South

City: Magnolia State: Arkansas Zip: 71753

Telephone Number: (879) 235-6000

Name: Mr. Ivy Dupree

Company: The Dow Chemical Company

Address: P.O. Box 150, Bldg. 3502-E

City: Plaquemine State: Louisiana Zip: 70765-0150

Telephone Number: (225) 353-1630 Fax (225) 353-8001

E-mail: idupree@dow.com

5. Consulting Firm, if applicable:

Name: Terra Dynamics Inc.
Contact Person: Mr. Philip Grant
Address: 4900 Spicewood Springs Rd.
City: Austin State: Texas Zip: 78759
Telephone Number: (512) 795-8183 Fax: (512) 795-8602
E-mail: pgrant@terrady.com

6. Location of Facility:

Latitude 33° 15' 46" N Longitude 93° 19' 53" W
Section 18 Township 17 South Range 21 West
County Columbia Nearest Town Magnolia

7. Type of Facility, operation and/or process from which wastewater will be produced:

Groundwater Recovery System, Bromine Extraction Facility Process Wastewater

8. Current Method of Waste Disposal: Currently, the waste stream is pumped from holding tanks, through a steam stripper, with organic waste material collected and shipped for disposal. The stripped waste stream is routed to the plant's tail brine disposal system. This system is permitted under State Water Permit No. 690-WR-2.

9. Justification for Subsurface Disposal: See Section II.E in attached Technical Report

10. Injection Program:
- a). Well Name: DWD-1
 - b). Total Depth of Well: ± 4,600'
 - c). Elevation of Wellhead: Surface ~275' Kelly Bushing ~290'
 - d). Proposed Injection Zone: Tokio Formation (Injection Interval) Proposed Perforated Interval: 2,915' - 3,100' BGL
James Formation (Injection Interval) 4,365' - 4,475' BGL
_____ _____
_____ _____
 - e). Type of Waste:
 SIC code(s): 2819
 Source(s) of waste stream(s): Recovered Groundwater and Tail Brine
 Waste Volume: 100 gpm max. per interval, 4,464,000 gal/mon.¹ max.
¹ equivalent to 100 gpm over 31 days
 - e). For each waste stream, provide the following information:
 - Toxicity: See Table VI-2
 - Corrosivity: 2 - 12.5
 - Ignitability: NA
 - Reactivity: NA
 - Specific Gravity: 1.05 Max.
 - Compressibility: 3 x 10⁻⁶/psi
 - Viscosity: 1.0 cp
 - f). If waste is to be treated prior to injection, briefly describe the process:
Treatment process includes cartridge filtration and solids settling tanks.

g). Construction Specifications:

	Type	Setting Depth or Spacing	Size or Volume	Grade	Weight
Bit Diameter	3-Cone Roller Rock Bit	1,585'	14 3/4"	NA	NA
	3-Cone Roller Rock Bit	4,600'	10 5/8"	NA	NA
Surface Casing	Carbon Steel	1,585'	11 3/4"	K-55	47 lb/ft.
Long String Casing	Carbon Steel & Corrosion-Resistant Alloy	4,600'	7 5/8"	N-80 (or equiv.)	26.4 lb/ft.
Tubing	Fiberglass	4,300'	3 1/2"	2,000 psi	NA
Packer	Carbon Steel w/CRA surfaces; GPS Model "12"	2,900'--Tokio	3 1/2" x 7 5/8"	NA	NA
		4,300'--James			
Cement	Surface – Class H Longstring – Epsal & Class H	0' – 1,585' 2,700' – 4,600' 0' – 2,700	120 % of calculated annular volume	Class H Epsal Class H	13.1, 15.6 ppg NA 13.1, 15.6 ppg
Centralizers	12 Centralizers (Surface) 36 Centralizers (Longstring)	NA	NA	NA	NA
Annulus Monitoring Instrumentation	2-pen Foxboro Model NR 0-1,500 psi	NA	NA	NA	NA
Injection Pressure Monitoring Instrumentation	2-pen Foxboro Model NR 0-1,500 psi	NA	NA	NA	NA
Flow Monitoring Instrumentation	Foxboro Model 40 0-15,000 bbl/day	NA	NA	NA	NA

- h). Proposed Operational Requirements:
 - Maximum Injection Rate: 100 gpm (James), 100 gpm (Tokio)
 - Maximum Daily Volume of Injection: 144,000 gal. (James or Tokio)
 - Maximum Surface Injection Pressure: 1,255 psig (James), 740 psi (Tokio)
 - Annular Fluid: Corrosion Inhibited Water
 - Minimum Annulus Pressure: 100 psig

i). For existing wells, provide the following information:

Logs:	Date:
Resistivity	<u>NA</u>
Spontaneous Potential	<u>NA</u>
Caliper	<u>NA</u>
Cement Bond	<u>NA</u>
Variable Density	<u>NA</u>
Temperature	<u>NA</u>
Noise	<u>NA</u>
Gamma Ray	<u>NA</u>
Radioactive Tracer	<u>NA</u>

11. Estimated Costs of Construction and Operation: _____
Construction – NA; Operation - \$40,000

12. List all Attachments included with this application: see attached Technical Report Table of Contents

- 13. Submit with the application:
 - a). Technical Report
 - b). Copy of the Financial Assurance Mechanism
 - c). Disclosure Statement
 - d). Permit Fee

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. To the best of my knowledge and belief, the submitted application is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

IVY B. DUPREE

Printed Name of Person signing
(Must be owner/operator or person authorized by the applicant)

Remediation Leader

Title

10-12-04

Date



Signature of Applicant

I. INTRODUCTION

The Dow Chemical Company (DOW) owns 7.08 acres of property contiguous to its former bromine production facility, located four miles west of Magnolia, Arkansas. That facility is currently owned and operated by Albemarle Corporation. A groundwater recovery operation is currently underway on the DOW and adjacent Albemarle properties, with the treated groundwater being disposed of into the Albemarle facility's tail brine disposal system. This Class I hazardous injection well permit modification application is being submitted to allow DOW to construct and operate a Class I hazardous injection well to dispose of the groundwater from their and Albemarle's on-site groundwater recovery operation without prior steam stripping (as currently employed), and thus to accelerate those remediation efforts.

DOW is requesting authorization for construction and operation of the Class I well under Arkansas Department of Environmental Quality (ADEQ) Underground Injection Control (UIC) regulations. DOW initially permitted this well as a non-hazardous Class I injection well (Permit 17-U, approved September 2002), but is through this application requesting a modification to that permit to expedite well construction and accelerate remediation efforts. DOW will operate this well as a hazardous injection well once the modification is approved, injecting groundwater potentially above hazardous levels (unstripped of organic constituents) and non-hazardous process wastewater from the adjacent Albemarle bromine production facility. Dow has submitted (July 2003) a federal No-Migration Petition Application and is awaiting approval of that document by the USEPA. Final Petition approval will not be granted by the USEPA until the Arkansas UIC well permit has been modified to allow injection of hazardous wastewater. Until approved, DOW will continue to strip its recovered groundwater of hazardous constituents to below hazardous levels prior to injection.

The chemical constituents within the waste stream that Dow will inject that could make the injectate a hazardous waste stream include ethylene dichloride (EDC), ethylene

U077

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0.2107
02082000

dibromide (EDB), and dibromochloropropane (DBCP) (see Appendix I of this permit application document for concentrations in the Dow L1 stripper influent and Albermarle waste streams). The concentrations of these constituents that could make the waste streams hazardous are defined in 40 CFR 261.24 (Toxicity Characteristic) for EDC, and 268.40 (Applicability of Treatment Standards) for EDB and DBCP. For EDC (ethylene dichloride—D028), the regulatory level is 0.5 mg/L, for EDB (ethylene dibromide—U067), the wastewater treatment standard is 0.028 mg/L, and for DBCP (dibromochloropropane—U066), the wastewater treatment standard is 0.11 mg/L. The Dow L1 (stripper influent) waste stream may contain these constituents at above these hazardous concentrations, and thus the proposed injectate will be classified as hazardous.

This technical report is submitted in support of the permit modification application (attached) for a hazardous Class I waste disposal well to be located on the DOW property. The report follows the procedures and guidelines established under the ADEQ UIC Division, and contains the required supporting data. The original permit application/technical report (revised April 2002) included several text sections not included in this modification application, as the contents of these sections (and their referenced appendices, tables and figures) have not changed. As such, they are not included with this modification request, but may be viewed in the 2002 application document on file with the ADEQ. These sections included Geology and Hydrogeology (Section IV), Reservoir Mechanics (Section V), and Injection Well Construction and Operation (Section VII).

II. GENERAL ADMINISTRATIVE INFORMATION

The Dow Chemical Company (DOW) West Plant facility previously manufactured organic and inorganic chemicals using bromine extracted from Smackover Formation brines. Albemarle currently owns this plant and utilizes numerous Class V injection wells for tail brine disposal into Upper Jurassic Smackover limestones. DOW intends to use the permitted Class I injection well to dispose of recovered groundwater from their acreage and surrounding areas on the Albemarle facility. In addition, the well will be permitted to inject non-hazardous process wastewaters from the Albemarle bromine extraction facility. The permitted injection intervals for the new well are the upper Cretaceous James Lime and Tokio Sand Formations. The permitted injection rate into each interval is 100 gpm.

II.A. Location of Facility

The West Plant site is located approximately four miles west of Magnolia, Arkansas in Columbia County, within Section 18, T-17-S, R-21-W. DOW owns the property on which the primary groundwater recovery operation and the proposed injection well are located. A United States Geological Survey (USGS) topographic map (1:24,000) showing the location of the DOW property, Albemarle West Plant property, and proposed injection well is included as Figure II-1. Depicted on this map are the locations of all water wells on or adjacent to the DOW property. Also shown are the name and location of all surface bodies of water, springs, mines, quarries, and other pertinent surface features, including residences and roads within the area of review. The USGS 7.5-minute quadrangle map used to construct this map is the Waldo Quadrangle.

The geographical coordinates of the proposed disposal well is:

North Latitude: 33° 15' 46"
West Longitude: 93° 19' 53"

II.B. Legal Description of Facility

A map denoting the location of the proposed Class I injection well and DOW property referred to in this permit application is included as Figure II-2. The proposed well will be located approximately 1,900 feet from the west line and 1,900 feet from the north line of Section 18, T-17-S, R-21-W, Columbia County, Arkansas. The well site is located on seven acres of property owned by DOW, just to the west of the Albemarle West Plant and within the Albemarle property boundaries (see Figure II-2). DOW owns the surface and mineral rights to the well site and property.

II.C. Adjacent Land and Affected Mineral Owners

DOW has gathered a list of the surface owners for the properties immediately adjacent to the DOW and surrounding Albemarle properties, obtained from the Land Department of Albemarle Corporation. The locations of these properties are shown on Figure II-2. The adjacent surface and affected mineral owner tabulations are included as Table II-1.

II.D. Financial Assurance

Evidence showing that DOW has sufficient financial resources to operate the well in a safe manner in compliance with the permit and applicable regulations and to close, plug, and abandon the well is included as Appendix A.

II.E. Justification for Subsurface Disposal

This application is being submitted for a modification to the UIC Permit 17-U for the Class I hazardous injection well at the DOW West Plant property. This application addresses the latest changes in the rules and regulations governing injection well applications, and provides updated information concerning the status of the wastestreams to be injected.

Subsurface disposal of hazardous and non-hazardous wastewater is a proven safe and effective disposal method in South Arkansas. Currently, in Columbia and Union counties, numerous Class I disposal wells are in service for the disposal of waste streams very similar to the waste stream proposed in this application. The current treatment and

disposal of the West Plant groundwater consists of removing organic compounds by steam stripping and incinerating the organics offsite. The non-hazardous effluent from the steam-stripping unit is disposed in Albemarle's Class V Tail Brine Reinjection Wells. These wells are reinjecting tail brine into the Smackover Formation.

Selection of the proper disposal method for contaminated groundwater at the West Plant must consider the following issues:

1. **Safety** - The proper disposal method must minimize or eliminate the potential for exposure of workers, the public and the surrounding environment to contaminants found in the groundwater. This can best be accomplished by minimizing the concentration of contaminants in the waste stream and reducing the amount of handling of contaminants by workers in the treatment and disposal process.
2. **Effectiveness** - The proper disposal method must be reliable and as simple as possible to operate and maintain. There should be a minimum number of process steps between groundwater recovery and final disposal of the contaminants. The final disposal of the contaminants must be safe and permanent.
3. **Cost** - Cost is not a primary deciding factor in the selection of the proper disposal method. However, if the cheaper of two or more equally safe and effective disposal methods can be implemented, the overall effectiveness of the system will be inherently augmented.

The following treatment and disposal methods have been considered for groundwater at the West Plant:

1. **Incineration** - Currently, organic contaminants are steam stripped from the groundwater, transferred to portable tanks, and transported to a permitted incinerator at DOW's Freeport, Texas facility. The organic waste stream is removed from the portable tanks and incinerated at the Texas site.

This disposal method has been operated without incident for many years, however it poses several potential safety hazards. The current method collects contaminated groundwater averaging 10 to 100 parts per million (ppm) of the major constituents of concern (EDB, DBCP, EDC) and concentrates the organic compounds into a pure-phase (100% organics). This pure-phase of contaminants (approximately 4,000 pounds per year) must be managed by workers during the transferring and transporting from the steam-stripping unit in Magnolia, Arkansas

to the incinerator in Freeport, Texas. The contaminants are less of a safety hazard diluted in the groundwater prior to concentration by steam stripping.

Steam-stripping and incinerating the contaminants requires intense operation and maintenance by workers in Magnolia and Freeport. Compared to other alternative methods disposal, this is the most complicated and requires the largest amount of equipment. Several tanks, pumps, pipelines, valves, utilities, heat exchangers and pressure vessels are necessary to implement incineration of the organics contaminants. In addition, this method also requires the most number of workers to execute, including operation and maintenance personnel in Magnolia and Freeport, and contract transportation personnel. Overall, this is the most complicated and labor-intensive disposal method available for managing the groundwater problem at the West Plant.

The current groundwater treatment and disposal system at the West Plant has a flow rate of up to 50 gallons per minute (gpm). The steam-stripping unit has been upgraded to handle the increased flow of groundwater generated from the addition of three additional interceptor trenches now in operation. This will expedite remediation efforts and enhance measures to contain and control contaminant migration.

Subsurface injection is a part of the treatment and disposal method being conducted at the West Plant. Removal of the organic compounds from the groundwater leaves effluent water with a high concentration of inorganic salts (12,500 ppm of total dissolved solids). The high concentration of salts is due to brine pond leaks that occurred in the late 1960's and early 1970's. Currently, the appropriate disposal alternative for this waste stream is deep well injection. Mechanical means to remove the salts from the stripper discharge, such as membrane separation are complicated and expensive to operate. These methods concentrate the salts in a smaller wastewater stream that eventually must also be deep well injected.

2. **Biological Treatment** - Biological treatment of the West Plant groundwater will not remove the necessary amount of halogenated contaminants to allow discharge of the treated water to "waters of the state". Reaction from inorganic salts will interfere with the effectiveness of biological treatment and remain unaffected by this treatment method. Thus, the treated groundwater would still have to be deep well injected due to the salt content. In addition, to remove the necessary amount of organic contaminants, an extensive aboveground biological treatment system will have to be constructed with an excessive amount of retention-time on the wastewater stream.

In situ biological treatment will be investigated as a secondary treatment method that may expedite remediation at the West Plant. This may be effective in the vadose zone and areas where the groundwater has not been impacted by brine.

3. **Physical and Chemical Treatment** – Air stripping and activated carbon treatment will separate the organic contaminants from the groundwater but will concentrate the waste stream and produce salty wastewater that will have to be deep well injected. Carbon treatment of the West Plant groundwater was tried in the early 1980's. Inorganic salts and iron in the groundwater caused problems with plugging in the carbon beds. This method was not as effective as steam stripping in removing heavy halogenated compounds.

Air stripping and carbon treatment presents the same problems as the incineration disposal method. The organic contaminants will be concentrated in the carbon, which will have to be regenerated or incinerated. This method will present safety problems and will not be effective in meeting the long-term remediation goals for the site.

4. **Subsurface Injection** – At this time, several industrial facilities are injecting hazardous and non-hazardous wastewater into the saline filled Tokio and James Limestone Formations in Columbia and Union counties. Rock formations suitable for wastewater injection contain over 10,000 ppm of total dissolved solids and have impermeable rock formations above and below that form a natural containment barrier. The primary criteria associated with subsurface injection is the presence of a geologically homogenous and permeable formation that is confined by impermeable formations that minimizes the risk of leaking wastewater into Underground Sources of Drinking Water (USDW). The Tokio and James Limestone Formations are very permeable and separated from upper freshwater aquifers and lower brine and petroleum producing zones by impermeable formations of shale, marl, limestone and evaporites.

All of the alternative treatment and disposal methods yield two separate waste streams. One of the waste streams is a pure-phase of highly concentrated organic contaminants that presents potential safety hazards. Once a No-Migration Petition demonstration is approved and the permit modification issued, Dow intends to inject these organic contaminants and remove this potential safety hazard. The remaining waste stream contains high concentrations of inorganic salts and requires subsurface injection for disposal. Subsurface injection does not produce any contaminated vent gases and a very small amount of solid waste in the form of spent filters. Subsurface injection is the least complicated disposal method and requires much less labor to operate and maintain. These factors make subsurface injection the safest and most effective treatment and disposal method for the West Plant groundwater. The subsurface injection system being proposed will have the capacity to inject at least twice the amount of contaminated groundwater than the current system. In addition, the estimated annual operation and maintenance cost for subsurface injection is substantially less than other alternative methods.

Subsurface injection in Arkansas has been demonstrated to be highly effective and environmentally sound. Freshwater aquifers that serve as USDW can be protected from environmental risk by proper design, construction, operation and monitoring of the injection well. Subsurface injection eliminates the inherent risk associated with land application and surface discharge of waste streams. Issues of safety, effectiveness and cost being considered for the treatment and disposal of the West Plant groundwater are best achieved by subsurface injection.

III. AREA OF REVIEW

III.A. Area of Review Maps

A base map showing the location, name, number, and depth of all the non-freshwater artificial penetrations (oil & gas wells, exploratory tests, brine supply wells, disposal wells, etc.) within the 2.0-mile radius Area of Review (AOR) surrounding the proposed well is included as Figure III-1. There are a total of thirty-eight (38) non-freshwater artificial penetration locations identified on Figure III-1 within the DOW 2.0-mile radius AOR for the proposed well. Information regarding depths, completion, well names, and well numbers are keyed from the map in Figure III-1 to Table III-1, which is a tabulation of data on all penetrations within the proposed well's 2.0-mile radius AOR. Available well records are included in Appendix B (the best available originals from the Arkansas Oil & Gas Commission were copied).

A total of six (6) freshwater artificial penetrations have been identified within the property boundary or property adjacent to the DOW and Albemarle properties. Information pertinent to these wells is presented on Table III-2. For water well information within the search area (within the property boundary or adjacent property boundaries), data was gathered from the Albemarle Land Department, Arkansas Geological Commission (AGC) maps and records, and AGC publications and reports. Freshwater artificial penetrations are plotted on Figure II-1. Available records are also included in Appendix B.

III.B Non-Freshwater Artificial Penetrations

In accordance with the Arkansas Underground Injection Control Code and 40 CFR 146.14(a)(2) and (3), a search of the artificial penetrations within the DOW AOR was conducted by El Dorado Log & Map Service in July 2004 to supplement records submitted with the DOW 2001 injection well permit application. The following sections describe the protocol used to conduct the artificial penetrations identification, location, and plugging adequacy review for the DOW AOR.

Protocol for Non-Freshwater Artificial Penetration Identification and Location

The records researcher utilizes both public and private sources of data to identify artificial penetrations.

Arkansas Oil and Gas Commission

The Arkansas Oil and Gas Commission (AOGC) is the primary agency in which files are researched for oil and gas well records. The AOGC was established in 1939 to provide a State regulatory agency for the oil and gas industry. This agency was originally called the Arkansas Railroad Commission. Preceding the AOGC, several other agencies existed for securing well location and completion records, and some of these early records are included in current AOGC files. As the AOGC records for the non-freshwater artificial penetrations within the DOW AOR were sufficiently complete and informative, it was unnecessary in most cases to go beyond the following AOGC research protocol for well records and information.

Before the retrieval process can begin, it is necessary to know the operator, lease name, and county in which the well is found. The preceding information was available from the previous AOR search maps for the proposed well. Well records in the AOGC office were searched to verify locations and information on all non-freshwater penetrations within the AOR. The following Commission files were reviewed to determine well information.

Field Files: This is a series of files for each well in a field, arranged alphabetically by operator, by lease name, and by well number. Many loose forms and letters regarding a well are placed in the file folder.

Wildcat Files: This is a series of files for wells classified as wildcats; that is, wells not located in a field. These folders are arranged alphabetically by county, by township and range number, by operator alphabetically, and by well name alphabetically.

Class V Wells: This is a file of the approved Class V injection wells, a folder for each well.

Salt Water Disposal Files: This is a series of files for each approved salt water injection system. These files are arranged alphabetically by field, operator, and well system name.

Old Wells File: A file is kept at the front of some field files to collect any papers on old wells for which there is no other record. Most of these papers are plugging reports filed when old wells were plugged and abandoned.

Ledger Book: A record of some driller's logs from the 1921-1922 era were reviewed in the Commission files. Many locations were vague and the information was limited to the initial driller's log sheets.

Commercial Log Libraries and Scout Tickets

When required data cannot be found from the AOGC, the researcher typically has membership privileges with a commercial library. These libraries maintain extensive electric log collections as well as scout ticket files. Scout tickets often prove very valuable, since full operator name or alternative operator names are listed. These alternative operator names often allow the researcher to reenter the AOGC filing system with previously unknown record leads. Available scout tickets were gathered on all wells in the AOR.

Protocol for Determining Non-Freshwater Artificial Penetration Status

Records for artificial penetrations identified within the AOR were retrieved and reviewed to determine the actual location and status of each well, i.e., operating or plugged. In Arkansas, these wells are recommended by the Oil and Gas Commission and/or the Arkansas Department of Environmental Quality to have surface casings set below the base of fresh water and cemented to the ground surface. Surface casing provides a primary means of protecting ground waters penetrated by a wellbore. Wells that

penetrated the injection zone were further reviewed. Casing and cementing data of the operating wells were reviewed to determine if sufficient cement is in place to adequately prevent upward migration of fluids. Plugged wells were reviewed to determine the adequacy of plugging.

Condition of Wells Which Penetrate the Injection Zone

From the above described review, there are a total of thirty-eight (38) non-freshwater artificial penetration locations which are in the DOW 2.0-mile radius AOR for the proposed well (see Figure III-1). One well (Map ID No. 4) does not have plugging records, although it penetrated to the Tokio injection interval before being plugged. The other 37 wells penetrated into at least the Tokio injection interval, and have completion or plugging records. No wells are within the Tokio calculated cone of influence (183 psi pressure increase), and only two wells (Map ID Nos. 1 and 3) are within the James calculated cone of influence (204 psi pressure increase).

The plugged well (Map ID No. 4), which is subject to the plugging protocol review, is considered to be adequately plugged in a manner to prevent the upward migration of fluids, and would not be affected by pressure increases in the injection zone reservoir due to injection operations at the DOW facility. This well is outside of the Tokio and James cones of endangerment, but within the 2.0-mile radius AOR, and has sufficient density fluid (brine with a specific gravity equal to 1.10, as per ADEQ guidelines) in the borehole to prevent upward fluid movement.

The two wells (Map ID Nos. 1 and 3) which are subject to review as they are within the James cone of influence are considered to be properly and/or adequately completed or plugged in a manner to prevent the upward migration of fluids from the DOW injection intervals, and would not be affected by pressure increases in the injection zone reservoirs due to injection operations at the DOW facility. Both wells within the 2.0-mile radius AOR have sufficient cemented casing in place across and above the DOW injection zone to adequately prevent upward migration of fluids. Map ID No. 1 has longstring casing cemented from the Smackover Formation at 8,500 feet to surface using 3,117 cubic feet

No plugging records

*last time reviewed
no
conclusion
if so
no
remains -
Dawid not
include this
responsibility
in this case*

of cement. Map ID No. 3 has intermediate casing cemented from 4,534 feet to surface using 1674 cubic feet of cement. In both cases, by using 3.193 linear feet/cubic feet of cement in a 12 ¼-inch X 9 5/8-inch borehole to casing annulus (Halliburton Cementing Tables), one calculates a cement column height to surface. These cement sheaths extend upward to completely cover the DOW injection intervals from 2,915 to 4,475 feet BGL, and thus adequately prevent these wells' annuluses from allowing flow of fluid vertically due to pressure effects from the DOW injection intervals. Additionally, Map ID No. 3 is plugged with cement from total depth to surface.

The other thirty-five wells outside of the Tokio and James cones of influence but within the 2.0-mile radius AOR are either completed (11 wells completed in the Smackover Formation--six Class V injection wells and five brine supply wells) or plugged (24 wells) adequately in a manner to prevent the upward migration of fluids, and would not be affected by pressure increases in the injection zone reservoirs due to injection operations at the DOW facility. These wells are outside of the two cones of influence, and the plugged wells have sufficient density fluids (at least brine with a specific gravity equal to 1.10, as per ADEQ guidelines) in their boreholes, and the operating wells have sufficient cemented casing in place across and above the DOW injection zone to adequately prevent upward fluid movement. All of these wells are adequately constructed or plugged so as to prevent the movement of fluids into or between USDWs which could be caused by pressure increases in the injection intervals due to DOW injection well operations.

III.C. Tabulation and Records of Non-Freshwater Artificial Penetrations

A tabulation of data for all thirty-eight non-freshwater artificial penetrations within the AOR is included on Table III-1. The data provided for the artificial penetrations includes Map ID number, operator name, lease name, well number, approximate distance from the proposed injection well, date drilled, date plugged, total depth, current status, information regarding casing strings (size, setting depth, surface and long string casing cement records), current status, mud data (drilling, plugging), cement plug depths, and depths to

Tokio/James injection intervals. The Map ID Nos. depicted on Table III-1 are keyed to Figure III-1. All available records for these wells are presented in Appendix B.

III.D. Schematics of Non-Freshwater Artificial Penetrations

There are no inadequately plugged non-freshwater artificial penetrations within the proposed well's cones of endangerment in the Tokio or James Formation injection intervals. While no well schematics are required for submittal with this report, well schematics for many of the wells within the 2.0-mile radius AOR are presented with the corresponding records in Appendix B. All of the wells subject to evaluation meet the non-endangerment standards through sufficient casing, cement, or brine plugs.

III.E. Improperly Constructed or Abandoned Wells

Based on a review of available completion and/or plugging records, all wells within the 2.0-mile radius AOR that penetrated the DOW injection intervals are adequately constructed, plugged and/or abandoned so as to prevent the movement of fluids into or between USDWs which could be caused by pressure increases in the injection intervals due to DOW injection well operations.

III.F. Corrective Action Plan

No corrective action plan is warranted for any of the artificial penetrations identified in the AOR. Each of the subject artificial penetrations is adequately constructed, plugged and/or abandoned so as to prevent the movement of fluids into or between USDWs which could be caused by the modeled pressure increases in the injection intervals due to DOW injection well operations.

VI. WASTES AND WASTE MANAGEMENT

The Dow Chemical Company (DOW) West Plant facility previously manufactured organic and inorganic chemicals using bromine extracted from Smackover Formation brines. Albemarle Corporation currently owns this plant and utilizes numerous Class V injection wells for tail brine disposal into Upper Jurassic Smackover limestones. A groundwater recovery operation is currently underway on the DOW and adjacent Albemarle property, with the treated groundwater being disposed of into Albemarle's tail brine disposal system. DOW intends to use their Class I injection well to dispose of recovered groundwater from its acreage and surrounding areas on the Albemarle facility. In addition, the well will inject inherently non-hazardous process wastewaters from the Albemarle bromine extraction facility. The Albemarle wastewater sources are included in Table VI-1.

The current ADEQ UIC permit (17-U) limitations require the pH of the injected wastestreams to be greater than 3.0 and less than 11.0. With this modification approval, that range will increase to 2.0-12.5, which is the current range as submitted for the USEPA No-Migration Petition. The specific gravity of the injected fluids will remain the same as currently permitted (equal to or less than 1.05), which is also the maximum specific gravity as requested in the Petition demonstration. DOW will maintain the physical and chemical characteristics of the injected fluids within specified permit and Petition levels.

DOW is requesting this permit modification to operate the well as a hazardous waste injection well, injecting recovered groundwater not treated to below hazardous levels (as defined in ~~40 CFR 261.24~~ and 268.40), plus non-hazardous process wastewater from the adjacent Albemarle bromine production facility. The chemical constituents within the DOW waste stream that could make the injectate a hazardous waste stream include ethylene dichloride (EDC—~~D028~~^{U077}), ethylene dibromide (EDB—U067), and dibromochloropropane (DBCP—U066). A steam stripper process is currently used to pre-treat the recovered groundwater to below hazardous levels (see Table VI-2), but will

be taken out of service once this permit modification and the USEPA Petition are approved, and DWD-1 is put in service. The disposal system will consist of two 500-barrel storage tanks, transfer pumps, and a cartridge filtration facility that will deliver treated groundwater and process wastewater to the Class I injection well. Replaceable cartridge filters will provide filtration down to 10 microns. Figure VI-1 is a flow diagram illustrating the current and proposed pretreatment process and disposal facilities. A plat of the plant showing the location of all waste flow lines and the pre-injection facilities is included as Figure VI-2. A low pressure wastewater flow line from the steam stripper to the proposed DOW injection well location will be constructed of HDPE pipe with a relatively high burst pressure (approximately 200 psi), and located in the same pipe racks as currently service the French Drain No. 4 system. The line will be monitored visually at least once per shift to prevent spills along the line. The injection pumps will be located near the injection wellhead, and the high pressure flow line to the wellhead will be constructed of high-burst steel piping.

The recovered groundwater to be injected into DWD-1 is currently collected and routed through dedicated systems to the steam stripper. Groundwater is pumped from the French Drain Sumps into surge tanks. Water from these tanks is pumped to a holding tank at the stripper. Organics are currently separated in the steam stripper and collected in an accumulation vessel prior to being transferred to one of two dedicated transportation canisters for recovered organics. Once the permit modification and USEPA Petition are approved, the steam stripper will be de-activated and the recovered groundwater will be transferred to surge tanks and then pumped from these tanks to the injection pumps for disposal into the injection well.

The capacity of the stream stripper is now approximately 60 gpm as a result of a recent retrofit, with the current throughput averaging 10-30 gpm. Once the permit modification is approved to designate the injection well as hazardous, unstripped wastestream will be directed to the planned DOW injection well. As such, the proposed injection well has

0.1% (10-30 gpm) - from boiler reports

been designed to accept 100 gpm of hazardous wastewater, and the reservoir pressure modeling incorporates this injection rate.

The purpose of the French Drain system and the proposed injection well is to keep the debrominated brine in the groundwater from migrating offsite. As such, there is currently no estimate available as to when the groundwater management system will have recovered all of the leaked tail brine pond fluids. At this time, DOW intends to operate the groundwater management system for the foreseeable future.

VI.A Waste Streams for Injection

The West Plant generates wastewater from groundwater recovery and from the production by Albemarle of bromine. The waste stream proposed for injection into DOW well DWD-1 will be classified as hazardous due to low levels of certain brominated organic compounds recovered with the groundwater. Table VI-1 lists the wastewater sources, and Table VI-2 lists the most recently measured concentrations of the three hazardous constituents (EDC, EDB, DBCP) in the recovered groundwater (analyzed as L1 stripper influent) which will cause the well to be classified as hazardous. Effluent from the DOW pre-treatment facility consists primarily of slightly to moderately saline water with minor amounts of various organic compounds, which will be further diluted with non-hazardous process wastewater from the adjacent Albemarle facility.

Representative injectate samples will be collected on an annual basis and sent to a laboratory for analysis of certain metals, organics, and inorganic constituents. Analytical results from recent representative wastestream samples from both the DOW (L1 stripper influent) and Albemarle (Tail brine) sources are included in Appendix I. Once the permit is modified, the pH of the injected wastestream shall be greater than 2.0 and less than 12.5. The density of the injected waste will not exceed a specific gravity of 1.05, which is the same value as currently permitted.

VI.B Injection Fluid Volumes

During normal operation, the proposed injection well will operate continually except when mechanical integrity tests, workovers, maintenance or possible emergency shutdowns occur. All operating parameters will be closely monitored to prevent exceeding ADEQ permit limits.

The maximum instantaneous rate of injection requested in this permit modification for DWD-1 remains at 100 gpm into either the James Lime Injection Interval (primary) or the Tokio Injection Interval (alternate). The requested maximum injection rate and volume on a cumulative basis are summarized below:

Rate/Volume Category	Rate/Volume
Maximum Injection Rate	100 gpm
Maximum Monthly Injection Volume	4,464,000 gallons ⁽¹⁾
Maximum Annual Injection Volume	52,560,000 gallons ⁽²⁾

⁽¹⁾ equivalent to 100 gpm over 31 days

⁽²⁾ equivalent to 100 gpm over 365 days

VI.C Compatibility

Following completion of injection well DWD-1 and retrieval of reservoir fluid and cores, a determination of the compatibility of the proposed injection fluid with the formation and formation fluids will be conducted. Compatibility testing between the DOW waste stream and well construction materials was previously performed and is discussed in Section VII.C of the 2001 permit application, and used wastewater composed of the proposed hazardous wastestream. As such, that document can be referenced if further information is needed, as no additional testing is proposed. The following discussion presents the methodology that will be utilized to determine the compatibility of the injected waste stream to the formation brine and injection zone matrix (injection interval and confinement interval) once the well has been drilled.

*should include
this
info*

Compatibility of Injection Fluid to Formation Water

Wastewater/formation water compatibility testing will be performed after formation fluid samples have been recovered from the proposed injection intervals. The formation water samples will be analyzed for standard groundwater parameters prior to compatibility testing to confirm inorganic constituent concentration. Filtered wastewater samples will be mixed at varying ratios with formation brine and placed in a temperature-controlled environment to duplicate bottomhole temperature conditions. After 24 to 48 hours, the wastewater/formation water samples will be evaluated for precipitation of suspended solids. If suspended solids generated by the precipitation are present in the mixtures, suggesting incompatibility, the solids will be analyzed to determine the nature of the precipitate. If appropriate, buffer solutions will be emplaced in the formation prior to wastewater injection to provide a neutral interface between the native formation brine and the injected wastewater, thereby minimizing mixing of any incompatible fluids in the reservoir in the near-wellbore region.

Compatibility of Injection Fluid to Formation Rock

Wastewater compatibility testing with formation rock material will be performed once cores of the injection intervals have been recovered from the well. Wastewater compatibility will be determined in the following fashion:

- 1) liquid flow-through permeability of the core to native formation brine will be determined to establish a base-line core permeability,
- 2) liquid flow-through permeability of the core to wastewater will be determined, and
- 3) liquid flow-through permeability of the core to native formation brine will be redetermined to establish a final core permeability.

Permeability measurements will be taken at successive increments of total fluid throughput up to a maximum of 100 pore volumes. Compatibility of the wastewater to formation core will be assessed by comparing permeability of the core to formation fluid (before and after testing with wastewater) with the permeability of the core while injecting the proposed wastestream.

TABLE II - 1

**SURFACE OWNERS SURROUNDING PROPOSED DWD No. 1 LOCATED IN SE 1/4
NW1/4, SECTION 18. TOWNSHIP 17 SOUTH, RANGE 21 WEST**

18-17-21

S 38.94	acs NE 1/4 NE 1/4		Albemarle Corporation
2.00	acs NWC NW 1/4 NE 1/4		Attn: Lloyd Crasto-Plant Manager
16.10	acs N 1/2 NW 1/4 NE 1/4		P.O. Box 729
20.00	acs S 1/2 NW 1/4 NE 1/4		Magnolia, AR 71754-0729
27.07	acs SW 1/4 NE 1/4		(Ph: 870-235-6265)
40.00	acs SE 1/4 NE 1/4		
9.66	acs NE 1/4 NW 1/4	17/60	
30.44	acs NE 1/4 NW 1/4		
28.84	acs NW 1/4 NW 1/4	17/60	
23.37	acs SE 1/4 NW 1/4		
9.66	acs SE 1/4 NW 1/4	17/60	
40.00	acs NE 1/4 NW 1/4		
37.75	acs SE 1/4 SW 1/4		
40.00	acs NE 1/4 SW 1/4		
37.75	acs SE 1/4 SW 1/4		
40.00	acs NE 1/4 SW 1/4		
32.79	acs NW 1/4 SE 1/4		
10.25	acs SW 1/4 NE 1/4		
5.00	acs SE 1/4 SE 1/4		
10.28	acs SE 1/4 SE 1/4		
7.08	acs SE 1/4 NW 1/4		Dow Chemical Company
			C/o Laurie Aucoin
			P.O. Box 150
			Plaquemine, LA 70765

LEASEHOLD (underlying Albemarle property as seen in Figure II-1)

Albemarle Corporation	Albemarle Corporation
	Attn: Lloyd Crasto-Plant Manager
	P.O. Box 729
	Magnolia, AR 71754-0729
	(Ph: 870-235-6265)

TABLE II - 1

**SURFACE OWNERS SURROUNDING PROPOSED DWD-1
LOCATED IN SE 1/4 NW1/4, SECTION 18. TOWNSHIP 17 SOUTH, RANGE 21 WEST**

(Per 1997 Surface Assessments)

*More changes
John*

12-17-22

30.00 acs SS NE 1/4 SE 1/4
40.00 acs NW 1/4 SE 1/4
40.00 acs SE 1/4 SE 1/4

Deltic farm & Timber Company, Inc.
200 Peach Street
El Dorado, AR 71730
(Ph: 870-864-6595)

3.85 acs NE 1/4 SE 1/4

Samuel R. Sanders and Shirley Sanders
P.O. Box 561
Cotton Valley, LA 71018
(Ph: 318-832-4362)

3.85 acs NE 1/4 SE 1/4

Malcolm Bridges; Ann Bridges
(Brother & Sister)
2170 Columbia Rd 275
Magnolia, AR 71753
(Ph: 870-234-3418)

2.30 acs NE 1/4 SE 1/4

John P. Jack and Dorothy Jack
2021 Columbia Rd 27-S
Magnolia, AR 71753
(Ph: 870-234-2320)

40.00 acs NW 1/4 SE 1/4

Allen H. Kitchens
5013 N. 25th Rd
Arlington, VA 22207
(Ph: 703-536-93 10)

13-17-22

40.00 acs NE 1/4 NE 1/4
E 33 - 1/3 acs SE 1/4 NE 1/4

Deltic farm & Timber Company, Inc.
200 Peach Street
El Dorado, AR 71730
(Ph: 870-864-6595)

40.00 acs NW 1/4 NE 1/4
40.00 acs SW 1/4 NE 1/4
W 6-1/3 acs SE 1/4 NE 1/4
N 16.67 acs NE 1/4 NW 1/4

Allen H. Kitchens
5013 N. 25th Rd
Arlington, VA 22207
(Ph: 703-536-93 10)

TABLE II - 1 (continued)

13-17-22 Cont'd

40.00 acs NE 1/4 SE 1/4 40.00 acs SE 1/4 SE 1/4		Albemarle Corporation Attn: Lloyd Crasto-Plant Manager P.O. Box 729 Magnolia, AR 71754-0729 (Ph: 870-235-6265)
40.00 acs NW 1/4 SE 1/4 40.00 acs SW 1/4 SE 1/4		Arnold Faulk 1531 Columbia RD 29 Magnolia, AR 71753 (Ph: 870-234-1573)
S 23.33 acs NW 1/4 NW 1/4 40.00 acs SE 1/4 NW 1/4	1/5	Virginia R. Campbell 436 Highland Drive Forrest City, AR 72353 (Ph: 870-633-2434)
	1/5	Ann C. Mount 4528 N 2nd Street Arlington, VA 22203 (Ph: 703-527-2234)
	1/5	Robert Rhea 5 17 North 11th Street Cherokee, IA 51012
	1/5	Frank Rhea 13505 West 34th Ave Golden, CO 80401
	1/20	Tanyss Rhea Martula 277 Bay Road Hadley, MA 01035 (Ph: 413-584-7729)
	1/20	John W. Rhea, III 2721 Westminster Dallas, TX 75205 (Ph: 214-739-2558)

TABLE II - 1 (continued)

13-17-22 Cont'd

1/20	Elena Leard RR8 Box 423P Mountain Home, AR 72653 (PH: 870-430-5833)
1/20	Roberta Rhea Amundson 2935 NW 23rd Drive Gainesville, FL 32605 (PH: 352-335-1986)
5.0 acs NE 1/4 SW 1/4	Estelle Holley 157 Columbia Rd 275 Magnolia, AR 71753
15.00 acs E 1/2 S 1/2 NE 1/4 SW 1/4 & N 1/2 W 1/2 S 1/2 NE 1/4 SW 1/4	Luna Sharp C/o Otis Forte RT 1, Box 257 Magnolia, AR 71753
18.00 acs N 1/2 NE 1/4 SW 1/4	Aubrey Sharp C/o Clarice Harris 2501 9th Street Muskegon Heights, MI 49444
2.00 acs NWC NE 1/4 SW 1/4	Essie Sharp Estate C/o Carolyn Page 14903 Western Ave San Leandro, CA 94578
<u>24-17-22</u>	
34.00 acs NE 1/4 NE 1/4	Albemarle Corporation Attn: Lloyd Crasto-Plant Manager P.O. Box 729 Magnolia, AR 71754-0729 (Ph: 870-235-6265)
6.00 acs ES NE 1/4 NE 1/4	Souter Family Revocable Trust Mary Ruth Bussey and Yvonne Souter Allen Co-Trustees P.O. Box 230 Sapula, OK 74066

TABLE II - 1 (continued)

24-17-22 Cont'd

N 5.00 acs NW 1/4 NE 1/4

Arnold Faulk
1531 Columbia RD 29
Magnolia, AR 71753
(Ph: 870-234-1573)

7-17-21

30.14 acs SW 1/4 SW 1/4
12.00 acs WS S 1/2 SE 1/4 SW 1/4

1/8 The Greg Bennett Company
P.O. Box 940
Magnolia, AR 71754-0940
(Ph: 870-234-6177)

7/8 Robert Woodmore Estate
C/o Christene W. Courtney
470 Columbia Rd 151
Magnolia, AR 71753
(Ph: 870-234-4639)

9.33 acs SE 1/4 SW 1/4
24.70 acs NW 1/4 SE 1/4
2.64 acs SW NE 1/4 SE 1/4
36.92 acs SW 1/4 SE 1/4
4.13 acs SE 1/4 SE 1/4

Albemarle Corporation
Attn: Lloyd Crasto-Plant Manager
P.O. Box 729
Magnolia, AR 71754-0729
(Ph: 870-235-6265)

18.67 acs SE 1/4 SW 1/4
18.79 acs S 1/2 NE 1/4 SW 1/4
7.26 acs NE 1/4 SE 1/4
19.50 acs NW 1/4 SE 1/4
17.50 acs NW 1/4 SE 1/4
40.00 acs SW 1/4 NE 1/4

T.U. Fallin, Jr.
1115 Honeysuckle Street
Magnolia, AR 71753
(Ph: 870-234-3064)

18.50 acs N 1/2 NE 1/4 SW 1/4
22.64 acs NW 1/4 SW 1/4
6.50 acs NW 1/4 SW 1/4
24.58 acs SW 1/4 NW 1/4
6.00 acs SW 1/4 NW 1/4
34.50 acs SE 1/4 NW 1/4
3.56 acs SE 1/4 NW 1/4

The Greg Bennett Company
P.O. Box 940
Magnolia, AR 71754-0940
(Ph: 870-234-6177)

TABLE II - 1 (continued)

7-17-21 Cont'd

8.04 acs NE 1/4 SE 1/4

Peggy Rhoads (Don)
402 North Hazel Street
Magnolia, AR 71753
(Ph: 870-234-1896)

8-17-21

40.00 acs NW 1/4 SW 1/4
40.00 acs SW 1/4 SW 1/4

James W. Parham (Sue)
P.O. Box 803
Magnolia, AR 71754-0803
(Ph: 870-234-4763)

17-17-21

11.32 acs NE 1/4 NW 1/4

James W. Parham (Sue)
P.O. Box 803
Magnolia, AR 71754-0803
(Ph: 870-234-4763)

28.68 acs NE 1/4 NW 1/4
40.00 acs NW 1/4 NW 1/4
19.89 acs SW 1/4 NW 1/4
10.00 acs NWC NE 1/4 SW 1/4
1.90 acs WS NW 1/4 SW 1/4

Albemarle Corporation
Attn: Lloyd Crasto-Plant Manager
P.O. Box 729
Magnolia, AR 71754-0729
(Ph: 870-235-6265)

40.00 acs SW 1/4 NW 1/4
30.00 acs NW 1/4 SW 1/4
38.00 acs NW 1/4 SW 1/4
40.00 acs SW 1/4 SW 1/4

Souter Family Revocable Trust
Mary Ruth Bussey and Yvonne Souter Allen
Co-Trustees
P.O. Box 230
Sapula, OK 74066

4.11 acs SE 1/4 NW 1/4

Homes Near Missionary Baptist Church
1190 Hwy 371 S
Magnolia, AR 71753
(Ph: 870-234-7186)

TABLE II - 1 (continued)

17-17-21 Cont'd

2.00 acs SE 1/4 NW 1/4	Lizzie Rudd Rosie Mae Green C/o Carrie Tarkington P.O. Box 1197 Magnolia, AR 71754
1.50 acs SW 1/4 NW 1/4	Minor Lewis C/o Ann Lewis 1250 Hwy 371 S Magnolia, AR 71753 (Ph: 870-234-2154)
.50 acs SE 1/3 NW 1/4	Rudolph L. Harris, et ux 1252 Hwy 132 Magnolia, AR 71753
10.00 acs SE 14 NW 1/4	Elve C. Bradford 1263 Hwy 371 S Magnolia, AR 71753 (Ph: 870-234-7827)
2.00 acs SE 1/4 NW 1/4	Gurdine Jones C/o Leanne Curry 2921 Columbia RD 27S Magnolia, AR 71753

18-17-21

S 38.94 acs NE 1/4 NE 1/4	Albemarle Corporation
2.00 acs NWC NW 1/4 NE 1/4	Attn: Lloyd Crasto-Plant Manager
16.10 acs N 1/2 NW 1/4 NE 1/4	P.O. Box 729
20.00 acs S 1/2 NW 1/4 NE 1/4	Magnolia, AR 71754-0729
27.07 acs SW 1/4 NE 1/4	(Ph: 870-235-6265)
40.00 acs SE 1/4 NE 1/4	
9.66 acs NE 1/4 NW 1/4	17/60
30.44 acs NE 1/4 NW 1/4	
28.84 acs NW 1/4 NW 1/4	17/60
23.37 acs SE 1/4 NW 1/4	
9.66 acs SE 1/4 NW 1/4	17/60
40.00 acs NE 1/4 NW 1/4	
37.75 acs SE 1/4 SW 1/4	
40.00 acs NE 1/4 SW 1/4	
37.75 acs SE 1/4 SW 1/4	

TABLE II - 1 (continued)

8-17-21 Cont'd

40.00	acs NE 1/4 SW 1/4		Albemarle Corporation
32.79	acs NW 1/4 SE 1/4		Attn: Lloyd Crasto-Plant Manager
10.25	acs SW 1/4 NE 1/4		P.O. Box 729
5.00	acs SE 1/4 SE 1/4		Magnolia, AR 71754-0729
10.28	acs SE 1/4 SE 1/4		(Ph: 870-235-6265)
N 1.06	acs NE 1/4 NE 1/4		James W. Parham (Sue)
			P.O. Box 803
			Magnolia, AR 71754-0803
			(Ph: 870-234-4763)
2.68	acs SW 1/4 NE 1/4		Tetra-Chlor Inc.
2.21	acs NW 1/4 SE 1/4		P.O. Box 73087
			Houston, TX 77273
9.66	acs WS NE 1/4 NW 1/4	9/12	Otha Carter, et al
28.84	acs NW 1/4 NW 1/4	9/12	C/o Marzell Carter
28.84	acs SW 1/4 NW 1/4	9/12	911 Patton Street
9.66	acs SE 1/4 NW 1/4	9/12	Magnolia, AR 71753
.08	acs SE 1/4 NW 1/4		Dow Chemical Company
			C/o Laurie Aucoin
			P.O. Box 150
			Plaquemine, LA 70765
28.32	acs SW 1/4 SW 1/4		Souter Family Revocable Trust
2.25	acs SE 1/4 SW 1/4		Mary Ruth Bussey and Yvonne Souter Allen
5.00	acs SS NW 1/4 SE 1/4		Co-Trustees
40.00	acs SW 1/4 SE 1/4		P.O. Box 230
6.72	acs W 1/2 SE 1/4 SE 1/4		Sapula, OK 74066
18.00	acs NE Pt SE 1/4 SE 1/4		

19-17-21

40.0	acs NE 1/4 NE 1/4	79/84	Souter Family Revocable Trust
39.00	acs NW 1/4 NE 1/4	79/84	Mary Ruth Bussey and Yvonne Souter Allen
1.00	acs NW 1/4 NE 1/4		Co-Trustees
			P.O. Box 230
			Sapula, OK 74066

TABLE II - 1 (continued)

19-17-21 Cont'd

40.00 acs NE 1/4 NE 1/4	5/84	Lee Formby Estate
39.00 acs NW 1/4 NE 1/4	5/84	c/o Dianne Formby 4 Ardmore Drive Little Rock, AR 72209 (Ph: 501-562-5410)

20-17-21

4.00 acs NW1/4 NW 1/4		Souter Family Revocable Trust Mary Ruth Bussey and Yvonne. Souter Allen Co-Trustees P.O. Box 230 Sapula, OK 74066
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LEASEHOLD (underlying Albemarle property as seen in Figure II-1)

Albemarle Corporation	Albemarle Corporation Attn: Lloyd Crasto-Plant Manager P.O. Box 729 Magnolia, AR 71754-0729 (Ph: 870-235-6265)
-----------------------	--

Abbreviations:

SS = south strip
ES = east strip
WS = west strip

TABLE III-1

NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR

**Dow Chemical Company
Magnolia, Arkansas**

Loc. Code	Operator – Well No. – Lease Name	Distance from DOW Well	Date Drilled / Date Plugged	Total Depth	Casing Size	Casing Strings Top	Casing Strings Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
1	Albemarle Corp. #1 Dow	1350'	3/23/65 -	8,500'	13 3/8" 9 5/8"	0' 0'	1492' 8494'	1340 cu.ft./surface 3117 cu.ft./surface	Class V- Injection	10.0 ppg / na	na	2,928'/ 4,380'
2	Ethyl Corp. #1 Dow SWD (was Arkansas Fuel #1 Dismukes Heirs)	2600'	3/26/65 6/23/83	8,203'	9 5/8" 5 1/2"	0' 0'	1525' 8202'	252 / surface 1470 cu.ft./ 2382'	SWD Plugged	10.5 ppg / NA	surface 2,851'-3,176' 5,451'-5,776' 7,075'-7,400'	2,860'/ 4,302'
3	Albemarle Corp. #1 Joe Carter BSW	1640'	9/4/70 2/19/99	8,338'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4504'	543' 4534' 8155'	510 / surface 1395 / surface 1550 / surface	Brine Supply Plugged	9.4 ppg / 15.5 & 11.5 ppg cement	0' - 8,338'	NLI / NLI
4	Kendall Oil & Gas #1 Rhea, Kitchens, and Fullenwider	2560'	NA 1/24/34	3,110'	NA	NA	NA	NA	Dry Hole Abandoned	NA	NA	~2,925' / DNP
5	Moore #1 Fullenwider	3050'	11/11/24 12/8/24	2,400'	10" 6"	0' 0'	71' 2161'	N.R.	Dry Hole Abandoned	N.R.	N.R.	DNP / DNP
6	Albemarle Corp. #1 I.L. Ford	7400'	6/24/70 12/19/98	8,353'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4316'	520' 4539' 8238'	525 / surface 1395 / surface 1060 / 4316'	Brine Supply Plugged	NA / 15.6 & 11.8 ppg cement	0' - 8,353'	NLI / NLI
7	E.G. Bradham #1 Huffman	9150'	11/23/50 11/24/50	8,247'	13 3/8" 9 5/8"	0' 0'	180' 1800'	? / surface 400 / surface	Dry Hole Plugged	10.8 ppg / NA	0' - 100' 1,700'-1,800'	2,908'/ 4,361'
27	Albemarle Corp. #2 V.W. Nipper	9200'	1/31/67 4/25/88	8,418'	13 3/8" 9 5/8" 7"	0' 0' 4521'	541' 4521' 8400'	528 cu.ft./ surface 2368 cu.ft./surface 1663 cu.ft./surface	Brine Supply Plugged	NA / brine	surface 4,146'-4,275' 8,128'- 8,266'	2,867'/ 4,243'
28	Intl. Helium Inc. #1 B.F. Dennis	7800'	5/20/60 4/15/65	8,085'	9 5/8" 5 1/2"	0' 2603'	950' 8084'	550 / surface 300 / 5573'	Oil Well Plugged	NA / NA	surface 600'-650' 7,750'-7,800'	~2,880'/ ~4,250'
29	Petrofunds, Inc. #1 Sorrels et al	8050'	8/23/69 6/24/71	8,115'	8 5/8" 5 1/2"	0' 0'	1038' 8115'	410 / surface 600 / 3093'	Oil Well Plugged	10.1 ppg / brine	surface 3,425'-3,466' CIBP@ 3,540'	2,847'/ 4,231'
30	Ethyl Corp. #1 Weber BSW	8500'	2/11/76 7/29/92	8,415'	12 3/8" 9 5/8" 7"	0' 0' 4495'	496' 4699' 8412'	400 / surface 2185 / surface 1250 / surface	Brine Supply with Oil Plugged	NA / 11.0 ppg cement	0' - 8,235'	NLI / 4,229'

TABLE III-1 (continued)

**NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR
THAT PENETRATE THE INJECTION ZONE**

**Dow Chemical Company
Magnolia, Arkansas**

Loc. Code	Operator – Well No. – Lease Name	Distance from DOW Well	Date Drilled Date Plugged	Total Depth	Casing Size	Casing Strings Top	Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
31	Petrofunds, Inc. #1 Volentine (Doran & Braddock)	7950'	2/19/69 6/23/71	8,110'	8 5/8" 5 1/2"	0' 0'	1001' 8110'	290 / surface 600 / 3088'	Oil Well Plugged	10.5 ppg / brine	0' - 30' CIBP@ 3,000'	2,840'/ 4,250'
32	Albemarle Corp. #1 McAnulty BSW	5800'	11/5/74 -	8,400'	13 3/8" 9 5/8" 7"	0' 0' 4473'	502' 4692' 8080'	450 / surface 2150 / surface 1100 / 4473'	Active Brine Supply	9.5 ppg / na	na	2,882'/ 4,293'
33	Doran & Braddock #1 Fallin	5500'	12/8/67 12/8/67	8,161'	8 5/8"	0'	1013'	350 / surface	Dry Hole Plugged	10.0 ppg / NA	surface 950'	2,892'/ 4,328'
34	Ethyl Corp. #2 Parham BSW	3450'	1/26/67 4/19/88	8,543'	13 3/8" 9 5/8" 7"	0' 0' 4487'	505' 4700' 8140'	500 / surface 2100 / surface 1100 / 4487'	Brine Supply Plugged	NA / NA	surface 4,304'-4,433' 7,861'- 7,999'	NLI/ NLI
35	AR Fuel Oil Corp. #1 B.F. Dennis	6830'	5/3/58 12/11/59	8,208'	9 5/8" 5 1/2"	0' 3230'	1977' 8191'	650 / surface 1340 / 3230'	Oil Well Plugged	NA / NA	surface 1962' CICR@ 4,630' 3,636'-3,638' CIBP@ 8,050'	2,890'/ 4,272'
36	Albemarle Corp. #1 V.S. Parham	4800'	1/26/67 -	8,500'	13 3/8" 9 5/8" 7" 5 1/2"	0' 0' 4260' 6989'	539' 4542' 8466' 7966'	350 / surface 1400 / surface 1200 / 4260' NA / ?	Class V- Injection	9.8 ppg / na	na	2,890'/ 4,310'
39	Kilroy of Texas #1 Edwards	9850'	11/21/79 11/21/79	4,800'	8 5/8"	0'	310'	150 / surface	Dry Hole Plugged	9.5 ppg / NA	0'-6' 790'-840'	2,863'/ 4,272'
40	Albemarle Corp. #1 F.W. Souter SWD	8900'	1/28/67 -	8,465'	13 3/8" 9 5/8" 7 5/8"	0' 0' 0'	1033' 8436' 8157'	940 cu.ft. / surface 3577 cu.ft. / surface 1382 sks / surface	Class V- Injection	NA / na	na	2,901'/ 4,380'
41	Albemarle Corp. #3 F.W. Souter SWD	10350'	4/22/75 -	8,525'	13 3/8" 9 5/8"	0' 0'	1005' 8175'	700 / surface 3935 / surface	Class V- Injection	NA / na	na	2,902'/ 4,380'
46	Clements Energy #1 D & D	10400'	2/4/81 2/4/81	8,313'	8 5/8"	0'	1800'	700 / surface	Dry Hole Plugged	NA / NA	0'-10' 1,600'-1,800' 7,656'-8,313'	2,917'/ 4,466'

TABLE III-1 (continued)

**NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR
THAT PENETRATE THE INJECTION ZONE**

*Dow Chemical Company
Magnolia, Arkansas*

Loc. Code	Operator – Well No. – Lease Name	Distance from DOW Well	Date Drilled Date Plugged	Total Depth	Casing Size	Casing Strings Top	Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
49	J.D. Thrasher #1 J.A.W. Souter	5400'	4/4/60 4/4/60	8,520'	8 5/8"	0'	1016'	540 / surface	Dry Hole Plugged	10.3 ppg / NA	surface 990'-1020'	2,934'/ 4,540'
50	Ethyl Corp. #1 J.O. DeLoach SWD	7300'	10/2/70 6/26/83	8,584'	13 3/8" 9 5/8"	0' 0'	1036' 8400'	760 / surface 4793 / surface	Class V-Inj. Plugged	NA / NA	surface 654'-1,050' 7,943'-8,213'	2,960'/ 4,602'
51	Albemarle Corp. #1 Aubrey Sharp SWD	7000'	3/9/73 -	8,707'	13 3/8" 9 5/8" 5 1/2"	0' 0' 0'	1052' 8395' 8340'	790 / surface 3800 / surface 1729 / surface	Class V- Injection	9.4 ppg / na	na	2,980'/ 4,586'
52	Kilroy of Texas #1 DeLoach	9400'	12/31/80 12/31/80	8,591'	8 5/8"	0'	1268'	525 / surface	Dry Hole Plugged	NA / NA	0'-20' 1,240'-1,270' 1,270'-1,320'	3,013'/ 4,690'
60	Albemarle Corp. #2 M.D. Woodward BSW	8300'	6/6/70 -	8,500'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4342'	535' 4535' 8274'	425 / surface 1395 / surface 1610 / 4342'	Active Brine Supply	NA / na	na	NLI / NLI
61	Albemarle Corp. #1 Holmes SWS	10600'	5/24/75 -	8,575'	13 3/8" 9 5/8" 7"	0' 0' 0'	506' 4702' 8286'	400 / surface 2460 / surface 1180 / surface	Active Brine Supply	9.5 ppg / na	na	NLI / NLI
62	Albemarle Corp. #1 Kitchens SWS	6300'	5/4/73 -	8,515'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4556'	561' 4825' 8250'	535 / surface 1530 / surface 1700 / 4556'	Active Brine Supply	NA / na	na	NLI / NLI
74	King Oil Corp. #1 Kitchens et al	5200'	12/8/36 12/8/36	3,824'	12 1/2"	0'	199'	N.R.	Dry Hole Abandoned	N.R.	N.R.	~2,940'/ DNP
75	Fullenwider #1 Dowdy et al	5650'	12/17/22 12/17/22	2,700'	10" 6"	0' 0'	171' 2070'	N.R.	Dry Hole Abandoned	N.R.	N.R.	DNP / DNP
76	G. Dawley #1 Fullenwider et al	4600'	3/26/28 3/26/28	2,847'	12 1/2"	0'	80'	N.R.	Dry Hole Abandoned	N.R.	N.R.	DNP / DNP
77	Ethyl Corp. #1 P. Jameson BSW	5100'	9/29/70 9/15/93	8,500'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4502'	547' 4530' 8495'	470 / surface 1875 / surface 1510 / 4502'	Brine Supply Plugged	NA / 11.0 ppg cement	3'-8,299'	~2,860'/ ~4,300'

TABLE III-1 (continued)

**NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR
THAT PENETRATE THE INJECTION ZONE**

**Dow Chemical Company
Magnolia, Arkansas**

Loc. Code	Operator – Well No. – Lease Name	Distance from DOW Well	Date Drilled Date Plugged	Total Depth	Casing Size	Casing Strings Top Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
78	J.G. Cubage #1 Rhea	3700'	8/13/35 8/13/35	3,507'	10"	0' 120'	N.R.	Dry Hole Abandoned	N.R.	N.R.	~2,930'/ DNP
79	Ethyl Corp. #1 D.R. Abbott SWS	3400'	3/31/74 4/22/88	8,483'	13 3/8" 9 5/8" 7"	0' 504' 0' 4711' 4502' 8166'	400 / surface 2300 / surface 960 / 4502'	Brine Supply Plugged	NA / brine	surface 4,418'-4,547' 7,889'- 8,027'	NLI / NLI
80	Albemarle Corp. #1 Whitehead	7000'	8/7/68 -	8,498'	13 3/8" 9 5/8" 7"	0' 555' 0' 4522' 4187' 8125'	446 / surface 1755 / surface 1050 / 4187'	Class V- Injection	NA / na	na	NLI / NLI
81	Bryan Prod. Co. #1 Dennis	9350'	10/26/81 12/3/81	8,054'	8 5/8" 4 1/2"	0' 1000' 1765' 8056'	265 / surface 250 / 6465'	Oil Well Plugged	NA / NA	0'-2' 955'-1,035' CIBP @ 7,900'	~2,865'/ ~4,240'
106	Albemarle Corp. #2 Weber BSW	8500'	3/2/85 -	10,742' TDD	13 3/8" 9 5/8" 7"	0' 1284' 0' 4402' 4180' 10740'	725 / surface 1700 / surface 2000 / 4180'	Active Brine Supply with Oil	NA / na	na	~2,860'/ ~4,240'
107	Albemarle #5 Souter	5500'	12/21/95 -	8,600'	13 3/8" 9 5/8"	0' 1523' 0' 8588'	1030 / surface 3555 / surface	Class V- Injection	9.3 ppg / na	na	~2,860'/ ~4,270'
ADEQ Requested Wells Outside of 2-Mile Radius AOR:											
13	Lawton-Partee #1 J.O. Valentine	11200'	10/21/57 10/24/57	8,016'	9 5/8"	0' 1347'	800 / surface	Dry Hole Plugged	NA / NA	surface 1,300' 4,300'	2,859'/ 4,241'
23	Bryan Production (Monexco) #1 Verna Nipper	10800'	10/9/81 12/5/81	8,017'	8 5/8" 4 1/2"	0' 1015' 1619' 4580'	525 / surface 160 / 3562'	Dry Hole Plugged	9.3 ppg / NA	0' - 2' 940'-1120' CIBP @ 4400' 7848'-7970'	2,827'/ 4,200'
24	Sklar & Phillips #1 Nipper	11000'	12/11/78 12/11/78	4,608'	8 5/8"	0' 300'	200 / surface	Dry Hole Plugged	9.3 ppg / NA	0' - 20' 250'-350'	2,844'/ 4,218'
25	Dow Chemical #1 V. W. Nipper etal	10950'	2/3/67 4/29/92	8,412'	13 3/8" 9 5/8" 7"	0' 535' 0' 4522' 4307' 8351'	517 cu.ft./ surface 2085 cu.ft./ surface 1615 cu.ft./ 4307'	Brine Supply Plugged	NA / 11.0 ppg cement	0' - 8,351'	2,854'/ 4,222'

NOTES: * Calculated (# of sacks x 1.45 ft³/sk x linear volume [ft/ft³] between borehole and casing), N.R. – not reported, NA - information not available, na - not applicable.

TABLE III-1

NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR

**Dow Chemical Company
Magnolia, Arkansas**

Handwritten note:
K...
10/23/03

Loc. Code	Operator - Well No. - Lease Name	Distance from DOW Well	Date Drilled Date Plugged	Total Depth	Casing Size	Casing Strings Top Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
1	Albemarle Corp. #1 Dow Fee	1350'	3/23/65	8,500' ¹⁴⁶	13 3/8" 9 5/8"	0' 0'	1492' 8494' 1340 cu.ft./surface 3117 cu.ft./surface	Class V-Injection	10.0 ppg / na	na	2,928' / 4,380'
2	Ethyl Corp. #1 Dow SWD (was Arkansas Fuel #1 Dismukes Heirs)	2600'	3/26/65 6/23/83	8,203' ^{8 218}	9 5/8" 5 1/2"	0' 0'	1525' 8202' 252 / surface 1470 cu.ft. / 2382'	SWD Plugged	10.5 ppg / NA	surface 2,851'-3,176' 5,451'-5,776' 7,075'-7,400'	2,860' / 4,302'
3	Albemarle Corp. #1 Joe Carter BSW	1640'	9/4/70 2/19/99	8,338'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4504'	543' 4534' 8155' 510 / surface 1395 / surface 1550 / surface	Brine Supply Plugged	9.4 ppg / 15.5 & 11.5 ppg cement	0' - 8,338' 505'-8,338'	NLI / NLI
* 4	Kendall Oil & Gas #1 Rhea, Kitchens, and Fullenwider	2560'	NA 1/24/34	3,110'	NA	NA	NA	Dry Hole Abandoned	NA	NA	2,925' / DNP
5	Moore #1 Fullenwider	3050'	11/11/24 12/8/24	2,400'	10" 6"	0' 0'	71' 2161' N.R.	Dry Hole Abandoned	N.R.	N.R.	DNP / DNP
6	Albemarle Corp. #1 I.L. Ford	7400'	6/24/70 12/19/98	8,353'	13 3/8" 9 5/8" 5 1/2"	0' 0' 4316'	520' 4539' 8238' 525 / surface 1395 / surface 1060 / 4316'	Brine Supply Plugged	NA / 15.6 & 11.8 ppg cement	0' - 8,353'	NLI / NLI
7	E.G. Bradham #1 Huffman	9150'	11/23/50 11/24/50	8,247'	13 3/8" 9 5/8"	0' 0'	180' 1800' ? / surface 400 / surface	Dry Hole Plugged	10.8 ppg / NA	0' - 100' 1,700'-1,800'	2,908' / 4,361'
27	Albemarle Corp. #2 V.W. Nipper	9200'	1/31/67 4/25/88	8,418'	13 3/8" 9 5/8" 7"	0' 0' 4521'	541' 4521' 8400' 528 cu.ft. / surface 2368 cu.ft. / surface 1663 cu.ft. / surface	Brine Supply Plugged	NA / brine	surface 4,146'-4,275' 8,128'-8,266'	2,867' / 4,243'
28	Intl. Helium Inc. #1 B.F. Dennis	7800'	5/20/60 4/15/65	8,085'	9 5/8" 5 1/2"	0' 2603'	950' 8084' 550 / surface 300 / 5573'	Oil Well Plugged	NA / NA	surface 600'-650' 7,750'-7,800'	~2,880' / ~4,250'
29	Petrofunds, Inc. #1 Sorrels et al	8050'	8/23/69 6/24/71	8,115'	8 5/8" 5 1/2"	0' 0'	1038' 8115' 410 / surface 600 / 3093'	Oil Well Plugged	10.1 ppg / brine	surface 3,425'-3,466' CIBP@ 3,540'	2,847' / 4,231'
30	Ethyl Corp. #1 Weber BSW	8500'	2/11/76 7/29/92	8,415'	12 3/8" 9 5/8" 7"	0' 0' 4495'	496' 4699' 8412' 400 / surface 2185 / surface 1250 / surface	Brine Supply with Oil Plugged	NA / 11.0 ppg cement	0' - 8,235'	NLI / 4,229'

Handwritten notes:
- perforation - 2,925' - 3,176'
- 505'-8,338' class 2
- 2,925' / DNP
- 2,908' - mud
- 1,700' - mud
- 2,867' - brine @ 20' mud
- 4,243' - mud
- ~2,880' - mud
- ~4,250' - mud
- 2,847' - brine @ 20' mud
- 4,231' - mud
- deposit
- 10/23/03



TABLE III-1 (continued)

NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR THAT PENETRATE THE INJECTION ZONE

Dow Chemical Company
Magnolia, Arkansas

Loc. Code	Operator – Well No. – Lease Name	Distance from DOW Well	Date Drilled / Date Plugged	Total Depth	Casing Size	Casing Strings Top / Depth	Skts Cement / top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James
31	Petrofunds, Inc. #1 Volentine (Doran & Braddock)	7950'	2/19/69 6/23/71	8,110'	8 5/8" 5 1/2"	0' 0' 1001' 8110'	290 / surface 600 / 3088'	Oil Well Plugged	10.5 ppg / brine	0' - 30' CIBP@ 3,000'	2,840' / 4,250' <i>brine filled hole</i>
32	Albemarle Corp. #1 McAnulty BSW	5800'	11/5/74 -	8,400'	13 3/8" 9 5/8" 7"	0' 0' 4473'	450 / surface 2150 / surface 1100 / 4473'	Active Brine Supply	9.5 ppg / na	na	2,882' / 4,293'
33	Doran & Braddock #1 Fallin	5500'	12/8/67 12/8/67	8,161'	8 5/8"	0' 1013'	350 / surface	Dry Hole Plugged	10.0 ppg / NA	surface 950' <i>plugs</i>	2,892' / 4,328' <i>not filled hole</i>
34	Ethyl Corp. #2 Parham BSW	3450'	1/26/67 4/19/88	8,543'	13 3/8" 9 5/8" 7"	0' 0' 4487'	500 / surface 2100 / surface 1100 / 4487'	Brine Supply Plugged	NA / NA	surface 4,304'-4,433' <i>plugs</i> 7,861'- 7,999'	NLI / NLI <i>not filled hole no plug record</i>
35	AR Fuel Oil Corp. #1 B.F. Dennis	6830'	5/3/58 12/11/59	8,208'	9 5/8" 5 1/2"	0' 3230' 8191'	650 / surface 1340 / 3230'	Oil Well Plugged	NA / NA	surface 1962' - <i>not filled</i> CICR@ 4,630' 3,636'-3,638' <i>cement - guess part</i> CIBP@ 8,050' <i>4,200-5,000'</i>	2,890' / 4,272'
36	Albemarle Corp. #1 V.S. Parham <i>no schematic</i>	4800'	1/26/67 -	8,500'	13 3/8" 9 5/8" 7" 5 1/2"	0' 0' 4260' 6989'	350 / surface 1400 / surface 1200 / 4260' NA / ?	Class V- Injection	9.8 ppg / na	na	2,890' / 4,310'
39	Kilroy of Texas #1 Edwards <i>no schematic</i>	9850'	11/21/79 11/21/79	4,800'	8 5/8"	0' 310'	150 / surface	Dry Hole Plugged	9.5 ppg / NA	0'-6' 790'-840' <i>plugs</i>	2,863' / 4,272' <i>not filled hole</i>
40	Albemarle Corp. #1 F.W. Souter SWD <i>no schematic</i>	8900'	1/28/67 -	8,465'	13 3/8" 9 5/8" 7 5/8"	0' 0' 0'	940 cu.ft. / surface 3577 cu.ft. / surface 1382 sks / surface	Class V- Injection	NA / na	na	2,901' / 4,380' <i>not filled hole</i>
41	Albemarle Corp. #3 F.W. Souter SWD <i>no schematic</i>	10350'	4/22/75 -	8,525'	13 3/8" 9 5/8"	0' 0'	700 / surface 3935 / surface	Class V- Injection	NA / na	na	2,902' / 4,380'
46	Clements Energy #1 D & D <i>no schematic</i>	10400'	2/4/81 2/4/81	8,313'	8 5/8"	0' 1800'	700 / surface	Dry Hole Plugged	NA / NA	0'-10' 1,600'-1,800' 7,656'-8,313'	2,917' / 4,466'

TABLE III-1 (continued)

NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR
THAT PENETRATE THE INJECTION ZONE

Dow Chemical Company
Magnolia, Arkansas

Loc. Code	Operator - Well No. - Lease Name	Distance from DOW Well	Date Drilled / Date Plugged	Total Depth	Casing Size	Casing Strings Top / Depth	Sks Cement / top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James	
49	J.D. Thrasher #1 J.A.W. Souter	5400'	4/4/60 4/4/60	8,520'	8 5/8"	0' / 1016'	540 / surface	Dry Hole Plugged	10.3 ppg / NA	surface 2861' / 2,934' 990'-1020' 4578' / 4,540'	2,934' 4,540'	mud filled hole L depth in card
50	Ethyl Corp. #1 J.O. DeLoach SWD no schematic	7300'	10/2/70 6/26/83	8,584'	13 3/8" 9 5/8"	0' / 1036' 0' / 8400'	760 / surface 4793 / surface	Class V-Inj. Plugged	NA / NA	surface 654'-1,050' 7,943'-8,213'	2,960' 4,602'	mud filled
51	Albemarle Corp. #1 Aubrey Sharp SWD no schematic	7000'	3/9/73	8,707'	13 3/8" 9 5/8" 5 1/2"	0' / 1052' 0' / 8395' 0' / 8340'	790 / surface 3800 / surface 1729 / surface	Class V- Injection	9.4 ppg / na	na	2,980' 4,586'	3010' - from + 800' surveying pt
52	Kilroy of Texas #1 DeLoach no schematic	9400'	12/31/80 12/31/80	8,591'	8 5/8"	0' / 1268'	525 / surface	Dry Hole Plugged	NA / NA	0'-20' 1,240'-1,270' 1,270'-1,320'	3,013' 4,690'	mud filled
60	Albemarle Corp. #2 M.D. Woodward BSW no schematic	8300'	6/6/70	8,500'	13 3/8" 9 5/8" 5 1/2"	0' / 535' 0' / 4535' 4342' / 8274'	425 / surface 1395 / surface 1610 / 4342'	Active Brine Supply	NA / na	na	NLI / NLI	
61	Albemarle Corp. #1 Holmes SWS no schematic	10600'	5/24/75	8,575'	13 3/8" 9 5/8" 7"	0' / 506' 0' / 4702' 0' / 8286'	400 / surface 2460 / surface 1180 / surface	Active Brine Supply	9.5 ppg / na	na	NLI / NLI	
62	Albemarle Corp. #1 Kitchens SWS no schematic	6300'	5/4/73	8,515'	13 3/8" 9 5/8" 5 1/2"	0' / 561' 0' / 4825' 4556' / 8250'	535 / surface 1530 / surface 1700 / 4556'	Active Brine Supply	NA / na	na	NLI / NLI	
* 74	King Oil Corp. #1 Kitchens et al	5200'	12/8/36 12/8/36	3,824'	12 1/2"	0' / 199'	N.R.	Dry Hole Abandoned	N.R.	N.R. ~2,940' DNP	2,940'	mud only no casing
* 75	Fullenwider #1 Dowdy et al	5650'	12/17/22 12/17/22	2,700'	10" 6"	0' / 171' 0' / 2070'	N.R.	Dry Hole Abandoned	N.R.	N.R. DNP / DNP	DNP / DNP	mud only no casing
* 76	G. Dawley #1 Fullenwider et al	4600'	3/26/28 3/26/28	2,847'	12 1/2"	0' / 80'	N.R.	Dry Hole Abandoned	N.R.	N.R. DNP / DNP	DNP / DNP	mud only no casing
77	Ethyl Corp. #1 P. Jameson BSW	5100'	9/29/70 9/15/93	8,500'	13 3/8" 9 5/8" 5 1/2"	0' / 547' 0' / 4530' 4502' / 8495'	470 / surface 1875 / surface 1510 / 4502'	Brine Supply Plugged	NA / 11.0 ppg cement	3'-8,299'	~2,860' ~4,300'	

TABLE III-1 (continued)

**NON-FRESHWATER ARTIFICIAL PENETRATIONS WITHIN THE 2-MILE RADIUS AOR
THAT PENETRATE THE INJECTION ZONE**

**Dow Chemical Company
Magnolia, Arkansas**

Loc. Code	Operator - Well No. - Lease Name	Distance from DOW Well	Date Drilled Date Plugged	Total Depth	Casing Size	Casing Strings Top Depth	Sks Cement sks/top of cement*	Current Status	Mud Data drilling/plugging	Cement Plugs	Depth to Top of Tokio / James	
* 78	J.G. Cubage #1 Rhea	3700'	8/13/35 8/13/35	3,507'	10" ^{inadeq casing}	0' ^{120' cement depth}	N.R.	Dry Hole Abandoned	N.R.	N.R.	~2,930' / DNP	<i>made in hole reports considered</i>
79	Ethyl Corp. #1 D.R. Abbott SWS	3400'	3/31/74 4/22/88	8,483'	13 3/8" 9 5/8" 7"	0' 0' 4502'	504' / surface 4711' / surface 8166' / 960 / 4502'	Brine Supply Plugged	NA / brine	surface 4,418'-4,547' 7,889'- 8,027'	NLI / NLI	<i>brine filled hole</i>
80	Albemarle Corp. #1 Whitehead	7000'	8/7/68 -	8,498'	13 3/8" 9 5/8" 7"	0' 0' 4187'	446' / surface 4522' / surface 8125' / 1050 / 4187'	Class V- Injection	NA / na	na	NLI / NLI	
81	Bryan Prod. Co. #1 Dennis	9350'	10/26/81 12/3/81	8,054'	8 5/8" 4 1/2"	0' 1765'	1000' / surface 8056' / 250 / 6465'	Oil Well Plugged	NA / NA	0'-2' 955'-1,035' CIBP @ 7,900'	~2,865' / ~4,240'	<i>made in hole he used</i>
106	Albemarle Corp. #2 Weber BSW	8500'	3/2/85 -	10,742' TDD	13 3/8" 9 5/8" 7"	0' 0' 4180'	1284' / surface 4402' / surface 2000 / 4180'	Active Brine Supply with Oil	NA / na	na	~2,860' / ~4,240'	
107	Albemarle #5 Souter	5500'	12/21/95 -	8,600'	13 3/8" 9 5/8"	0' 0' 8588'	1030 / surface 3555 / surface	Class V- Injection	9.3 ppg / na	na	~2,860' / ~4,270'	

TABLE III-2
TABULATION OF FRESHWATER ARTIFICIAL PENETRATIONS
ON PLANT AND ADJACENT PROPERTY

Dow Chemical Company
Magnolia, Arkansas

Map No.	Owner	Well Name	Date Drilled	Well Depth (feet)	Diameter (inches)	Screen (feet)	Water Level (feet)	Date Measured	Use	Chemical Analysis
→ 1	Dow Chemical	Water Supply Well	9/9/71	81	30	10-Ft ground - 10-Ft Screen?	30	9/9/71	IND	NA
2	Dow Chemical	Water Supply Well for Drilling Carter #1 Brine Well	6/14/74	430	4	425-430	181	6/14/74	IND	NA
3	Dow Chemical	Water Supply Well for Dow #1 Brine Well	6/13/74	438	4	433-438	184	6/13/74	IND	NA
4	David Faulk		6/7/77	47	4	37-47	21	6/7/77	D	NA
5	David Faulk		6/20/75	46	4	40-46	15	6/20/75	D	NA
6	Dow Chemical	Water Supply Well for Jameson #1 Brine Well	10/24/83	445	4	425-445	240	10/24/83	IND	NA

D = Domestic
IND = Industrial
NA = Information not available

TABLE VI-1
WASTE MANAGEMENT INFORMATION
FOR PLANT DISPOSAL WELL DWD-1

Dow Chemical Company
Magnolia, Arkansas

<i>Waste</i>	<i>Source</i>	<i>Volume (gal./year)</i>
1. Wastes generated during closure of the well and associated facilities that are compatible with permitted wastes, reservoir and the well.	on-site	see note below ⁽¹⁾
2. Wastewater having a pH of not less than 2.0 or not greater than 12.5, from the following waste streams: a. Ground water from french drain systems and shallow recovery wells b. Boilerhouse blowdown, cooling tower overflow, and non-contact process water c. Rainfall from curbed areas and sumps d. Product spills and wash water from the management of those spills.	on-site	52,560,000 ⁽²⁾
3. Other associated wastes such as groundwater and rainfall contaminated by the above authorized wastes, spills of the above authorized wastes, and wash waters and solutions used in cleaning and servicing the waste disposal well system equipment which are compatible with the permitted waste streams, reservoir and well materials.	on-site	see note below ⁽³⁾

Note: (1) the generation of waste stream No. 1 will occur as a one-time-only waste and the volume of waste generated will be minuscule in comparison to the other wastes injected
(2) Volume stated is based on proposed maximum injection rate of 100 gpm.
(3) Wastestream No. 3 is non-continuous. The volume of waste generated by wastestream No. 3 will be minuscule in comparison to the other wastes injected.

2004
52,560,000

TABLE VI-2

**PROPOSED INJECTATE WASTE STREAM
HAZARDOUS CONSTITUENT CONCENTRATIONS**

**Dow Chemical Corporation
West Plant
Magnolia, Arkansas**

Constituent	Measured Concentration ¹	Hazardous Level
Ethylene dichloride (D028)	19.7	0.5 mg/l ²
Ethylene dibromide (U067)	2.5	0.028 mg/l ³
Dibromochloropropane (U066)	1.0	0.11 mg/l ³

¹ See Appendix I, L1 stripper influent (5/11/04 sample)

² 40 CFR 261.24 Toxicity Characteristic

³ 40 CFR 268.40 Treatment Standards for Hazardous Wastes

TABLE VI-2

**PROPOSED INJECTATE WASTE STREAM
HAZARDOUS CONSTITUENT CONCENTRATIONS**

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West Plant
Magnolia, Arkansas**

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¹ See Appendix I, L1 stripper influent (5/11/04 sample)

² 40 CFR 261.24 Toxicity Characteristic

³ 40 CFR 268.40 Treatment Standards for Hazardous Wastes

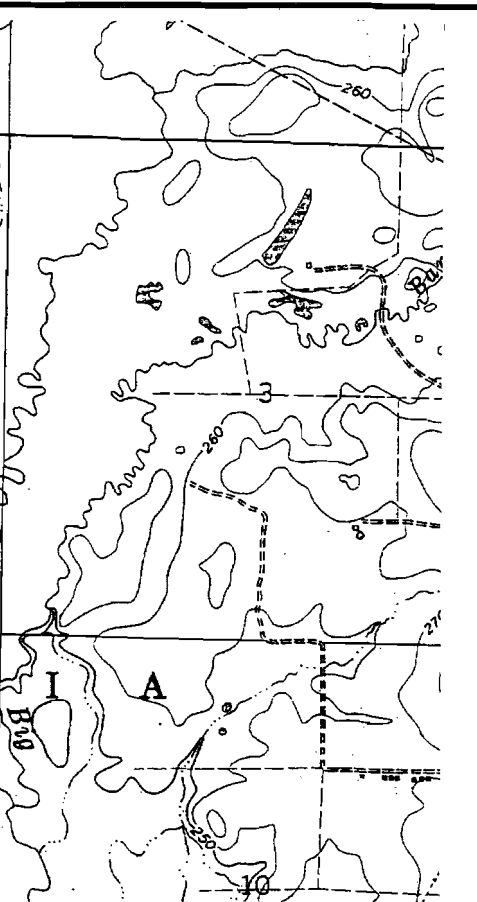
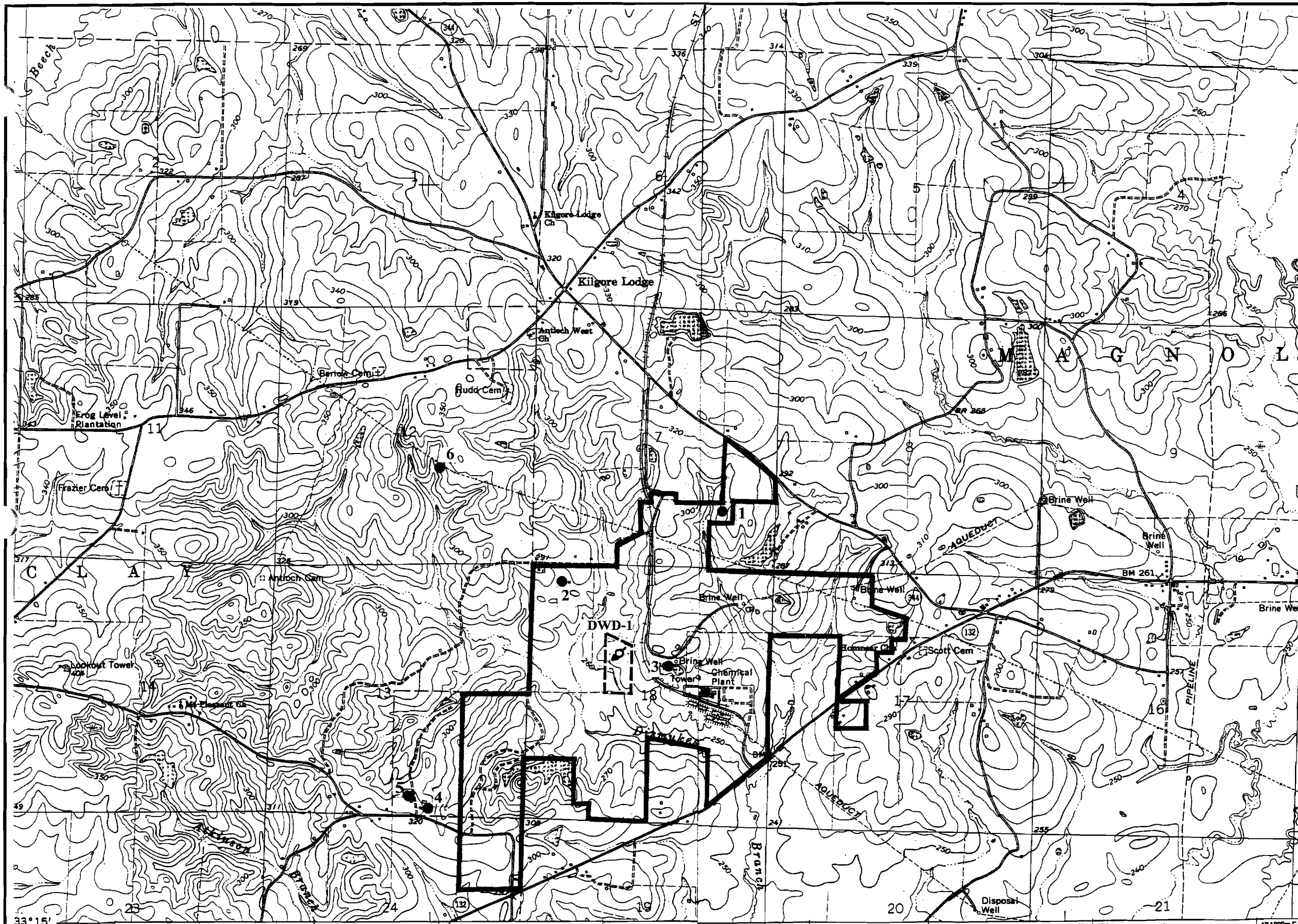
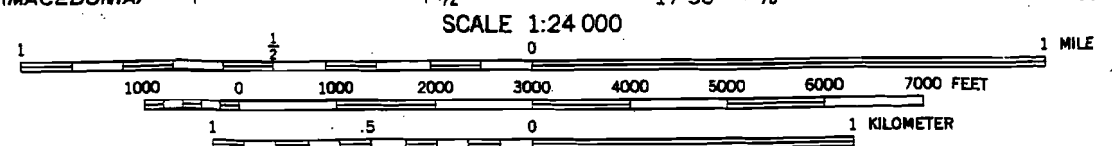


FIGURE II-1
TOPOGRAPHIC MAP WITH
WATER WELLS ON PLANT AND
ADJACENT PROPERTY
DOW CHEMICAL COMPANY
Magnolia, Arkansas

- DWD-1 Injection Well
- Area Water Wells
- West Plant Boundary
- - - DOW Property

Map Source: USGS 7.5-Minute Waldo, Arkansas, 196
 Quadrangle Map

33° 15' 1467 R. 22 W. 20 BUSSEY 9 MI. 470 R. 21 W. (MACEDONIA) 17' 30" 473 4740000 E



CONTOUR INTERVAL 10 FEET



DRAWN BY: A. BELL	DATE: 10/4/04
CHECKED BY: P. GRANT	SCALE: As Indicated
DRAWING NO.: 99177b.cdr	JOB NO.: 99-177

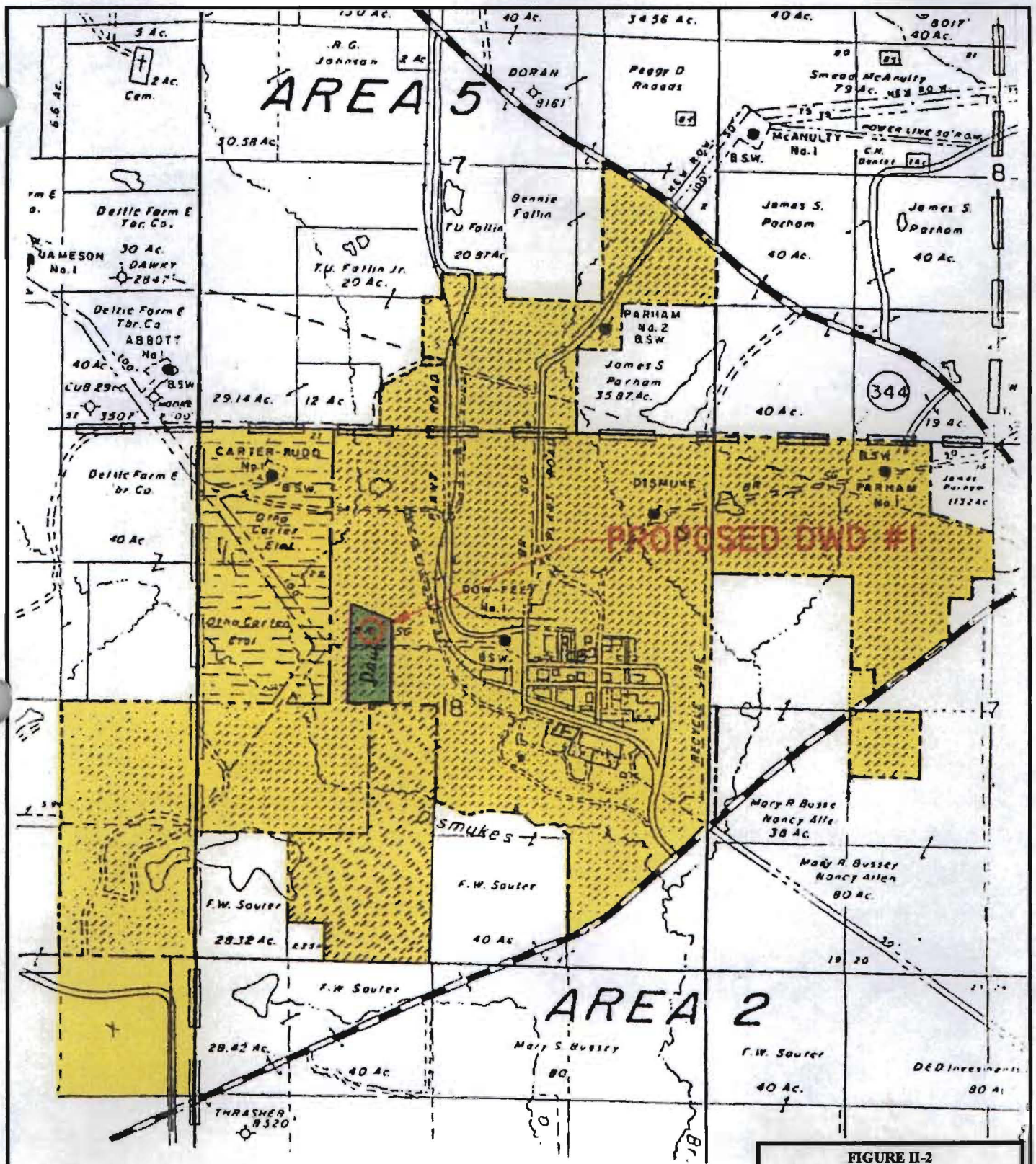


FIGURE II-2
 SURFACE OWNERS SURROUNDING
 PROPOSED DWD-1
 PREPARED FOR
 DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

TERRA
 DYNAMIC INC.

Source: Walk Haydel, 1999.

SCALE: NONE

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F16
 Date: 4-24-02, Revised 5-3-06
 Job No.: 99-177

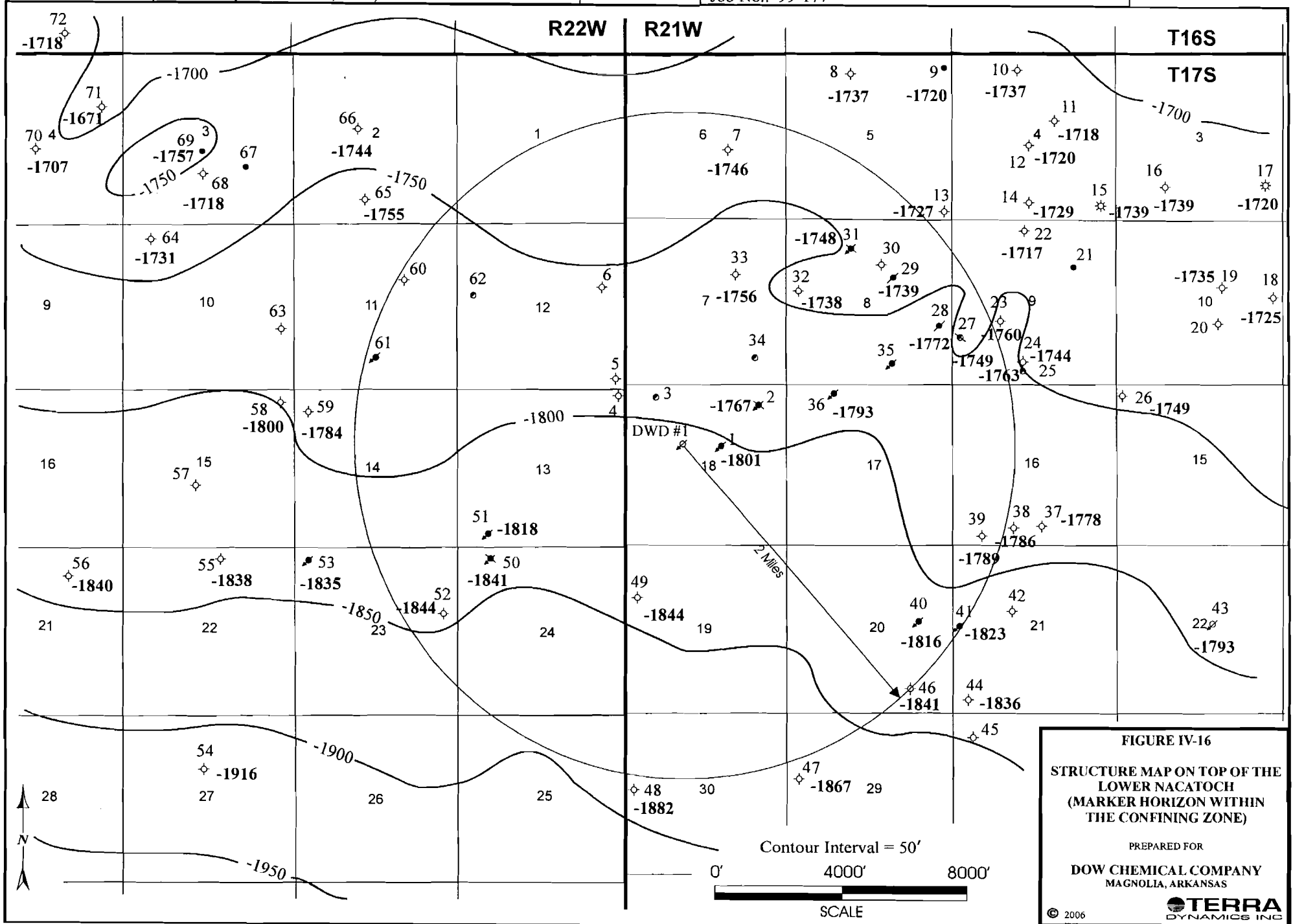


FIGURE IV-16
 STRUCTURE MAP ON TOP OF THE
 LOWER NACATOCH
 (MARKER HORIZON WITHIN
 THE CONFINING ZONE)

PREPARED FOR
DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

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 DYNAMICS INC

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F17
 Date: 4-24-02, Revised 5-3-06
 Job No.: 99-177

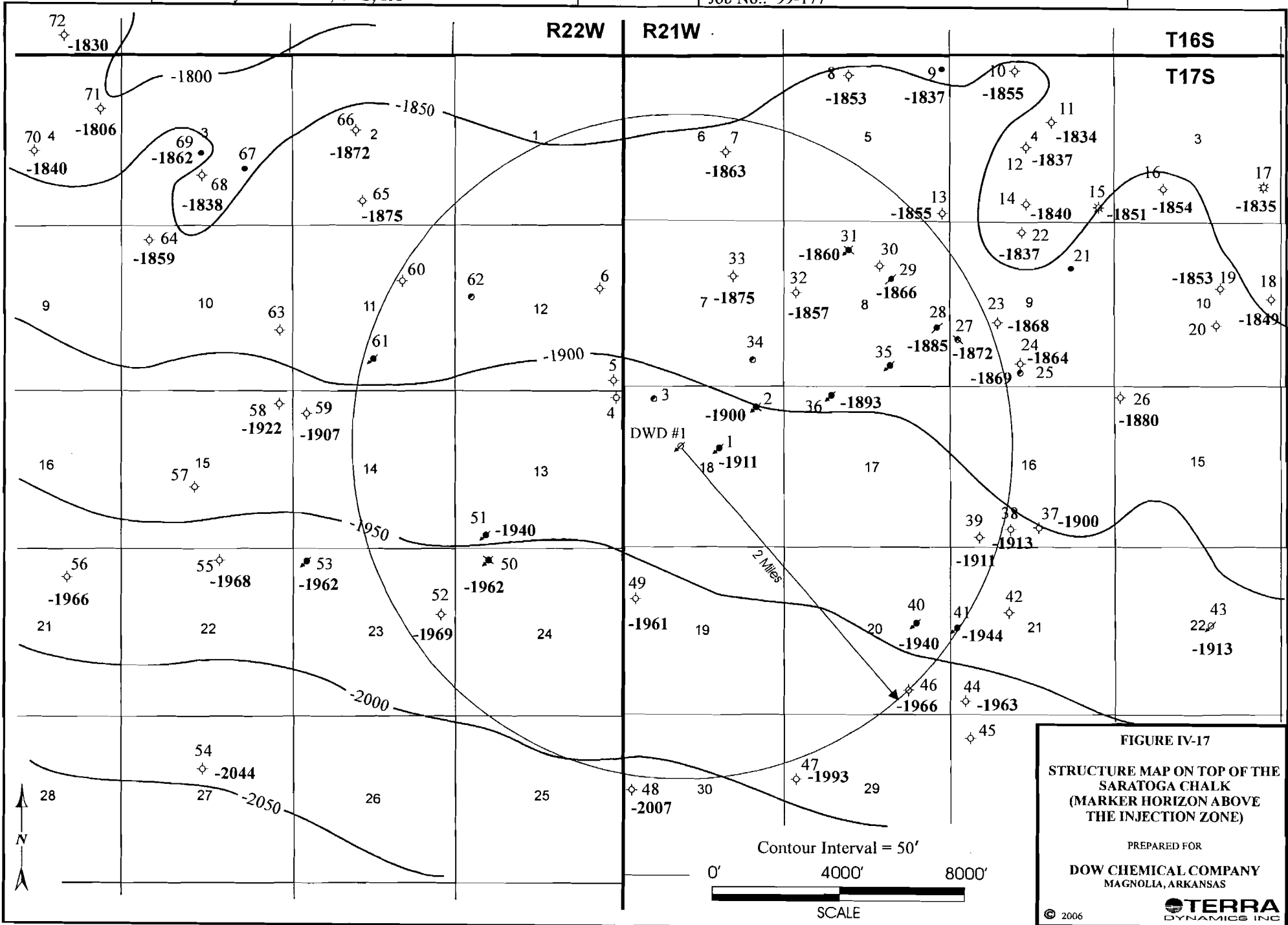


FIGURE IV-17
 STRUCTURE MAP ON TOP OF THE
 SARATOGA CHALK
 (MARKER HORIZON ABOVE
 THE INJECTION ZONE)

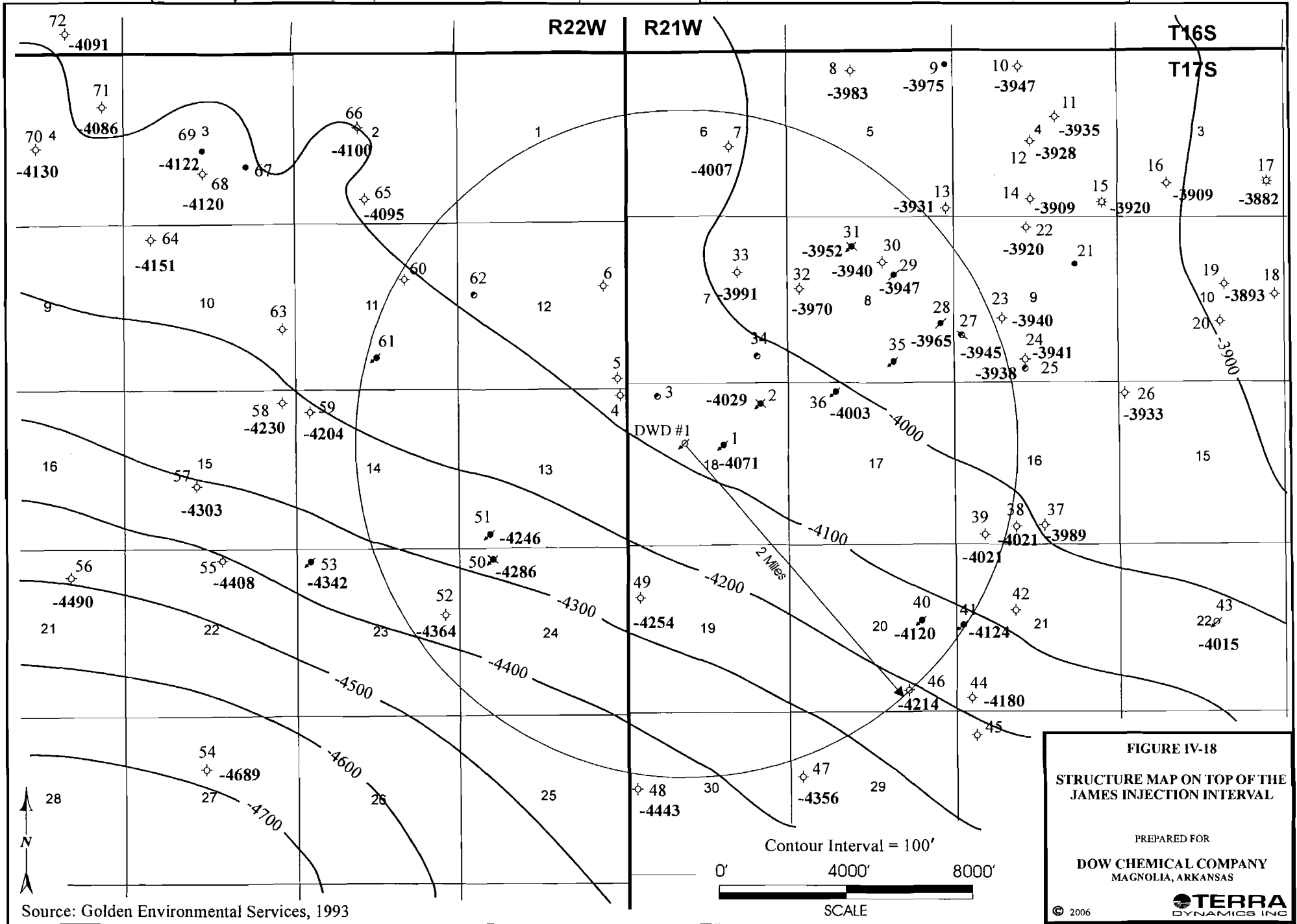
PREPARED FOR
 DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

TERRA
 DYNAMICS INC

© 2006

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F18
 Date: 4-5-00, Revised 5-3-06
 Job No.: 99-177



Source: Golden Environmental Services, 1993

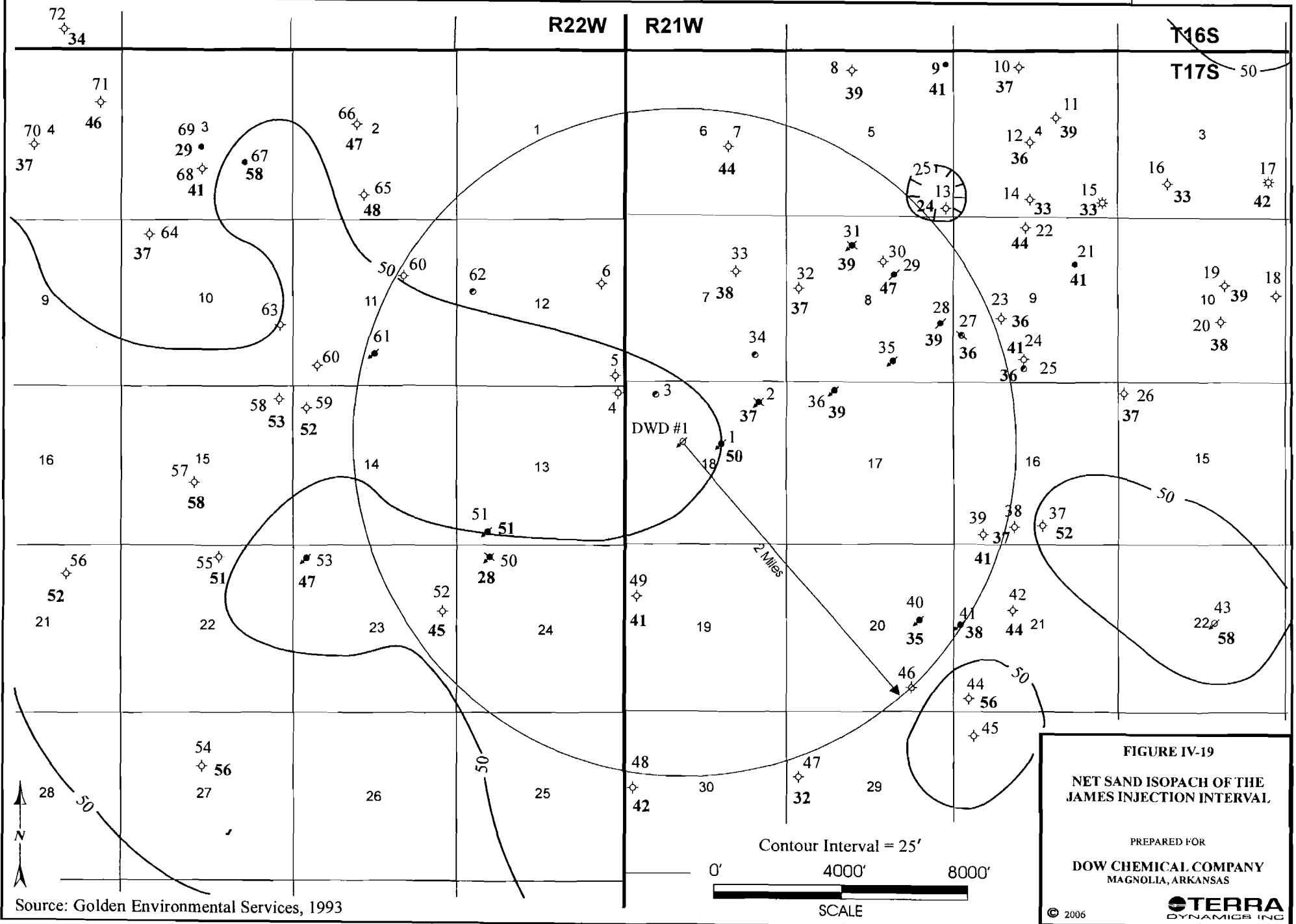
FIGURE IV-18
STRUCTURE MAP ON TOP OF THE
JAMES INJECTION INTERVAL

PREPARED FOR
DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

© 2006 **TERRA**
 DYNAMICS INC

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F19
 Date: 4-13-00, Revised 5-3-06
 Job No.: 99-177



Source: Golden Environmental Services, 1993

FIGURE IV-19
NET SAND ISOPACH OF THE
JAMES INJECTION INTERVAL

PREPARED FOR

DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

TERRA
 DYNAMICS INC

© 2006

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F20
 Date: 4-5-00, Revised 5-3-06
 Job No.: 99-177

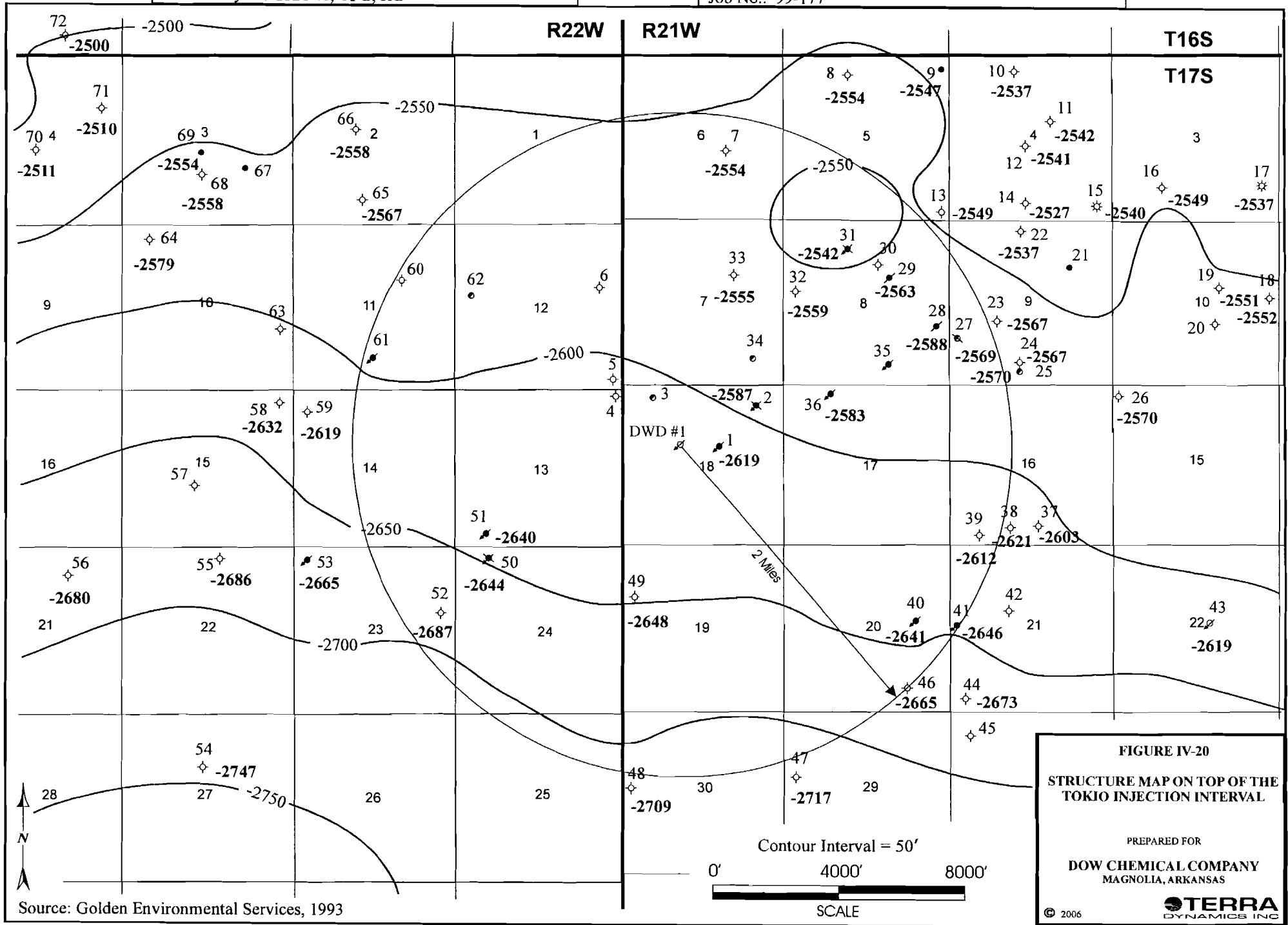


FIGURE IV-20
STRUCTURE MAP ON TOP OF THE
TOKIO INJECTION INTERVAL

PREPARED FOR
DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS

© 2006 **TERRA**
 DYNAMICS INC

Source: Golden Environmental Services, 1993

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F21
 Date: 4-12-00, Revised 5-3-06
 Job No.: 99-177

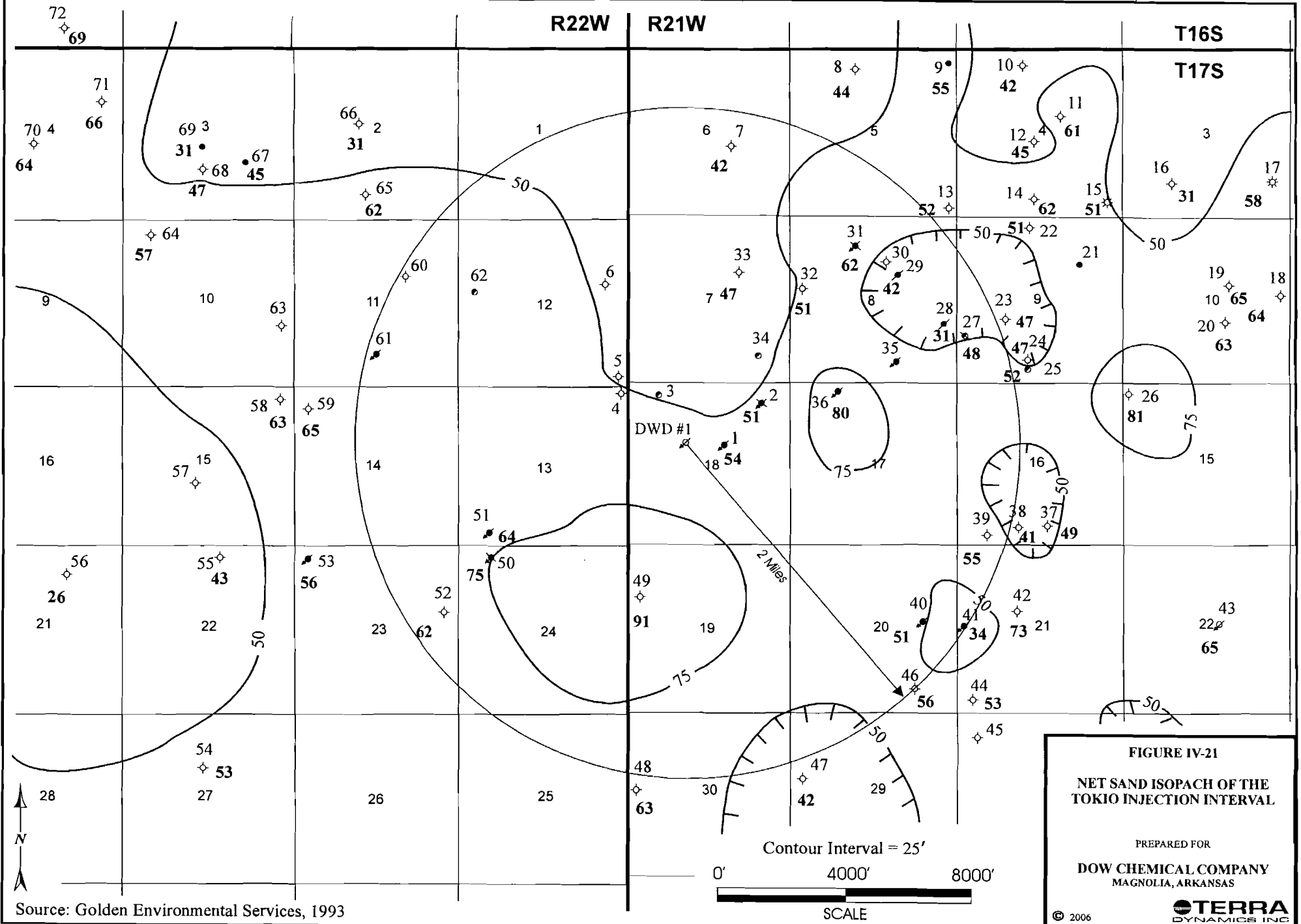


FIGURE IV-21
NET SAND ISOPACH OF THE
TOKIO INJECTION INTERVAL
 PREPARED FOR
DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS
 © 2006 **TERRA**
 DYNAMICS INC

Source: Golden Environmental Services, 1993

Drawn By: A. BELL, CPG, RG
 Designed By: A. BELL, CPG, RG
 Checked By: P. GRANT, CPG, RG

Drawing No.: 99177.F27
 Date: 5-25-00, Revised 5-3-06
 Job No.: 99-177

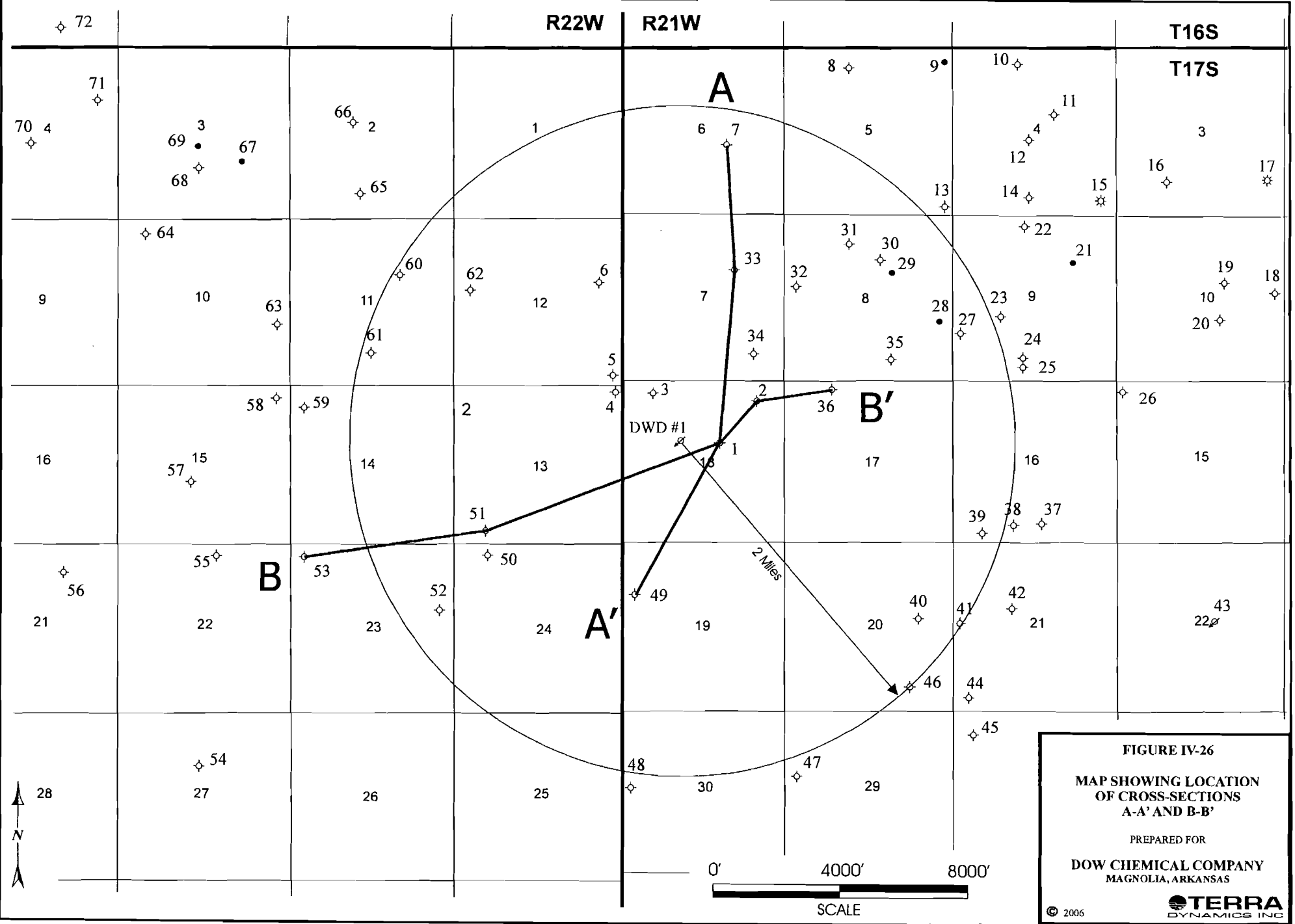


FIGURE IV-26
MAP SHOWING LOCATION
OF CROSS-SECTIONS
A-A' AND B-B'
 PREPARED FOR
DOW CHEMICAL COMPANY
 MAGNOLIA, ARKANSAS
 © 2006 **TERRA**
 DYNAMICS INC

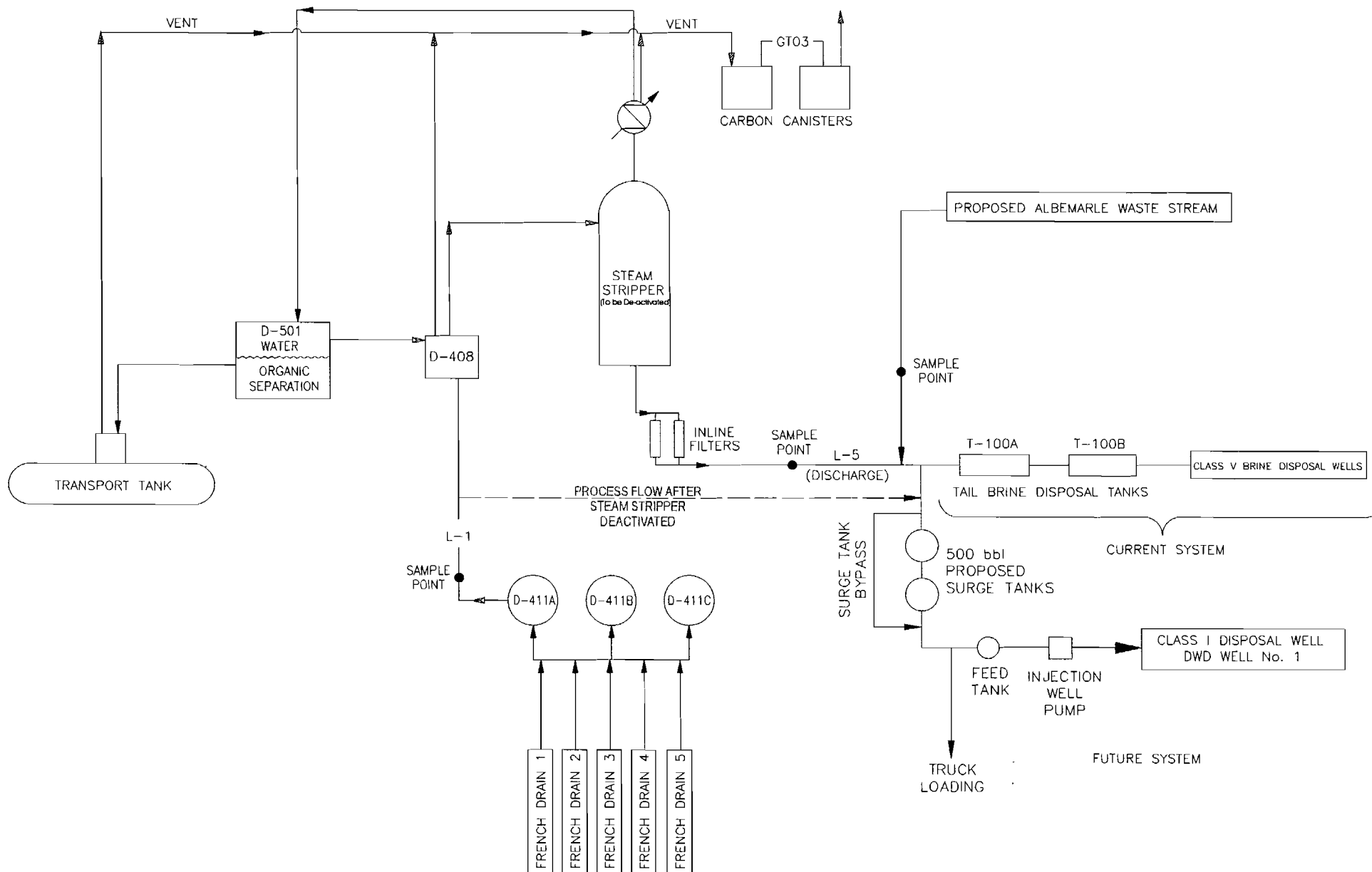
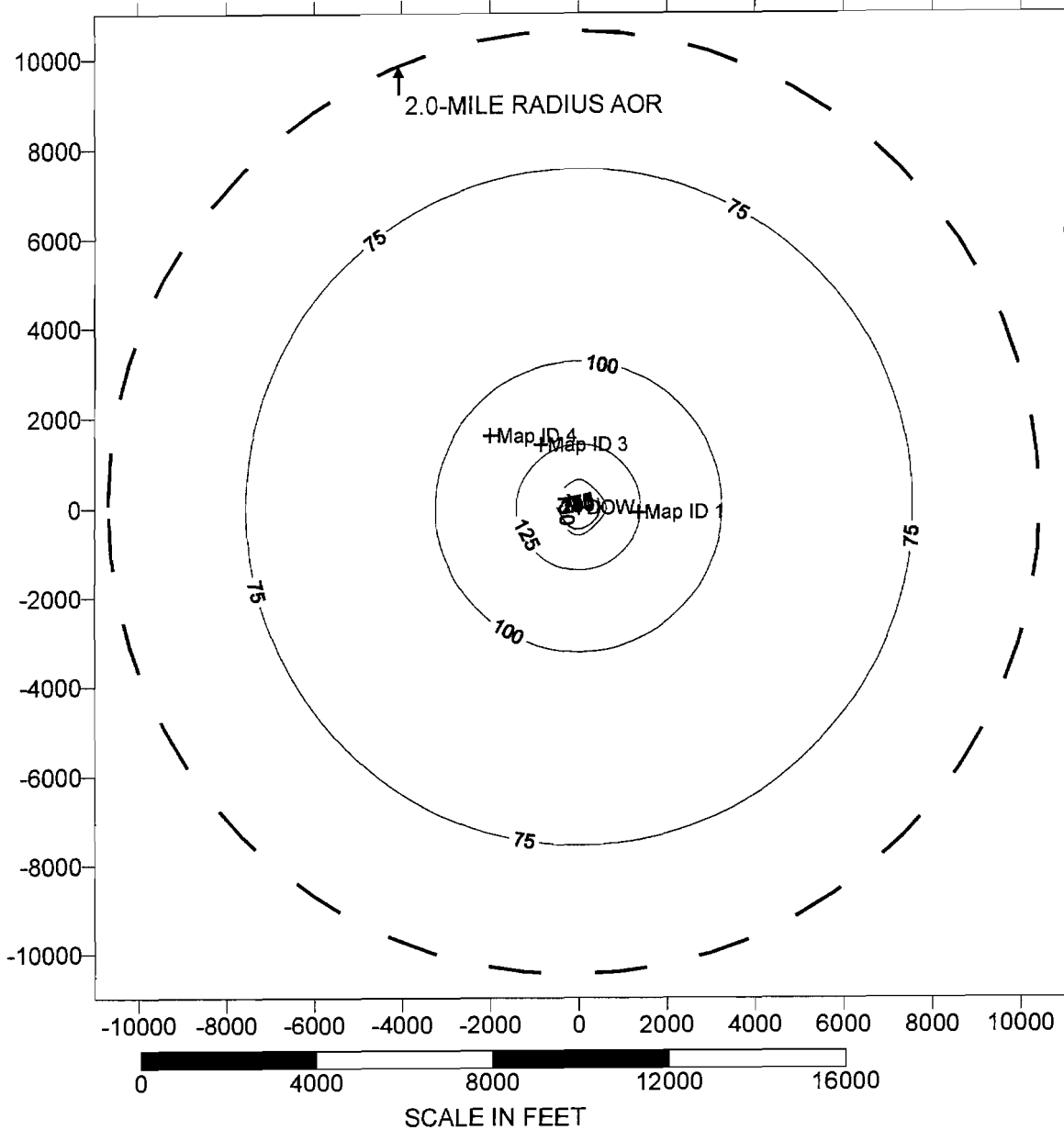


FIGURE VI-1
WASTE DISPOSAL FLOW DIAGRAM

TOKIO PRESSURE INCREASE AFTER 10 YEARS INJECTING AT 100 GPM

Drawing No.: 99177.V-1
 Date: 5-2-06
 Job No.: 99-177

Drawn By: Ann Bell, CPG, RG
 Designed By: Ann Bell, CPG, RG
 Checked By: Phil Grant, CPG, RG



----- Cone of Endangerment = 183 psi

FIGURE V-1
PRESSURE INCREASE IN THE
TOKIO INJECTION INTERVAL
AFTER 10 YEARS OF
INJECTION AT 100 GPM

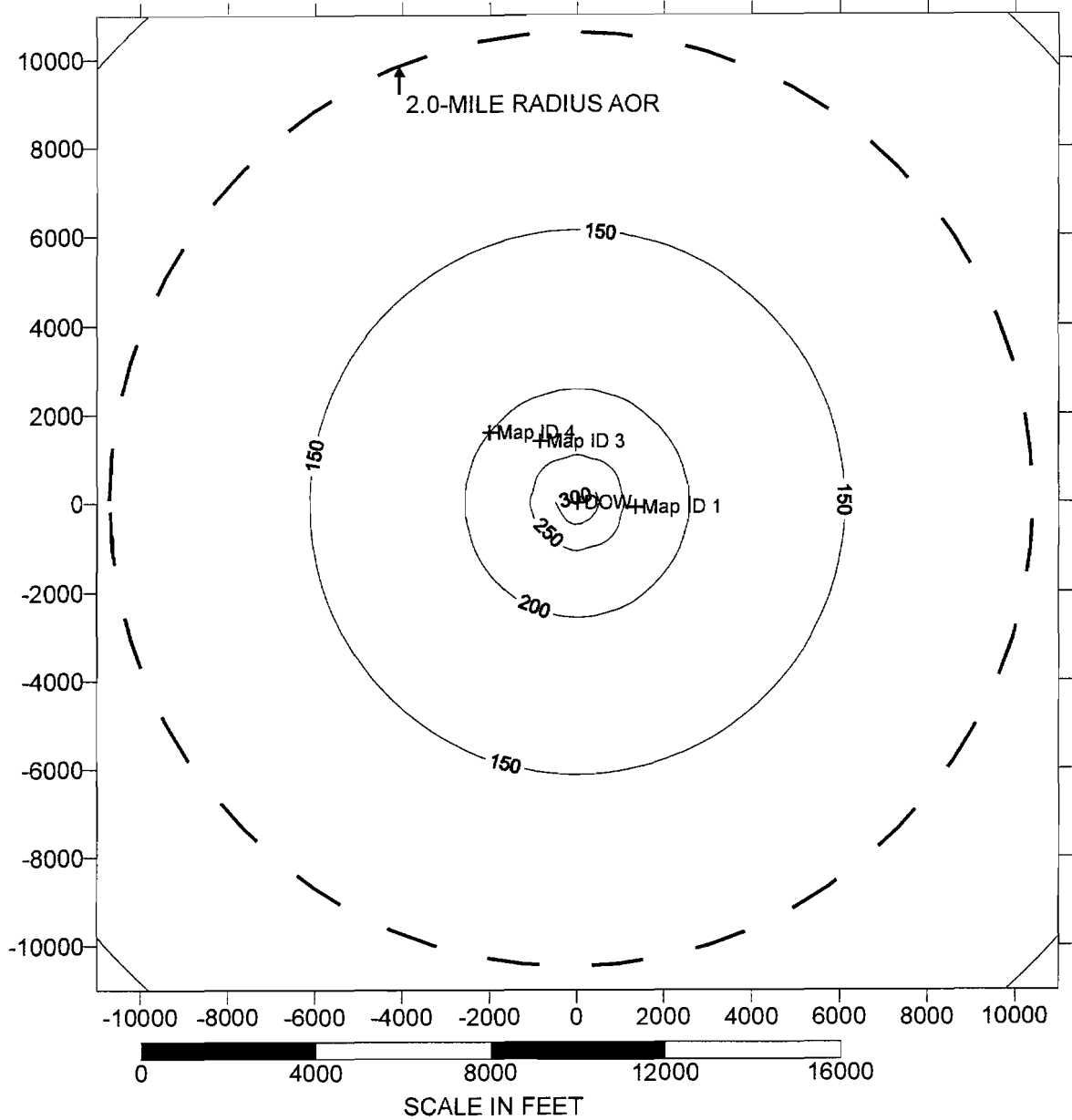
PREPARED FOR
DOW CHEMICAL COMPANY
MAGNOLIA, ARKANSAS

© 2006 **TERRA**
 DYNAMICS INC

JAMES PRESSURE INCREASE AFTER 10 YEARS INJECTING AT 100 GPM

Drawing No.: 99177.V-2
 Date: 5-2-06
 Job No.: 99-177

Drawn By: Ann Bell, CPG, RG
 Designed By: Ann Bell, CPG, RG
 Checked By: Phil Grant, CPG, RG



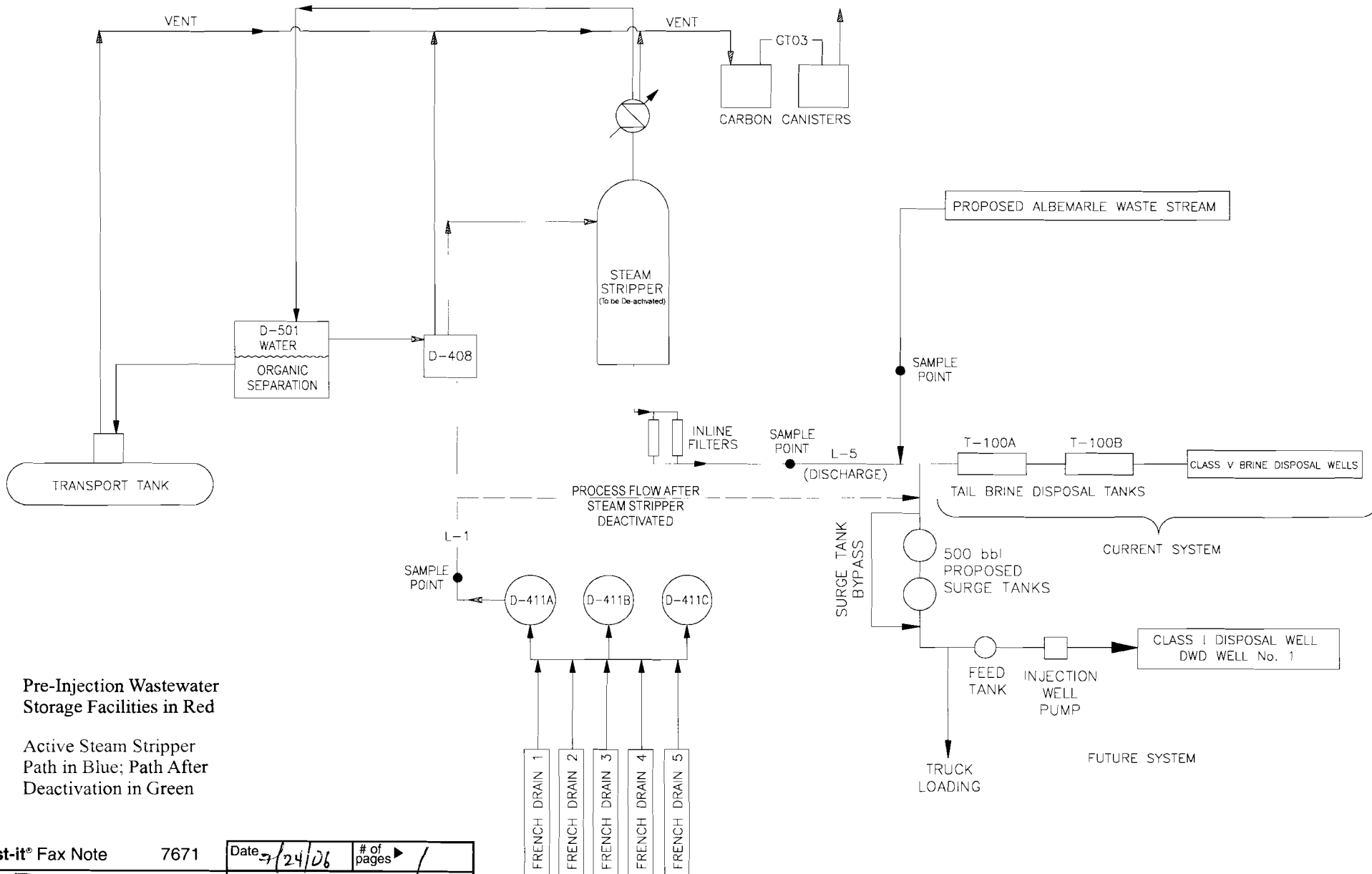
----- Cone of Endangerment = 204 psi

FIGURE V-2
PRESSURE INCREASE IN THE
JAMES INJECTION INTERVAL
AFTER 10 YEARS OF
INJECTION AT 100 GPM

PREPARED FOR

DOW CHEMICAL COMPANY
MAGNOLIA, ARKANSAS

© 2006 **TERRA**
 DYNAMICS INC



Pre-Injection Wastewater Storage Facilities in Red

Active Steam Stripper Path in Blue; Path After Deactivation in Green

**FIGURE VI-1
WASTE DISPOSAL FLOW DIAGRAM**

Post-it® Fax Note	7671	Date 7/24/06	# of pages 1
To <i>Thy</i>	From <i>Laura</i>		
Co./Dept. <i>URS</i>	Co. <i>A1322</i>		
Phone #	Phone # <i>(501) 672-0642</i>		
Fax # <i>225-922-5701</i>	Fax #		

APPENDIX A

Financial Assurance



The Dow Chemical Company
Midland, Michigan 48674

2030 DOW CENTER
March 22, 2004

*need additional info
need copy of work*

Secretary
Louisiana Department of Environmental Quality
PO Box 82231
Baton Rouge, LA 70884-2231

www.merit.144.63(F)

LETTER FROM CHIEF FINANCIAL OFFICER

Dear Sir or Madam:

I am the chief financial officer of The Dow Chemical Company, 2030 Dow Center, Midland, Michigan, 48674. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care as specified in LAC 33:V.Chapter 37 or 43.

The firm identified above is the owner or operator of the following facilities for which liability coverage for both sudden and nonsudden accidental occurrences is being demonstrated through the financial test specified in LAC 33:V.Chapter 37 or 43:

EPA ID#

NAME/ADDRESS

REGION 6

LAD008187080

The Dow Chemical Company
Louisiana Division
PO Box 150
Plaquemine, LA 70764

**Sudden = \$5,000,000
Nonsudden = \$10,000,000**

The firm identified above guarantees, through the guarantee specified in LAC 33:V.Chapter 37 or 43, liability coverage for both sudden and nonsudden accidental occurrences at the following facilities owned or operated by the following:

REGION 6

LAD020597597

Angus Chemical Company
Sterlington Facility
PO Box 1325
Sterlington, LA 71280

Sudden = \$5,000,000

The firm identified above is the direct or higher-tier parent corporation of the owner or operator.

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in LAC 33:V.Chapter 37 or 43. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

REGION 6

LAD008187080

The Dow Chemical Company
Louisiana Division
PO Box 150
Plaquemine, LA 70764

**Closure = \$3,924,277
Post-Closure = \$463,891**

2. The firm identified above guarantees, through the guarantee specified in LAC 33:V.Chapter 37 or 43, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for closure or post-closure care so guaranteed are shown for each facility:

REGION 6

LAD020597597	Angus Chemical Company Sterlington Facility PO Box 1325 Sterlington, LA 71280	Closure = \$109,681 Plugging & Abandonment = \$217,498
--------------	--	---

3. In States other than Louisiana, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in LAC 33:V.Chapter 37 or 43. The current closure or post-closure cost estimates covered by such a test are shown for each facility:

REGION 1

CT001159730	The Dow Chemical Company Allyn's Point Route 12 Gales Ferry, CT 06335	Closure = \$161,055
-------------	--	----------------------------

NHD048724173	Hampshire Chemical Corp. 2 East Spit Brook Road Nashua, NH 03060-5633	Corrective Action = \$143,980
--------------	---	--------------------------------------

REGION 4

GAD045929643	The Dow Chemical Company Dalton Plant 1468 Prosser Drive, SE Dalton, GA 30720	Post-Closure = \$3,745,525
--------------	--	-----------------------------------

REGION 5

MID000724724	The Dow Chemical Company MI Division/MI Plant 1261 Building Midland, MI 48674	Closure = \$80,643,259 Post-Closure = \$2,185,199
--------------	--	--

MID980617435	The Dow Chemical Company MI Division/Salzberg Plant Salzberg & Waldo Roads Midland, MI 48640	Closure = \$6,504,960 Post-Closure = \$1,404,982
--------------	---	---

REGION 6

WDW-222 WDW-223	Hampshire Chemical Corp. Deer Park Facility 739 Battleground Road Deer Park, TX 77536	Closure = \$209,631 Closure = \$209,631
--------------------	--	--

TXD008092793	The Dow Chemical Company Texas Operations B-1226 Freeport, TX 77541	Closure = \$64,763,142 Post-Closure = \$24,758,197
TXD096037932	Johann Haltermann Ltd. Dow Haltermann Houston Jacintoport Plant 16717 Jacintoport Boulevard Houston, TX 77015	Closure = \$270,871
TXD00017756	The Dow Chemical Company La Porte Facility PO Box 687 La Porte, TX 77571	Corrective Action = \$7,089,626
TXR000057414	The Dow Chemical Company Clear Lake Operations 9502B Bayport Boulevard Pasadena, TX 77507	Closure = \$803,638
<u>REGION 9</u>		
CAD076528678	The Dow Chemical Company Pittsburg Plant PO Box 1398 Pittsburg, CA 94565	Closure = \$873,672 Post-Closure = \$1,499,604 Corrective Action = \$36,521,439 Groundwater Treatment Plant Closure = \$140,909
CAD009547050	The Dow Chemical Company Torrance Plant 305 Crenshaw Torrance, CA 90503	Closure = \$437,183

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to the U.S. Environmental Protection Agency or to a state through the financial test or any other financial assurance mechanism in LAC 33:V.Chapter 37 or 43 or equivalent or substantially equivalent state mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:

None.

5. This firm is the owner or operator or guarantor of the following UIC facilities for which financial assurance for plugging and abandonment is required under the applicable regulations of the Louisiana Department of Natural Resources and is assured through a financial test. The current closure cost estimates as required by LDNR are shown for each facility:

None.

This firm is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

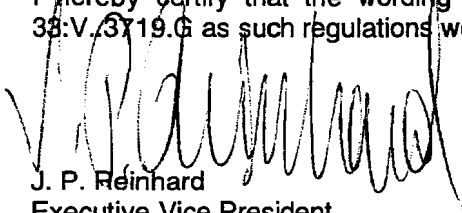
The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk (*) are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 2003.

PART B. CLOSURE OR POST-CLOSURE CARE AND LIABILITY COVERAGE

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	\$237,081,850	
2. Amount of annual aggregate liability coverage to be demonstrated	\$15,000,000	
3. Sum of lines 1 and 2	\$252,081,850	
4. Current bond rating of most recent issuance and name of rating service	A- (S&P)	
5. Date of issuance of bond	November 22, 2002	
6. Date of maturity of bond	November 15, 2007	
*7. Tangible net worth (if any portion of the closure or post- closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line)	\$5,370,000,000	
*8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.)	\$22,602,000,000	
	<u>YES</u>	<u>NO</u>
9. Is line 7 at least \$10 million?	X	
10. Is line 7 at least 6 times line 3?	X	
*11. Are at least 90% of assets located in the U.S.? If not complete line 12.		X
12. Is line 8 at least 6 times line 3?	X	

I hereby certify that the wording of this letter is identical to the wording specified in LAC 38:V.3719.6 as such regulations were constituted on the date shown immediately below.


 J. P. Reinhard
 Executive Vice President
 And Chief Financial Officer
 The Dow Chemical Company

*MLOM
3/19/04*

March 22, 2004

cc: Michele Osmun, The Dow Chemical Company, 2030 Dow Center, Midland, MI
 Richard Durham, The Dow Chemical Company, Plaquemine, LA
 Ron Poindexter, Angus Chemical Company, Sterlington, LA

NOTE: Please direct all correspondence related to this letter to Michele Osmun, 2030 Dow Center, Midland, MI 48674. Phone (989) 636-5581 or Fax (989) 638-9636.

INDEPENDENT ACCOUNTANTS' REPORT ON APPLYING AGREED-UPON PROCEDURES

To the Board of Directors
The Dow Chemical Company
Midland, Michigan

We have performed the procedures included in the Code of Federal Regulations, Title 40, Part 264, Section 143, which were agreed to by the Environmental Protection Agency, the Louisiana Department of Environmental Quality, and The Dow Chemical Company ("Dow"), solely to assist the specified parties in evaluating Dow's compliance with the financial test option as of December 31, 2003, included in the accompanying letter dated March 22, 2004, from Mr. J. P. Reinhard, Executive Vice President and Chief Financial Officer of Dow. Management is responsible for Dow's compliance with those requirements. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of the parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures that we performed and related findings are as follows:

We recomputed from, or reconciled to, the audited consolidated financial statements of Dow as of and for the year ended December 31, 2003, on which we have issued our report dated January 29, 2004 (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the change in method of accounting for derivative instruments and hedging activities to conform to Statement of Financial Accounting Standards No. 133; an explanatory paragraph relating to a change in method of accounting for goodwill to conform to Statement of Financial Accounting Standards Nos. 141 and 142; and an explanatory paragraph relating to a change in method of accounting for stock-based compensation to conform to Statement of Financial Accounting Standards No. 123), the information included in items 7, 8 and 11 under the caption Alternative II in the letter referred to above and noted no differences.

We were not engaged to, and did not, perform an examination, the objective of which would be the expression of an opinion on the accompanying letter dated March 22, 2004. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the board of directors and management of Dow and the specified parties listed in the first paragraph, and is not intended to be and should not be used by anyone other than these specified parties.

Deloitte & Touche LLP

March 22, 2004

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this 22nd day of March, 2004, by The Dow Chemical Company, a business corporation organized under the laws of the State of Delaware, herein referred to as guarantor, to the Louisiana Department of Environmental Quality, obligee, on behalf of Angus Chemical Company of PO Box 1325, Sterlington, Louisiana 71280, which is our subsidiary.

Recitals:

a. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in LAC 33:V.3707.F, 3711.F, 4403.E, and 4407.E.

b. Angus Chemical Company owns or operates the following hazardous waste management facility covered by this guarantee:

Angus Chemical Company	LAD020597597	Closure = \$109,681
Sterlington Facility		Plugging & Abandonment = \$217,498
PO Box 1325		
Sterlington, LA 71280		

c. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by LAC 33:V.Chapters 35 and 43 for the closure and post-closure care of facilities as identified above.

d. For value received from Angus Chemical Company, guarantor guarantees to the Louisiana Department of Environmental Quality that in the event that Angus Chemical Company fails to perform closure and post-closure care of the above facility in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in LAC 33:V.Chapter 37 or 43, as applicable, in the name of Angus Chemical Company in the amount of the current closure or post-closure cost estimates as specified in LAC 33:V.Chapter 37 or 43.

e. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the administrative authority and to Angus Chemical Company that he intends to provide alternative financial assurance as specified in LAC 33:V.Chapter 37 or 43, as applicable, in the name of Angus Chemical Company. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless Angus Chemical Company has done so.

f. The guarantor agrees to notify the administrative authority by certified mail, of a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

g. Guarantor agrees that within 30 days after being notified by the administrative authority of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in LAC 33:V.Chapter 37 or 43, as applicable, in the name of Angus Chemical Company unless Angus Chemical Company has done so.

h. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to LAC 33:V.Chapter 37 or 43.

i. Guarantor agrees to remain bound under this guarantee for so long as Angus Chemical Company must comply with the applicable financial assurance requirements of LAC 33:V.Chapter 37 or 43 for the above-listed facilities, except as provided in this Paragraph of this agreement. Guarantor may

cancel this guarantee by sending notice by certified mail to the administrative authority and to Angus Chemical Company, provided that this guarantee may not be canceled unless and until Angus Chemical Company obtains, and the administrative authority approve(s), alternate closure and/or post-closure care coverage complying with LAC 33:V.3707, 3711, 4403, and 4407.

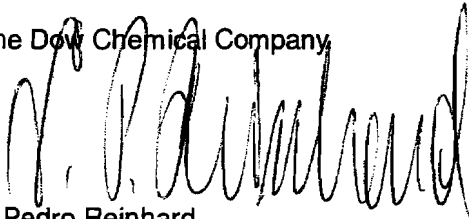
j. Guarantor agrees that if Angus Chemical Company fails to provide alternate financial assurance as specified in LAC 33:V.Chapter 37 or 43, as applicable, and obtain written approval of such assurance from the administrative authority within 90 days after a notice of cancellation by the guarantor is received by the administrative authority from guarantor, guarantor shall provide such alternative financial assurance in the name of Angus Chemical Company.

k. Guarantor expressly waives notice of acceptance of this guarantee by the administrative authority or by Angus Chemical Company. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in LAC 33:V.3719.H.1 as such regulations were constituted on the date first above written.

Effective date: March 22, 2004

The Dow Chemical Company



J. Pedro Reinhard
Executive Vice President
and Chief Financial Officer

Thus sworn and signed before me on this the 19th day of March, 2004.



Notary Public
Carol J. Sniegowski
Notary Public, Midland County, Michigan
My Commission Expires September 27, 2006

GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this 22nd day of March, 2004, by The Dow Chemical Company, a business corporation organized under the laws of the State of Delaware, herein referred to as guarantor. This guarantee is made on behalf of Angus Chemical Company of PO Box 1325, Sterlington, Louisiana 71280, which is our subsidiary, to any and all third parties who have sustained or may sustain bodily injury or property damage caused by sudden accidental occurrences arising from operation of the facility covered by this guarantee.

Recitals

a. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in LAC 33:V.3715.G and 4411.G.

b. Angus Chemical Company owns or operates the following hazardous waste management facility covered by this guarantee:

Angus Chemical Company
Sterlington Facility
PO Box 1325
Sterlington, LA 71280

LAD020597597

Sudden = \$5,000,000

This corporate guarantee satisfies RCRA third-party liability requirements for sudden accidental occurrences in above-named owner or operator facilities for coverage in the amount of \$5,000,000 for each occurrence and \$5,000,000 annual aggregate.

c. For value received from Angus Chemical Company, guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by sudden accidental occurrences arising from operations of the facility covered by this guarantee that in the event that Angus Chemical Company fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by sudden accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage identified above.

d. Exclusions. This guarantee does not apply to:

i. Bodily injury or property damage for which Angus Chemical Company is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that Angus Chemical Company would be obligated to pay in the absence of the contract or agreement.

ii. Any obligation of the owner or operator under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

iii. Bodily injury to:

(a). an employee of Angus Chemical Company arising from, and in the course of, employment by [insert owner or operator]; or

(b). the spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of, employment by Angus Chemical Company.

This exclusion applies:

(i). whether Angus Chemical Company may be liable as an employer or in any other capacity; and

(ii). to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in Subclauses (a) and (b).

iv. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

v. Property damage to:

- (a). any property owned, rented, or occupied by Angus Chemical Company;
- (b). premises that are sold, given away, or abandoned by Angus Chemical Company if the property damage arises out of any part of those premises;
- (c). property loaned to Angus Chemical Company;
- (d). personal property in the care, custody, or control of Angus Chemical Company;
- (e). that particular part of real property on which Angus Chemical Company or any contractors or subcontractors working directly or indirectly on behalf of Angus Chemical Company are performing operations, if the property damage arises out of these operations.

e. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the administrative authority and to [owner or operator] that he intends to provide alternate liability coverage as specified in LAC 33:V.3715 and 4411, as applicable, in the name of Angus Chemical Company. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless Angus Chemical Company has done so.

f. The guarantor agrees to notify the administrative authority by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

g. Guarantor agrees that within 30 days after being notified by the administrative authority of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in LAC 33:V.3715 or 4411 in the name of Angus Chemical Company, unless Angus Chemical Company has done so.

h. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by LAC:33:V.3715 and 4411, provided that such modification shall become effective only if the administrative authority does not disapprove the modification within 30 days of receipt of notification of the modification.

i. Guarantor agrees to remain bound under this guarantee for so long as Angus Chemical Company must comply with the applicable requirements of LAC 33:V.3715 and 4411 for the above-listed facility, except as provided in Subparagraph j of this agreement.

j. Guarantor may terminate this guarantee by sending notice by certified mail to the administrative authority and to Angus Chemical Company, provided that this guarantee may not be terminated unless and until the Angus Chemical Company obtains, and the administrative authority approves, alternate liability coverage complying with LAC 33:V.3715 and/or 4411.

k. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

l. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

m. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents.

i. Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or non-sudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[].

[Signatures]

Principal

[Notary]

[Date]

[Signatures]

Claimant(s)

[Notary]

[Date]

ii. A valid final court order establishing a judgement against the Principal for bodily injury or property damage caused by sudden or non-sudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

n. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered primary coverage.

I hereby certify that the wording of this guarantee is identical to the wording specified in LAC 33:V.3719.H.2 as such regulations were constituted on the date shown immediately below.

Effective date: March 22, 2004

The Dow Chemical Company

J. P. Reinhard
Executive Vice President
And Chief Financial Officer

3/29/04

Signature of witness or notary:

Carol J. Sniagowski
Notary Public, Midland County, Michigan
My Commission Expires September 27, 2006

APPENDIX B

AOR Well Records

**NON-FRESHWATER
ARTIFICIAL PENETRATIONS**

Depth
rate
1000
500
100

Map ID No. 1

ARTIFICIAL PENETRATION REVIEW

MAP ID NO. 1

Status Operating

Operator Dow Chemical -Ethyl Corp / Albemarle

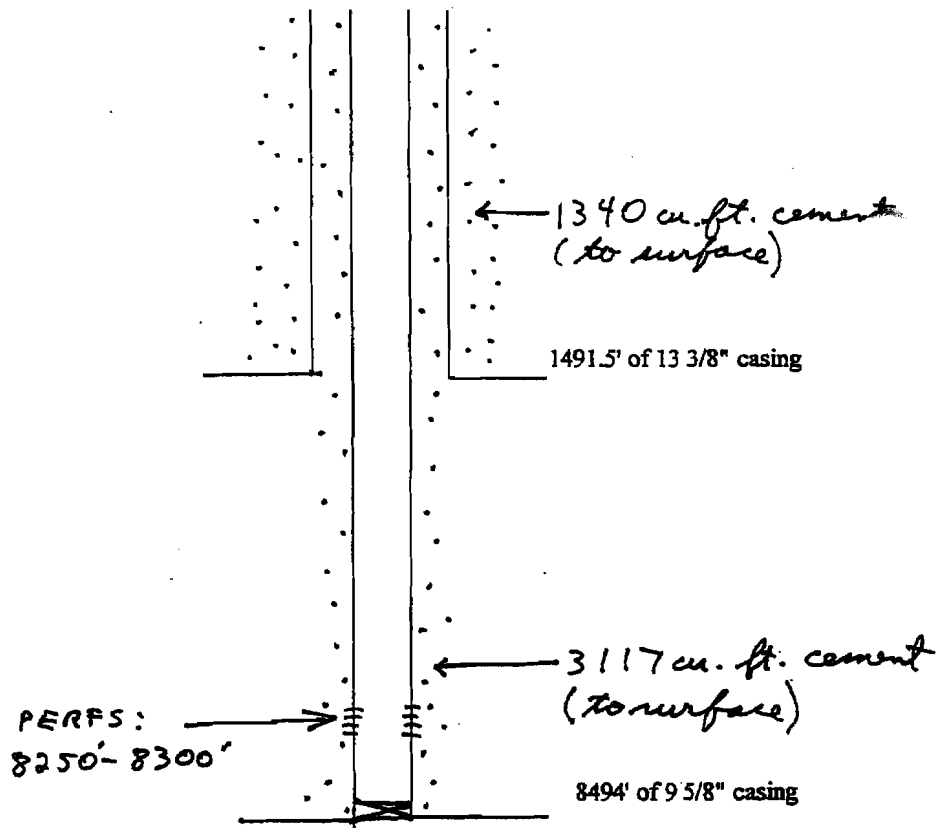
Forms AOGC-3

Lease Dow Fee

Distance from Injector 1,354'

Well # 1

Well Diagram



Potential Problems: _____

NONE

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. Q.W.S.W

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date January 13, 1965

Name of Operator Brazos Oil and Gas Company Division of The Dow Chemical Co.

Send Permit to: Street P. O. Box 22468

City Houston

State Texas 77027

Lease Name Dow

Well No. 1

Acres in lease 80

Number of acres in and description of drilling unit 40 acres being SW/4 of NE/4
Section 18, T-17-S, R-21-W

Location of proposed well in drilling unit (give in feet) 660' east of west line and
660' north of south line N.E. 1/4

Section 18 Township -17-S Range -21-W

County Columbia Field Wildcat

Distance and direction from the nearest town 4-1/2 miles west Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
6800 feet

Rotary or cable tools Rotary Date work will start January 20, 1965

Name of drilling or workover contractor Will notify later

Depth to be drilled 8300 feet

Formation you propose to complete in Smackover Limestone

Remarks: The proposed well is being drilled as a brine producer. Oil
or gas production is not anticipated.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

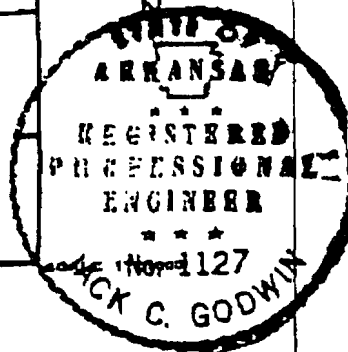
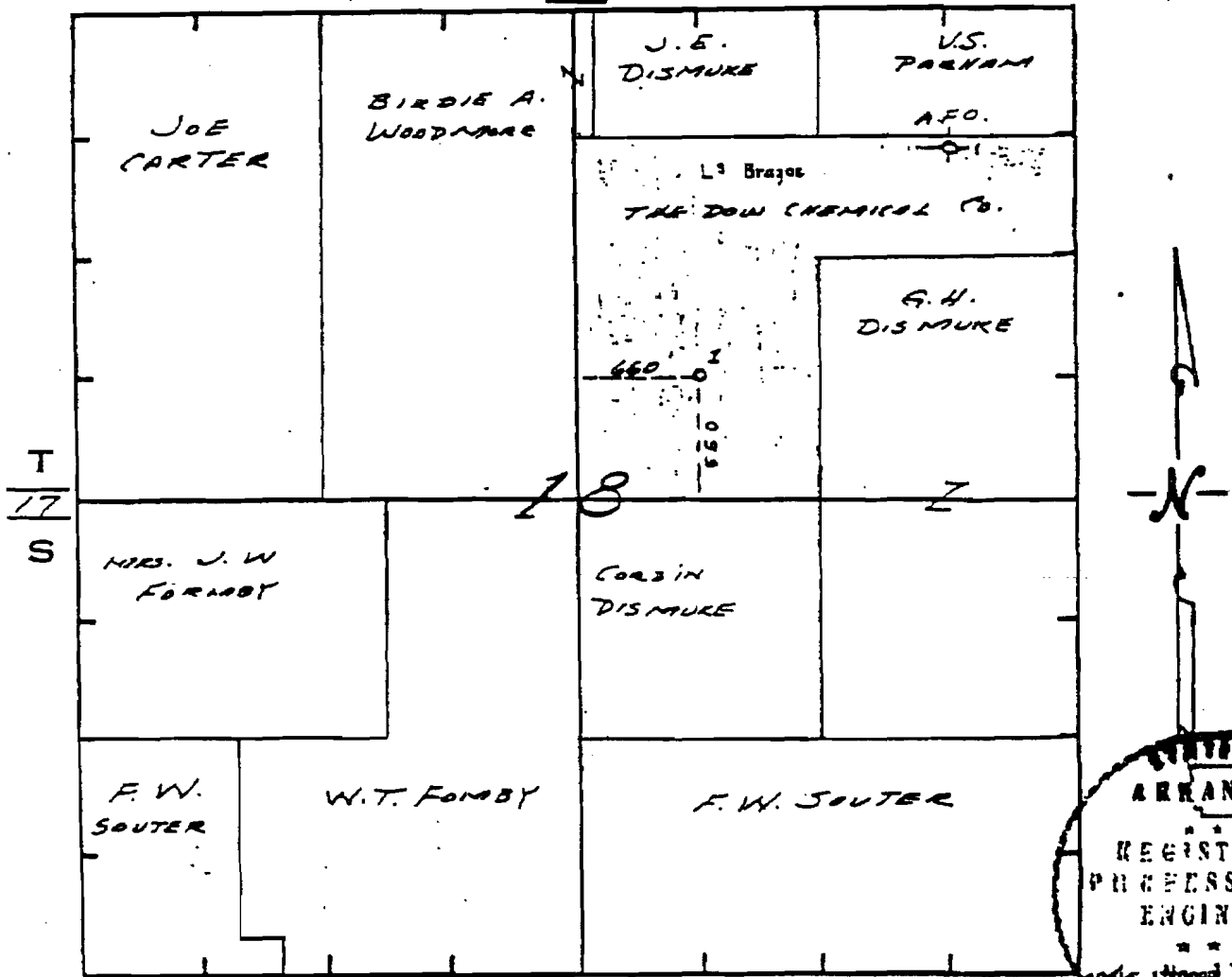
Manuel Lewis Jr

*Approved by E. W. Calkins
1/14/65*

LOCATION PLAT
SHOWING

No. 1 DOW
660 FT. NORTH & 660 FT. EAST OF SW CORNER NE 1/4
SECTION 18, T17S, R21W, COLUMBIA COUNTY, ARK
FOR
BRAZOS OIL & GAS COMPANY,
A DIVISION OF THE DOW CHEMICAL COMPANY

R21W



SURVEYORS NOTE:

I CERTIFY THAT THE ABOVE PLAT
WAS PREPARED FROM AN ACTUAL
SURVEY MADE ON THE GROUND.

Jack C. Godwin
SURVEYOR

GODWIN ENGINEERING CO.

1801 N. MOBBY

EL DORADO, ARK.

Jan 6, 1965

Job No. S-4569

6 HOUSTON
1 J. VESIAL
1 MAUNGER

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

B. W.

Algoni Lodge WELL DESCRIPTION BRAZOS OIL & GAS CO. DIVISION OF THE DOW CHEMICAL CO.
Field *Algoni Lodge* *Wildcat* Producer *Brine*

Pool Completed In *Smackover* Line *Water Supply Well*

Lease Name *Dow* No. *1* Address: Street *P. O. Box 22468*

Exact Location *660' from south and west*
Line *NE/4*

Sec. *18* Twp. *17-S* Rge. *21-W* City *Houston*

County *Columbia* State *Texas 77027*

Date Commenced *2/1/65*

Date Completed *3/23/65*

Elevation *309' KB*

Total Depth Drilled *8500'* *Smackover TD.*

Electric Log Run: Yes No

Electric Log Filed: Yes No

RECEIVED
JAN 26 1966
Arkansas Oil & Gas Commission

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) *20" - 1/4" Wall* set at *37* ft. w/ *4 yards concrete*

Surface: (Size & Wt.) *13-3/8", 48# and 54.5#* set at *1491.5* ft. w/ *1340 cu ft*

Intermediate: (Size & Wt.) *--* set at *--* ft. w/ *--* sks.

Production: (Size & Wt.) *9-5/8", 43.5# and 47#* set at *8494* ft. w/ *3117 cu ft*

Tubing: (Size & Wt.) *5-1/2" 15.5#* set at *2579* ft.

Perforations: Size *0.56"* No. Per Foot *2*

Perforated Intervals: *8250' - 8300'*

Acidized: Yes No ; Interval *8250' - 8300'* w/ *--* gal.

Fractured: Yes No ; Interval *--* w/ *--* lbs.
of sand; *--* bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well *2*

2. Tank battery to which this well is connected: Existing *Not applicable* New *--*

3. Liquid production from this well is sold to (*Not applicable*)
(Address *--*)

4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom *--*
Address *--*

PRODUCTION

Date of Test *3/29/65 - 5/3/65* Actual Length of Time Tested *64* days

Type Well: Flowing Gas Lift Pump

Tubing Pressure *50* psi Casing Pressure *nil* Choke Size *none*

Net Oil Produced *0* bbls. Gas Produced *70* MCF % BSW *--* GOR *Infinite*

Gravity Oil *--* BHP Recorded *3650* psi

Net Oil in 24 Hours: *--* Open Flow Potential *Not applicable* MCF *--*

Purpose of this test: Original Completion Workover Recompletion

Allowable Requested *None* *Water Supply Well*

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. L. Lewis

Dow No. 1 was drilled to test the brine productive capabilities of Smackover Limestone. Approximately 129,400 barrels of brine were produced from this well during the test period. All brine produced was re-injected into the Dow No. 1 SWD, which is located on the same lease.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test was taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

January 14, 1965

Mr. Maurice Lewis, Jr.
Brasos Oil and Gas Company
3638 Richmond Avenue
Houston 27, Texas

Dear Mr. Lewis:

We have received your Notice of Intention to Drill your Dow #1 well located 660 feet East of the West Line and 660 feet North of the South Line of the Northeast quarter of Section 18, Township 17 South, Range 21 West, Columbia County, Arkansas. Your application complies with all of our regulations with regard to this matter. Therefore, please consider this letter as your authority to proceed with the drilling of this well.

In drilling this well, it will be necessary that the Minimum Casing Requirements, here in Arkansas, be complied with, and which are shown on the sheet attached hereto. It will also be necessary that the setting and cementing of the surface pipe be witnessed by an engineer of this office. The form attached hereto also lists the engineer who will witness the setting of this pipe and also gives his name and office number where he can be reached.

As per our discussion of this matter, we will hold this permit and all associated correspondence confidential until we hear further from you.

Yours very truly,

Edward A. Albares

EAA:vs

Enclosure



DOW CHEMICAL U.S.A.

May 14, 1984

POST OFFICE BOX 520
MAGNOLIA, ARKANSAS 71753

501 - 235-2300

Mr. David Morrow
Arkansas Oil and Gas Commission
314 East Oak Street
El Dorado, Arkansas 71730-5896

RE: Dow Fee No. 1 Reinjection Well Permit

Dear Mr. Morrow:

Item No. 3

There are no wells nor public freshwater wells within the one-half mile radius. Dow does have the Sparta Sand freshwater monitor well on the Dow Fee No. 1 location.

A Foxboro M/40PR 0-300 psig pressure recorder with circular seven-day chart is used to record the annulus pressure of the reinjection well. The annulus pressure will normally be run approximately two to three times the reinjection tubing pressure of 50 psig maximum.

Should you have further questions or need additional information, please call me at 501-235-2300.

Thank you.

Sincerely,

Jim Ball

mp

RECEIVED

MAY 15 1984

ARKANSAS OIL & GAS COMMISSION



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street • El Dorado, Arkansas 71730

William E. Wright
Director

Ph. 501 862-4965

May 21, 1984

Mr. J. O. Ball
Dow Chemical Company
P.O. Box 520
Magnolia, Arkansas 71753

Re: Dow Fee #1
Sec. 18 - 17S - 21W
Kilgore Lodge Field
Columbia County, Arkansas

Dear Sir:

Please refer to your application to inject produced salt water into the above named well. The proposed water is to be from the combined stream of produced brine water.

Disposal shall be required to be down the tubing string with a packer set immediately above the proposed disposal zone. Provisions to monitor the annulus between the tubing and casing strings shall also be required.

You propose to install the packer in the well by the end of 1984.

Injection pressures shall be confined to such pressures which will not fracture the confining beds of the authorized disposal zone.

Further, only water from the applied for and approved wells shall be authorized for disposal into the proposed SWD well. The injection water volume and surface pressures must be reported monthly on Form 14, Salt Water Disposal Report.

This letter will be your authority to conduct the operations covered by your application. Your attention is directed to the necessity of compliance with the provisions of Rule C-7 of the General Rules and Regulations.

COMMISSION MEMBERS • E. Boyd Alderson, Chairman, El Dorado
C. G. Davis, Vice-Chairman, Magnolia • Ned R. Price, Smackover • James O. Staggs, Magnolia
Spence A. Lewis, Fort Smith • James O. Reynolds III, Cassville • Giles Gillespie, Magnolia

May 21, 1984
Dow Chemical Company
Page 2

It is requested that upon completion of this system, that this office be notified so someone from this office can observe pressure testing of the annulus of the injection well.

Yours truly,

John G. Ragsdale
Underground Injection Section

JGR:mrt

cc: Dept. of Pollution
Control & Ecology
P.O. Box 851
El Dorado, AR 71730

Well File

ARKANSAS OIL AND GAS COMMISSION
314 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

APPLICATION TO INJECT SALT WATER/ENHANCED RECOVERY FLUID

OPERATOR The Dow Chemical Company U.S.A.

Address:

STREET P. O. Box 520 CITY Magnolia STATE Arkansas ZIP 71753Person responsible for operations J. O. BallTELEPHONE: 501-235-2370

1. This application is for approval to inject produced salt water
() enhanced recovery fluid into the

(Zone) Smackover Lime, at a depth interval of 8250' - 8300'feet sub-surface, in the (Well) Dow Fee #1Located 660' from south & west line NE/4of Section 18 Township 17-S Range 21-Win Kilgore Lodge Field, Columbia County, Arkansas.This zone (is) ~~(is not)~~ known to be productive of oil or gas.

Depth to base of fresh water and water containing less than 10,000 P.P.M. total
dissolved solids is 680 1300 feet.

2. (Complete either (A) or (B) as applicable.)

A. This well is a completed well and will be converted to injection
service; it is cased and cemented as indicated below;

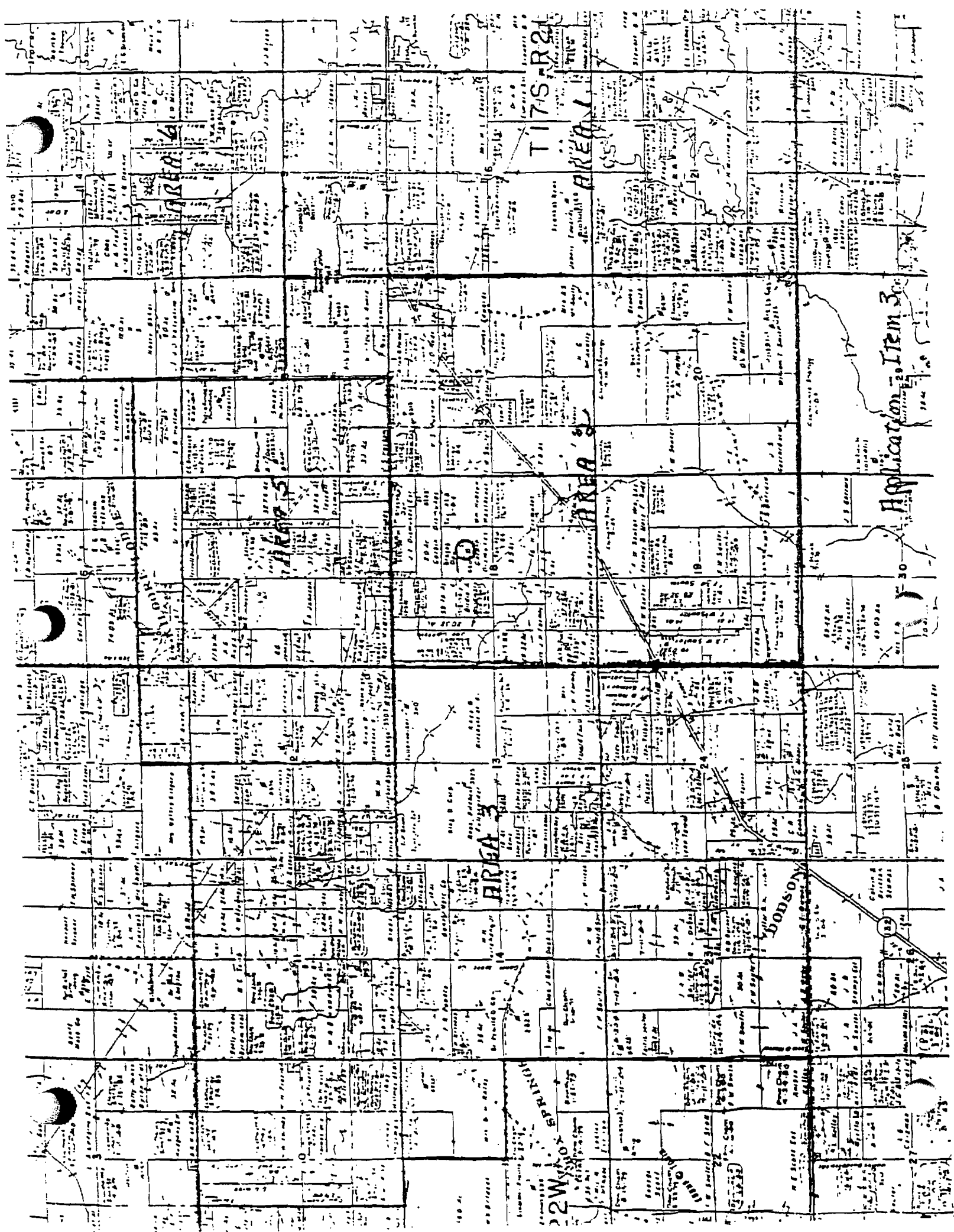
(Size) 13-3/8" Surface casing set at 1491.5' feet with 1340 cu. ft. ~~EMER~~(Size) 9-5/8" production casing set at 8494 feet with 3117 cu. ft. ~~EMER~~.(Size) 7" injection tubing set at 8452.1 feet with packer set at ft.

All available logs and tests are enclosed: Yes ; No XX
LOGS ARE ALREADY ON FILE

Description of the hole/bit size is enclosed: Yes XX; No
SEE ITEM IN ATTACHMENTS

Total depth of the well is 8500 feet.

B. This well will be drilled for injection service and a regular
fee drilling application will be submitted. We plan to case and cement the
well as indicated below:



TITUS ROAD

AREA 1

AREA 2

AREA 3

WYNDHAM ROAD

WILSON

Application Item 30

30

25

19

27

28

29

ITEM #5

Produced salt water from this well will be a portion of the combined production of Dow Chemicals salt water production wells. No other operations, leases, or wells will be involved.

STATE OF ARKANSAS
314 EAST OAK STREET
OIL AND GAS COMMISSION
El Dorado, Arkansas 71730 - 5896

RECEIVED (56)

AUG 30 1984

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted. ARKANSAS OIL & GAS COMMISSION

WELL DESCRIPTION

Field Kilgore-Lodge Name of Operator Dow Chemical U.S.A.
Pool Completed In Smackover
Lease Name Dow Fee No. 1 Address: Street P. O. Box 520
Exact Location 660' FSL & 660' FWL NE/4 City Magnolia
State Arkansas 71753
Sec. 18 Twp. 17S Rge. 21W
County Columbia
Date Commenced 2/1/65 Date Completed 3/23/65 * 5/21/84 Recompletion
Elevation 309 KB Total Depth Drilled 8500'
Electric Log Run: Yes x No Electric Log Filed: Yes x No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) set at ft. w/ sks.
Surface: (Size & Wt.) set at ft. w/ sks.
Intermediate: (Size & Wt.) set at ft. w/ sks.
Production: (Size & Wt.) set at ft. w/ sks.
* Tubing: (Size & Wt.) 7" - 26# set at 8452.1 ft.
Perforations: Size No. Per Foot.
Perforated Intervals: 8250 - 8300'

Graded: Yes No : Interval w/ gals.
Cured: Yes No : Interval w/ lbs.

* RECOMPLETION WORK COMPLETED 5/21/84 FOR REINJECTION
of sand: bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well
- Tank battery to which this well is connected: Existing New
- Liquid production from this well is sold to (
(Address)
- Disposition of gas from this well: Vented Fuel Sold
If sold, to whom
Address

PRODUCTION

Date of Test Actual Length of Time Tested
Type Well: Flowing Gas Lift Pump
Tubing Pressure Casing Pressure Choke Size
Net Oil Produced bbls. Gas Produced MCF % BSW GOR
Gravity Oil BHP Recorded
Net Oil in 24 Hours Open Flow Potential MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J. O. Ball
J. O. Ball, Brine Field Supervisor

Arkansas Oil and Gas Commission

314 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Dow Fee No. 1 (Sec.) 18 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____% _____%
(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3537

ETHYL CORPORATION

L. C. Reynolds
(Company or Operator)
(Affiant)
Field Manager

Well: BRAZOS O&G DIV, OF DOW CHEMICAL CO. #1 Dow
Loc'n: Sec 18-17S-21W, C SW NE, 3 5/8 mi W/Magnolia

Result: BRINE SUPPLY

Spud: 2-1-65; Comp: 3-23-65; Elev: 309' KB; TD: 8500'; C/Wheless Drig. Co.

Casing: 20" 37 1/4 yds, 13 3/8" 1492' / 1340 cf, 9 5/8" 8494' / 3117 cf

Prod Zone: (Smk) prod thru perf 8250-8300'

IP: NA TP 50#, BHPSI 3650#

Comp Info: TD 8500' (12 1/4" hole), ran logs, set 9 5/8" csg, perf 100/8250-8300'
(Smk), A/, swung 5/8" tbg 2579' w/240 HP downhole pump

Tops: No info

Note: Plant officially dedicated 1-18-66

Date: 2-8-66

Card No.: 1 Ark

PI/Dwights PLUS Online Summary Report

Well No. 1

Date: 5/1/2001
Time: 2:26 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERW
County         : COLUMBIA           Drill Total Depth : 8203
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : BRAZOS OIL & GAS CO
Lease Name     : DOW
Well Number    : 1                   Spud Date       : FEB 28, 1965
API Number     : 03027006040001      Comp Date       : MAR 25, 1965
Regulatory API :
Init Lahee Class : U X               Hole Direction   :
Final Lahee Class : U                 Reference Elevation: 274   DF
Permit Number  :
Geologic Province : ARKLA BASIN       KB Elevation     :
Formation at TD : 553SMKV             SMACKOVER
Oldest Age Pen : 553                 UPPER JURASSIC
Township       : 17 S               Section          : 18 SEC
Range          : 21 W               Spot             : N2 NE
Base Meridian  : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 562 FSL 567 FEL CONGRESS QTR QTR
Latitude         : 33.2679000        Latitude (Bot)   :
Longitude        : -93.3130200       Longitude (Bot)  :
Lat./Long. Source : TB
Location Narrative : Type
                  : LOCATION
                  : Remark
                  : 3/4 MI W-SW DISCOVERY
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Oil Prod      Test
Form   Form     Form     Depth   Depth   Choke   GORGrav   Method   Method
001   605TSCG   553SMKV   3174   8162
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Pressure -----
Test   FTP   SITP   FCP   SICP
001
    
```

```

----- Production Bottom Hole -----
Test   Press   Temp   Depth   Time
001   3268
    
```

```

----- Production Treatment -----
Test   Top   Base   Volume MeasAmount   T/P   PSI   Inj   Type   Nbr   Agent Add
001   3174  3228   678 BBL 15000 LB
001   3174  3228   678 BBL 15000 LB
001   8128  8162   5000 GAL
    
```

```

----- Production Perforation -----
Test   Top   Base   Type   Method   Top Form   Base Form   Status Count   Density   Per
001   3174  3174
001   3178  3178
001   3183  3183
    
```

001	3190	3190	PERF	605TSCG	605TSCG	2
001	3196	3196	PERF	605TSCG	605TSCG	2
001	3199	3199	PERF	605TSCG	605TSCG	2
001	3204	3204	PERF	605TSCG	605TSCG	2
001	3211	3211	PERF	605TSCG	605TSCG	2
001	3219	3219	PERF	605TSCG	605TSCG	2
001	3223	3223	PERF	605TSCG	605TSCG	2
001	5778	5778	PERF	601HSTNQ	601HSTNQ	2
001	5796	5796	PERF	601HSTNQ	601HSTNQ	2
001	5808	5808	PERF	601HSTNQ	601HSTNQ	2
001	5814	5817	PERF	601HSTNQ	601HSTNQ	2
001	5840	5840	PERF	601HSTNQ	601HSTNQ	2
001	5848	5848	PERF	601HSTNQ	601HSTNQ	2
001	5856	5856	PERF	601HSTNQ	601HSTNQ	2
001	5862	5862	PERF	601HSTNQ	601HSTNQ	2
001	5880	5880	PERF	601HSTNQ	601HSTNQ	2
001	5916	5916	PERF	553CNVL	553CNVL	2
001	5921	5921	PERF	553CNVL	553CNVL	2
001	8128	8162	PERF	553SMKV	553SMKV	72

----- Casing Data -----
 SizeBase Depth Cement Unit
 5 1/2 IN 8202 1470 S

----- Tubing Data -----
 Size Base Depth Mixed String
 2 IN 8125

Map ID No. 2

ARTIFICIAL PENETRATION REVIEW

MAP ID NO. 2

Status P & A

Operator Dow Chemical - Ethyl Corp/Albemarle

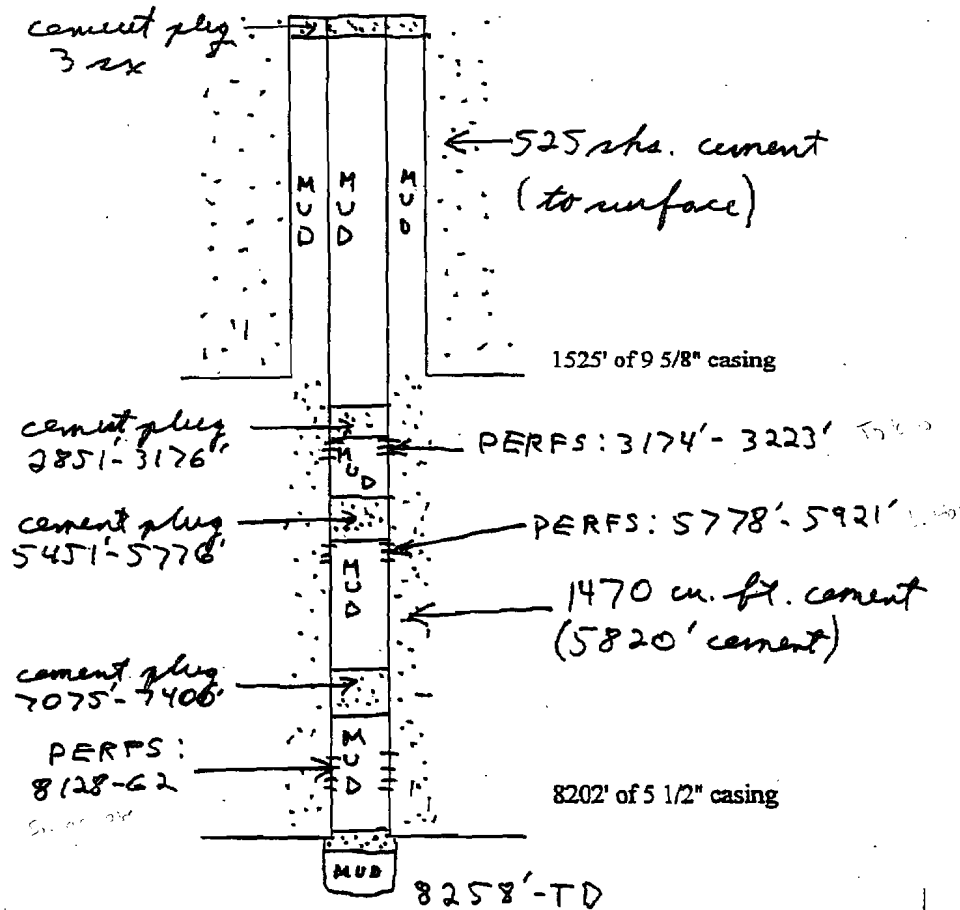
Forms AOCH-11 & -12

Lease P.T. Dismukes Heirs No. 1 Distance from Injector 2850'

Well # 1

Dow No. 1 SWD

Well Diagram



Potential Problems:

NONE

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

RECEIVED

APR 17 1959

Serial No. 16463

Notice of Intention to Drill For Oil or Gas

Arkansas Oil & Gas Commission

(This application to drill must be accompanied by a remittance of \$50.00)

Date April 16, 1959

Name of Operator Arkansas Fuel Oil Corporation

Send Permit to: Street P. O. Box 1117

City Shreveport

State Louisiana

Lease Name P. T. Dismukes Heirs Well No. 1

Acres in lease 80

Number of acres in and description of drilling unit 80 acres, being the N $\frac{1}{2}$ of the NE $\frac{1}{4}$ of Section 18, Township 17 South, Range 21 West,

Location of proposed well in drilling unit (give in feet) 562 feet FSL and 567 feet FEL of N $\frac{1}{2}$ of NE $\frac{1}{4}$ of Section 18

Section 18 Township 17S Range 21W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town Approximately 4 miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well First well on lease

Rotary or cable tools Rotary Date work will start At once

Name of drilling or workover contractor Unknown

Depth to be drilled 8900'

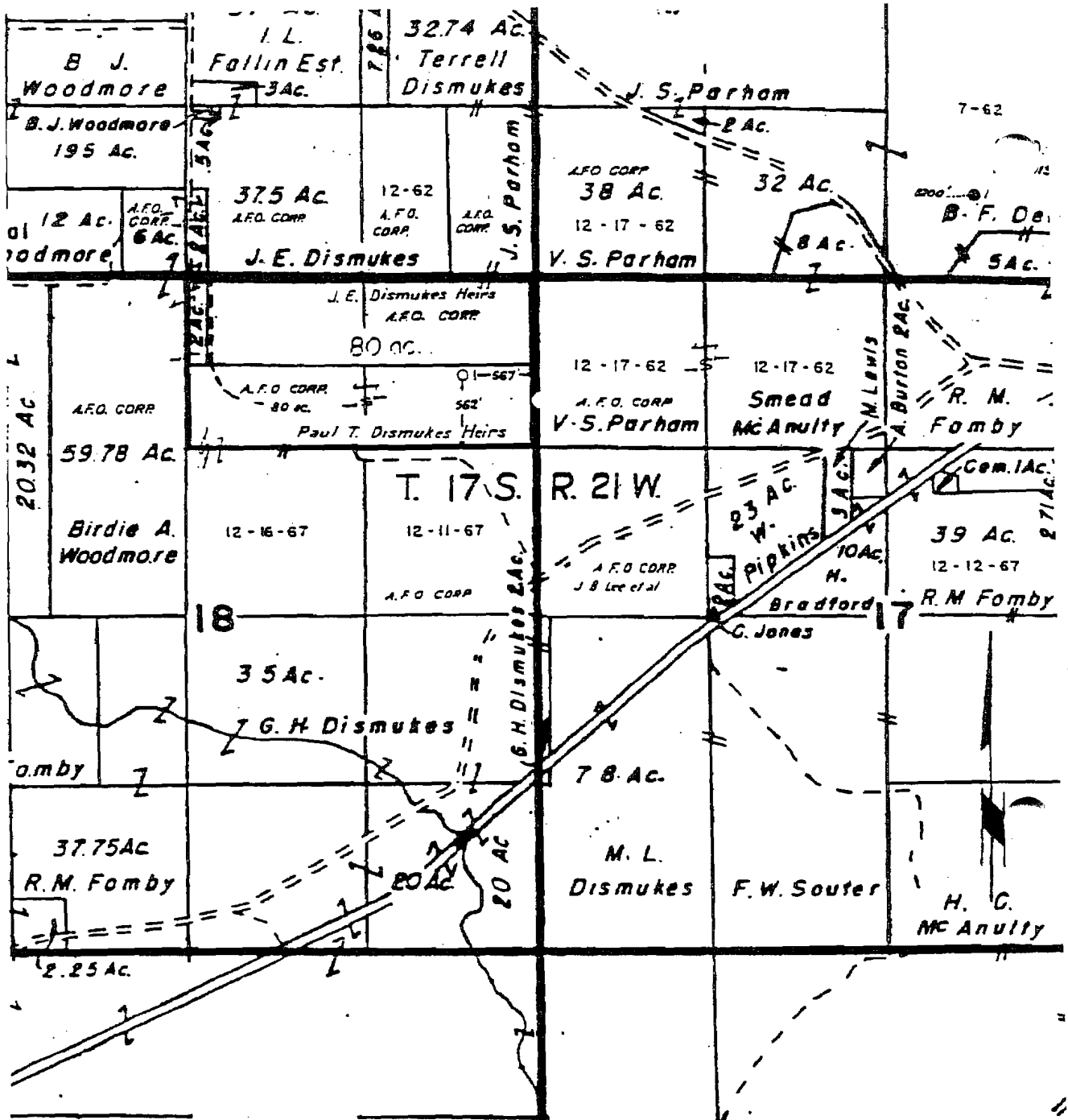
Formation you propose to complete in Smackover Lime

Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Charles B. Mitchell



PLAT SHOWING LOCATION OF THE PROPOSED ARKANSAS FUEL OIL CORPORATION,
 NO. 1 PAUL T. DISMUKES HEIRS WELL,
 LOCATED IN THE NE¹/₄ OF THE NE¹/₄ OF SECTION 18, T. 17S - R. 21W,
 COLUMBIA COUNTY, ARKANSAS.

STATE OF LOUISIANA
 PARISH OF CADDO

I hereby certify that this plat is true and correct and that the
 above location is correctly shown with reference to recognized property
 lines on the ground.

S. D. Armstrong
 S. D. Armstrong, Chief Civil Engineer
 Arkansas Fuel Oil Corporation

SUBSCRIBED AND SWORN to before me
 this the 16th day of April, 1959

Paul T. Dismukes

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

RECEIVED

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

JUN 20 1959

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Producer Arkansas Fuel Oil Corp
Pool Completed In Smackover Lime
Lease Name P. T. Dismuke Heirs No. 1 Address: Street _____ Box 698
Exact Location 562' N 567' W of S E Corner
N 1/2 of NE 1/4 City Smackover
Sec. 18 Twp. 17 Rge. 21
County Columbia State Arkansas
Date Commenced 5-20-1959
Date Completed 6-25-1959
Elevation Gr 262.4
Total Depth Drilled 8258
Electric Log Run: Yes yes No _____
Electric Log Filed: Yes _____ No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) none set at _____ ft. w/ _____ sks.
Surface: (Size & Wt.) 9-5/8" set at 1525.5 ft. w/ 525 sks.
Intermediate: (Size & Wt.) none set at _____ ft. w/ _____ sks.
Production: (Size & Wt.) none set at _____ ft. w/ _____ sks.
Tubing: (Size & Wt.) none set at _____ ft.
Perforations: Size _____ No. Per Foot _____
Perforated Intervals: _____

Acidized: Yes _____ No X; Interval _____ w/ _____ gals.
Fractured: Yes _____ No X; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well one
- Tank battery to which this well is connected: Existing none New _____
- Liquid production from this well is sold to (none)
(Address _____)
- Disposition of gas from this well: Vented none Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION DATA

Date of Test no test run Actual Length of Time Tested _____
Type Well: Flowing dry Gas Lift dry Pump dry
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW. _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours dry Open Flow Potential _____ MCF
Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
Allowable Requested none

REMARKS:

Please use reverse side of this page for all pertinent remarks. dry hole

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 16 463

Date 6-25-1959

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Arkansas Fuel Oil Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street Box 698

City Smackover

State Arkansas

Lease Name P. T. Dismuke Heirs Well No. 1

Location 562' N 567' W of SE Corner N $\frac{1}{2}$ of N. E. $\frac{1}{4}$

Section 18 Township 17 Range 21

Character of well (Oil, Gas or Dry) dry

Date you wish to plug 6-25-1959

Total Depth of Well 8258'

Name of party plugging well Halliburton Oil Well Cementing Co.

Address: Street _____

City Haynesville

State Louisiana

AOGC-2(56) filed by Arkansas Fuel Oil Corp Date filed April 16, 1959

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

H. S. Woodham
Arkansas Fuel Oil Corp

Dist. Supt.

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Arkansas Fuel Oil Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover Line

form to: Arkansas Fuel Oil Corp County Columbia

Street Box 698 City Smackover State Arkansas

Lease P. T. Dismuke Heirs Well No. 1 Sec. 18 Twp. 17 Rge. 21

Date well was plugged June 25th Total Depth of well 8258

Was well filled with mud-laden fluid, according to regulations of the Commission? yes

How much mud applied? Halliburton pumps Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement plugged from 0'-16' with 8 sacks cement. Filled to 1463' with mud then plugged to 1525 w/ 25 sacks cement. Filled with mud to 8044' then plugged to 8114 with 25 sacks cement. Balance hole filled with mud.

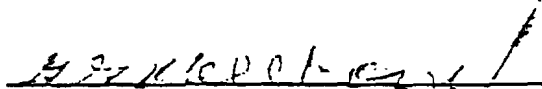
Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
9-5/8"	1525.5	FOUR	1525.5	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.


G. E. McPherson Dist. Supt.
 Arkansas Fuel Oil Corp



BRAZOS OIL AND GAS COMPANY

DIVISION OF THE DOW CHEMICAL COMPANY

3636 RICHMOND AVENUE • P. O. BOX 22468

HOUSTON 27, TEXAS

January 26, 1965

Mr. Edward A. Albares
Director of Production and Conservation
Arkansas Oil & Gas Commission
El Dorado, Arkansas

Dear Mr. Albares:

In accordance with our telephone conversation January 15, 1965, we are requesting permission for a trial test disposal of approximately 500,000 barrels of Smackover brine over a 90 day time period in one of four salt water bearing formations.

We propose to re-enter the Arkansas Fuel Oil Corporation - P. T. Dismukes Heirs No. 1 dry hole in the NE/4 of the NE/4 Section 18, T-17-S, R-21-E, Columbia County and attempt to make a disposal well in one of the intervals listed below:

<u>Formation</u>	<u>Interval (Subsea)</u>	
Nacatosh Ss.	1555 - 1780	<i>C. T.</i>
Tokio Ss.	2615 - 2960	<i>C. B.</i>
Lo Hoston Ss.	4907 - 5677	<i>C. T.</i>
Smackover Lst.	7835 - 8025	<i>C. T.</i>

The elevation of the electrical survey datum is 273 feet.

We would attempt, upon re-entering the Dismukes well, to clean it out to a total depth of 8258 feet, run 5-1/2-inch casing to 3270 feet and cement it from total depth to the surface. Then we would run 2-inch tubing to total depth, cement it in place and pack it off in the base of the 5-1/2-inch casing. The 2-inch string would be used for a fluid level observation string and brine disposal would be accomplished through the 2-inch 5-1/2-inch annulus into the Tokio or Nacatosh Sandstone. If we were unable to dispose of the

Mr. Edward A. Albares
Arkansas Oil & Gas Commission -2-

1/26/65

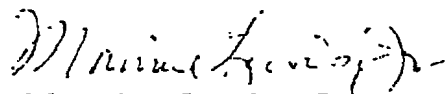
volume required in one of these two intervals, we may need to use the fluid observation string for disposal and inject into the Smackover or Lower Hoston formations. For this reason, we are requesting approval for a trial test disposal in these four formations so that our operations may be pursued without delay once we have a rig on location.

Also, in completing the producing well, the No. 1 Dow in the center of the SW/4 of the NW/4 in the same section, we plan to leave the Nacatosh sandstone open behind the 9-5/8-inch casing and if we need this additional capacity for disposal, we request authority to proceed with this phase of the operation.

We are enclosing a list of the landowners and lessces within a one-half mile distance of the disposal and the production well, plats showing the location of the disposal and production well and a copy of the electrical survey of the Arkansas Fuel Oil - Dismukes No. 1 well showing the proposed disposal intervals. If there is additional information that you need for this request, please call the undersigned collect at A. C. 713 MO 6-0261, Houston, Texas.

Yours very truly,

BRAZOS OIL AND GAS COMPANY
Division of The Dow Chemical Co.



Maurice Lewis, Jr.
Superintendent, Drilling and
Production

MLjr/mc

Enc. - 6 (2) Owner Lists
(2) Plats
(2) Electrical Surveys

January 29, 1965

Mr. Maurice Lewis, Jr.
Superintendent; Drilling and
Production
Brazos Oil and Gas Company
3636 Richmond Avenue
Houston 27, Texas

Dear Mr. Lewis:

In reply to your letter of January 26, 1965, concerning your request for temporary disposal of 500,000 barrels of salt water over a 90 day test period, I have reviewed this matter with Mr. O. C. Bailey, Chairman of our Commission, and he is of the same opinion as I am, that there would be no purpose in advertising this particular application as there are no producing wells within a one-half mile radius and most of the minerals in the immediate vicinity of this well, are still owned by the land owners.

Therefore, please consider this letter as your authority to proceed with the disposal of salt water into the Nagatoch, Tokio and Lower Houston or Smackover Lime Formations, as outlined in your letter of application.

When a determination is made, we would appreciate being advised as to what success was had in going back into the Dismukes #1 well.

If any additional information is needed concerning this matter, please let us know.

Yours very truly,

Edward A. Albares
Director

EAA:vs

January 26, 1966

Brason Oil and Gas Company
3636 Richmond Avenue
Houston 17, Texas

Att: Mr. Maurice Lewis, Jr.

Gentlemen:

Attached please find Application for Salt Water Disposal which should be filed for your Dow #1 SWD well in the Kilgore Lodge Field.

After reviewing the previous records with regard to this well, it is felt that a new application should be filed in order to make the disposal on a permanent basis rather than a temporary or trial basis.

Yours very truly,

W. E. Wright
Geologist

WEW:vs

Enclosure

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

Orig. Ark Fuel Oil - Dismoke Hm. # 1 WELL DESCRIPTION BRAZOS OIL & GAS CO. DIVISION OF THE DOW CHEMICAL CO.

Field Wildcat Producer Brine Disposal Well

Pool Completed In Tokio, Lo. Hoston, Smackover

Lease Name Dow No. 15WD Address: Street P. O. Box 22468

Exact Location 561' WEL and 106' SNL
S/2, N/2, NE/4

City Houston

Sec. 18 Twp. 17 S Rge. 21 W

County Columbia State Texas 77027

Date Commenced 2/28/65

Date Completed 3/25/65

Elevation 263' ground

Total Depth Drilled 8203' redrilled

Electric Log Run: Yes No X

Electric Log Filed: Yes No X

RECEIVED
MAR 27 1966
Arkansas Oil & Gas Commission

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & WL) Unknown set at ft. w/ sks.

Surface: (Size & WL) 9-5/8" Unknown weight set at 1525 ft. w/ 523 sks.

Intermediate: (Size & WL) None set at -- ft. w/ -- sks.

Production: (Size & WL) 5-1/2" set at 8202 ft. w/ 1470 cu Ft.

Tubing: (Size & WL) 2", 4.5# set at 8125 ft.

Perforations: Size 0.46" No. Per Foot 2

Perforated Intervals: 3174', 3178', 3183', 3190', 3196', 3199', 3204', 3211', 3219'
3223 (Tokio) 5778, 5796, 5808, 5817, 5840, 5848, 5856, 5862, 5880, 5916, 5921 (Lo. Hoston)

Acidized: Yes No ; Interval 8128' - 8162' w/ 5,000 gals.

Fractured: Yes No ; Interval 5778' - 5921' w/ 20,000 lbs.

of sand: 855 lbs. of XH water.

LEASE DATA

1. Number of wells located on this lease, including this well 2

2. Tank battery to which this well is connected: Existing Not applicable New --

3. Liquid production from this well is sold to (Not applicable)
(Address --)

4. Disposition of gas from this well: Vented -- Fuel -- Sold --
If sold, to whom --
Address --

PRODUCTION

Date of Test Not applicable Actual Length of Time Tested --

Type Well: Flowing -- Gas Lift -- Pump --

Tubing Pressure -- Casing Pressure -- Choke Size --

Net Oil Produced -- hbls. Gas Produced -- MCF % BSW -- GOR --

Gravity Oil -- BHIP Recorded 3263 psi

Net Oil in 24 Hours -- Open Flow Potential -- MCF

Purpose of this test: Original Completion X Workover -- Recompletion --

Allowable Requested Not applicable

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. J. Lewis

This well was originally drilled as the Arkansas Fuel Oil Corporation,
P. T. Dismukes Heirs Well No. 1, re-entered and re-drilled as Dow No. 1 SWD.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.



THE DOW CHEMICAL COMPANY

BOX 520
PHONE 501 - CE 4-2677
MAGNOLIA, ARKANSAS 71753

November 27, 1968

Arkansas Oil & Gas Commission
314 East Oak Street
El Dorado, Arkansas 71730

Attn: W. E. Wright

Gentlemen:

Regarding the status of Dow No. 1 SWD well located 562' FSL & 567' FEL N/2 of NE $\frac{1}{4}$ Section 18, 17-S, 21-W. This well is temporarily abandoned and to the best of my knowledge has been since before March, 1967.

If we change the status on this well we will notify you.

Yours truly,

R. O. Vinson
Supt. Development & Research

na

5-15-69

RECEIVED

DEC 2 1968

ARKANSAS OIL & GAS COMMISSION

Mr. Vinson advised that there are no plans for using well at this time. If it is used in the future, the conservation assessment of \$12500 per year shall apply.

R. U. Dumas

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

WSW (Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. *H-47-83*

Date 5 - 24 - 83

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Dow Chemical USA

Field Kilgore Lodge

County Columbia, ~~Arkansas~~

Operator's Address: Street P.O. Box 520

City Magnolia

State Arkansas 71753

Lease Name ~~Brine Disposal - Dismuke~~ Well No. 1

Location 561' FEL - 106' FNL - S $\frac{1}{2}$ - N $\frac{1}{2}$ - NE $\frac{1}{4}$

R2 F2L - 567 FEL N $\frac{1}{2}$ NE $\frac{1}{4}$
Section 18 Township 17S Range 21W

Character of well (Oil, Gas or Dry) _____

Date you wish to plug 6/10/83

Total Depth of Well 8203'

Name of party plugging well Dow Chemical USA

Address: Street _____
Magnolia

City _____

State Arkansas

AOGC-2(56) filed by _____ Date filed _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED
JUN 02 1983

James O. Ball
Ralph C. Lofle

OK
H. J. ...
on plug
BR

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Dow Chemical USA Field Kilgore Lodge
Tokio, Lo Hoston
 Address all correspondence concerning this Pool Smackover SWD
 form to: Dow Chemical USA County Columbia
 Street Brine Disposal City Magnolia State Arkansas
 Lease Brine Disposal Well No. 1 Sec. 18 Twp. 17S Rge. 21W
 Date well was plugged June 23, 1983 Total Depth of well 8203
 Was well filled with mud-laden fluid, according to regulations of the Commission? Yes
 How much mud applied? filled Were plugs used? Yes If so, show all shoulders
 left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of
 cement and rock cement plugs from 7075-7400 5451-5776 2851-3176; 3 sk plug in top of 5'
 Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13 3/8	None Recovered		Unknown	
9 5/8	None Recovered		1525	
5 1/2	None Recovered		8202	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED

JUL 06 1983

Earl W. Lockett

 Earl W. Lockett

SK
ME
Duk

ARKANSAS OIL AND GAS COMMISSION

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

COMPANY Dow Chemical Company WELL NAME & NO. Dow # 1 S'LN
LOCATION 562' fsl 567' of n $\frac{1}{2}$ of ne $\frac{1}{2}$ SEC. 18 TWP. 17 s RGE. 21 w
COUNTY Columbia FIELD Kilgore Lodge CONTRACTOR _____

CASING PROGRAM Yes PERFORATIONS _____
SURFACE 9-5-8 1525' _____
PRODUCTION 5 $\frac{1}{2}$ - 8202' _____
TUBING _____

PRODUCTION PLUG SET AT 7400-7025 FEET, WITH 50 SKS WORK DONE BY _____
Dowell
DATE 6/23/83

WITNESSED BY Steve Klippert

FRESH WATER PLUG SET AT 5776-5442 FEET, WITH 50 SKS WORK DONE BY _____
Dowell
DATE 6/23/83

WITNESSED BY Steve Klippert

REMARKS: Form 11 received 6/2/83
plug 3170 - 2837 with 50 SKS - Dowell
plug in top with 5 SKS

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71720 5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Dismukes No. 1 (Sec.) 18 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A (Name of First Purchaser)

Whose principal place of business is _____ (Street) _____ (City) _____ (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) (Name of Transporter)

Remarks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
B. Mirley R. Rickett
No. 3561

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
(Affiant)
Field Manager

Well: Arkansas Fuel Oil Corp #1 P. T. Dismukes Heins

Result: DGA

Loc'n: Sec 18-17S-21W, 562' FSL, 567' FEL N 1/2 NE, 3/4 mi W-SW/discovery

Spud: 5-20-59

Comp: 6-25-59

Elev: 274'

TD: 8258'

262' Grd

C/Montgomery Drig Co.

Casing: 9 5/8" 1550'

Prod Zone: None

IP: None

Comp Info: S/T: Tus 3185', MA 3650-3770'; Crd 4619-49', rec 30' sh w/striks sd, NS; S/T: TP 4710', CV 5920', Drid to 8170', ran EL & ML, took 19 SWS 2891-4397'. NS, (Dowell, Inc took over at this point); Crd 8170-98', rec 26' li, ool, sly PGP, NS; Crd 8198-8258', rec 50' li, ool, dse, NS; TD 8258', ran EL.

Tops: (Elec Log) B/An 2495', Tus 3167', MA 3644-3802', TP 4697', CV 5900', Smk 8114'

Geo. Hancock
OIL REPORTS

Date: 7-2-59

Card No.: 4

Ark

Well: BRAZOS O&G CO. #1 Dow-SWD

Result: SWDW

Loc'n: Sec 18-17S-21W, 562' FSL, 567' FEL N½ NE

Ben WO: 2-28-65; Comp: 3-25-65; Elev: 262' grd. 274' DF: TD: 8203'; OTD: 8258'Casing: 9 5/8" 1550', 5 1/2" 8202'/1470' CFInj. Zone: (Tus, L. Hoss, CV & Smk) prod thru perf 3174-3223', 5778-5921' & 8128-62'IR: NA BHPSI 3263#Comp IFNo: Orig drld by Ark. Fuel Oil Co. as #1 P. T. Dismukes Heirs, D&A 6-25-59, TD 8258', EL/T: Smk 8114'. NEW WORK: CO and/or re-drid to 8203', set 5 1/2" csg, perf 72/8128-62' (Smk), A/5000 gals, perf 2/5778', 2/5796', 2/5808', 2/5817', 2/5840', 2/5848', 2/5856', 2/5862', 2/5880', 2/5916', 2/5921' (L. Hoss & CV), frac w/20,000# sd & 855 hbbs water; perf 2/3174', 2/3178', 2/3183', 2/3190', 2/3196', 2/3199', 2/3204', 2/3211', 2/3219', 2/3223' (Tus), frac w/15,000# sd & 678 hbbs water, swung 2" tbg 8125'Toos: No info

Date: 2-8-66

Card No.: 2 Ark

Map ID No. 3

ARTIFICIAL PENETRATION REVIEW

MAP ID NO. 3.

Status

P+A

Operator Dow Chemical-Ethyl Corp/Albemarle

Forms

AOGC-3, 12, 11

Lease Joe Carter

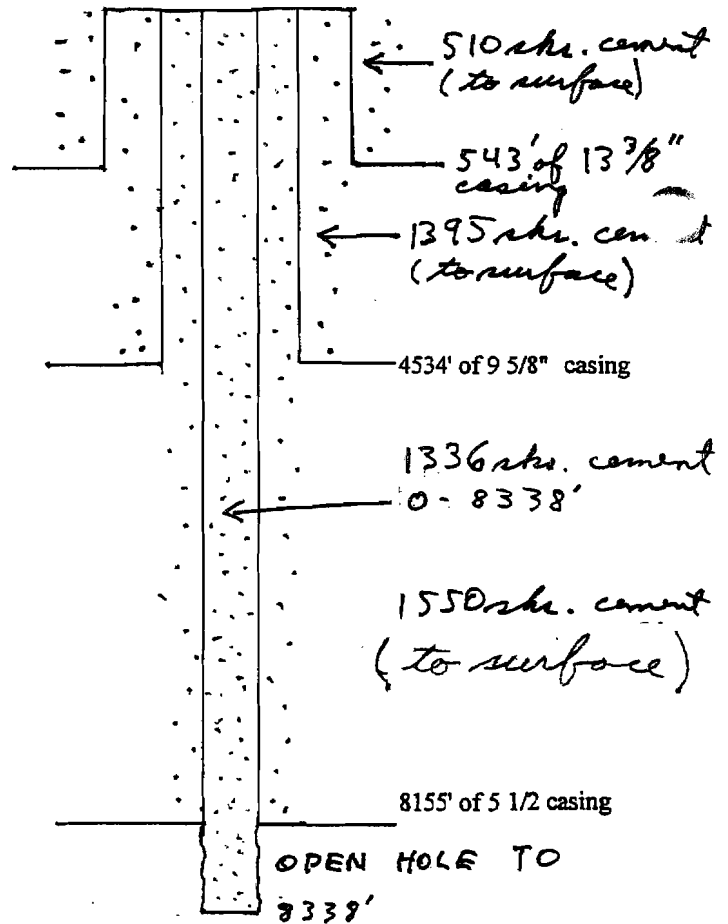
Distance from Injector

1,638'

Well #

1

Well Diagram



Potential Problems:

NONE

DOW CHEMICAL CARTER, JOE

1

3

18-17S-21W C-FOR-DEN-GR

COMING FROM RECORDS Date: 6/16/70 Location: LDC UN Well: 1817 Field: 8140 County: 4533 State: OK Operator: F. L. CARLISLE Supervisor: W. A. G. A. Recorder: B. W. HARRIS Instrument: BRONN & S. S. CUMMINS VINTSON & BASS RBY		COUNTY RECORD COUNTY: OK FIELD: 1817 WELL: 8140 COUNTY: 4533 STATE: OK DATE: 6/16/70 TIME: 11:30 AM OPERATOR: F. L. CARLISLE SUPERVISOR: W. A. G. A. RECORDER: B. W. HARRIS INSTRUMENT: BRONN & S. S. CUMMINS VINTSON & BASS RBY		COMING FROM RECORDS Date: 6/16/70 Location: LDC UN Well: 1817 Field: 8140 County: 4533 State: OK Operator: F. L. CARLISLE Supervisor: W. A. G. A. Recorder: B. W. HARRIS Instrument: BRONN & S. S. CUMMINS VINTSON & BASS RBY		COUNTY RECORD FIELD NO. 1817 WELL NO. 8140 COUNTY NO. 4533 STATE OK DATE 6/16/70 TIME 11:30 AM OPERATOR F. L. CARLISLE SUPERVISOR W. A. G. A. RECORDER B. W. HARRIS INSTRUMENT BRONN & S. S. CUMMINS VINTSON & BASS RBY		COMPANY: DOW CHEMICAL COMPANY WELL: JOH. CARTER #1 FIELD: KENNEDY 1000 COUNTY: WILMINGTON STATE: DELAWARE DATE: 6/16/70 TIME: 11:30 AM OPERATOR: F. L. CARLISLE SUPERVISOR: W. A. G. A. RECORDER: B. W. HARRIS INSTRUMENT: BRONN & S. S. CUMMINS VINTSON & BASS RBY
The well name, location and borehole reference data were furnished by the Customer.								
EQUIPMENT DATA								
Run No.	NO. P-1	NO. C	NO. A	NO. S	NO. T	NO. H		
1	129	227	180	85	2506	121		
2								
3								
CALIBRATION DATA								
Run No.	AP Scale	Gamma Ray Background CP	Gamma Ray Total CP	FDC - Before Log - ACP	FDC - After Log - ACP			
1	C-150	60	480	416	680			
2								
3								
LOGGING DATA								
Run No.	Depth	Speed Ft. Min.	API Scale	Log Density	Gamma Ray	FDC - Before Log		
1	11	7000	30	0-150				
2								
3								
MUD DATA								
Run No.	Sp. Gr.	Viscosity	Filter Loss	Shale Swell	Water by Vol.	Viscosity Sw. Ct.		
1	1.57	32						
2								
3								
Remarks: SERVICE ORDER #14584.								
CALIPER RECORDED FROM 7000 TO 521.								

CALIPER HOLE DIAM. IN INCHES	DEPTH	CORRECTION GRAMS/CC.
CAMMA RAY	BULK DENSITY	

SCUMMENSEE

FORMATION DEPOSIT

C2-C27-101

CALIFORNIA	
STATE OF CALIFORNIA	
DEPARTMENT OF MINES AND GEOLOGY	
BUREAU OF MINE AND GEOLOGICAL SURVEY	
SAN FRANCISCO	
JAN 1 1900	

CALIFORNIA	SECTION
CANNA BAY	BULK DENSITY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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James?

4200

4500

5000

3

DOW CHEMICAL
CARTER, JOE

1

18-17S-21W
C-FOR-DEN-GR

COUNTY ... PROD. or LOCATION ... WPA ...		COMPANY ... COUNTY ... STATE ...		SCHUMBERGER SPECIAL SERVICES
COMPANY ... MAIL ... FIELD ... COUNTY ... STATE ...		COMPANY ... COUNTY ... STATE ...		
This card must be filled out and returned to the office of origin by the customer.				
NUMERICAL DATA Item No.				
CALIBRATION DATA ...				
POSITION DATA ...				
WELD DATA ...				
Remarks:				

CALIPER
 HOSE BANK, IN INCHES

C3-1-17

02 027 10,051

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21,613

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date May 11 19 70

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name Joe Carter Well No. 1

Acres in lease 77

Number of acres in and description of drilling unit 77

Location of proposed well (Must agree with Surveyor's Plat) 405' from North Line
- 330' from East Line of NW 1/4 NW 1/4

Section 18 Township 17-S Range 21 W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 4 Miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1/2 Mile

Rotary or cable tools Rotary Date work will start 5-20-70

Name of drilling or workover contractor Noble Drilling Company

Depth to be drilled 8,500'

Formation you propose to complete in Smackover

Remarks: Carter - Rudd No. 1 - Brine Supply

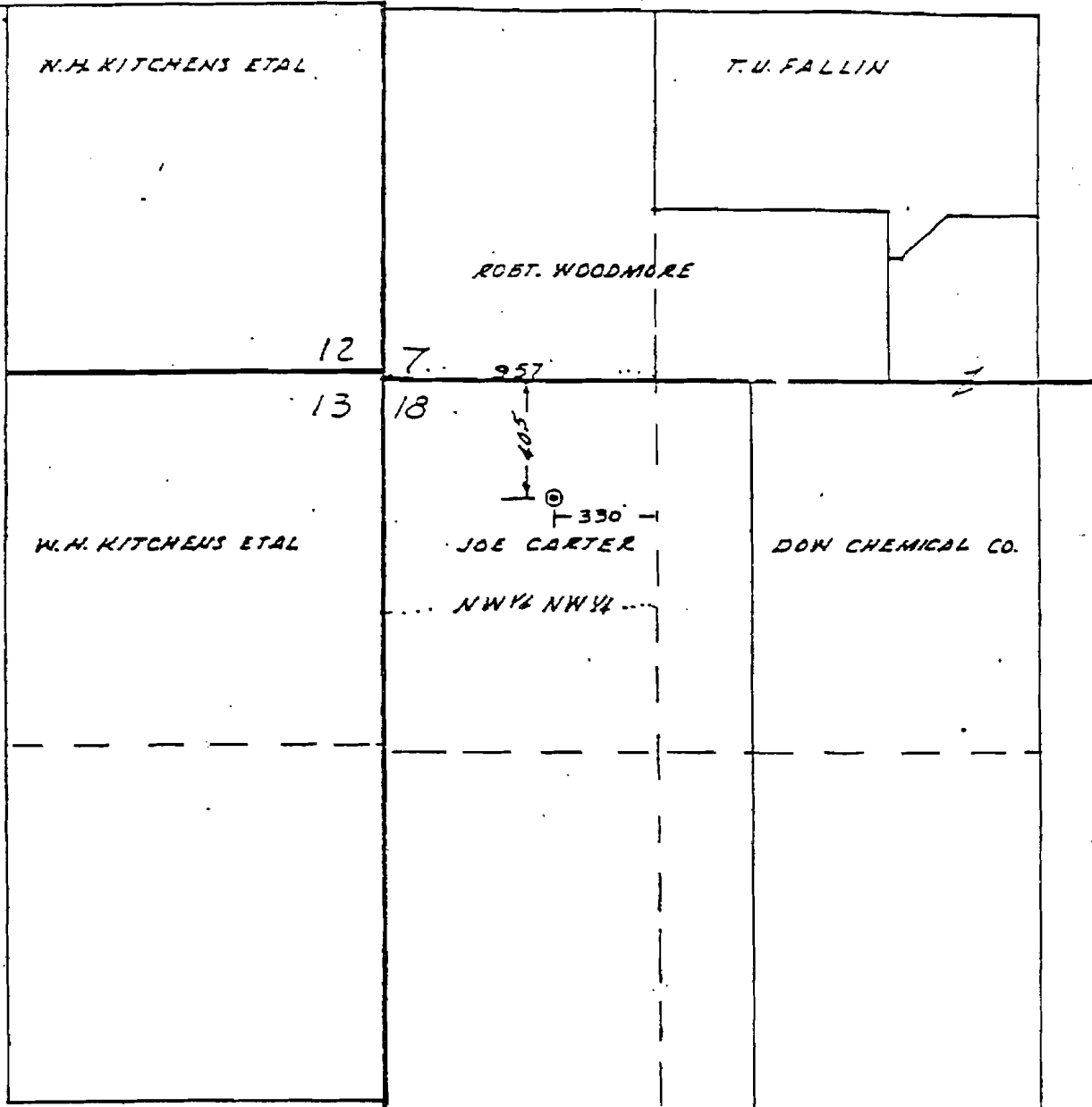
RS

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. M. Sorenson

M. M. Sorenson
Superintendent of Operations



WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO.
 WELL NAME CARTER- RUDD NO.1
 LOCATION 405' FROM THE N. LINE & 330' FROM THE E. LINE OF NW 1/4 NW 1/4 SECT. 18-T775-R21W
COLUMBIA CO., ARK.

The location shown hereon was staked from a ground survey made MAY 11, 1970 1970.

Scale 1" = 600'

Bill Crisp
 R.L.S. 454

CRISP SURVEYING SERVICE
 216 S. Washington St.
 Magnolia, Ark.

NOBLE DRILLING CORPORATION

CENTRAL DIVISION

1205 BECK BUILDING

PHONE 423-3554

SHREVEPORT, LA. 71101

July 29, 1970

Arkansas Oil & Gas Commission
314 East Oak Street
El Dorado, Arkansas 71730

Gentlemen:

Attention: Mr. R. A. Dumas

This company has been conducting contract drilling operations for Dow Chemical Company at a location slightly North of their plant which is located six miles West of Magnolia. On July 26, 1970, a wall on the reserve pit gave way and released fresh water and drilling mud into a small creek, which at this point runs North and South to the East of the Dow plant. Every effort was made to stop the flow and it is not believed a great amount of material escaped into the stream. Subsequent to this Dow pumped a large amount of fresh water to flush the material down stream and avoid any possible damage to adjacent properties in the immediate area.

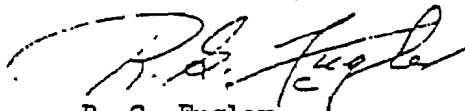
As a point of information, the type of drilling mud used contained only 1700 parts per million of chloride. This percentage was further greatly reduced by the mingling in the reserve pit of the large amount of fresh water and small quantity of drilling mud. No oil or brine water had been used and so there was none in the reserve pit at the time the wall broke.

We have checked the adjacent properties in the immediate area, have secured an analysis of the drilling mud and based upon these considerations, believe that no actual damage occurred.

Please be assured that this company is doing everything possible to reduce the potential of pollution damage from any source. If there is anything further that we can do to be of assistance please advise.

Very truly yours

NOBLE DRILLING CORPORATION



R. G. Fugler
Division Manager

RGF:ey

cc: Arkansas Pollution Control Commission
Dow Chemical

This letter contains phone conversation with Mr. Fugler on July 27, 1970.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

21613
B.W.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In Intracover Line
 Lease Name Joe Carter (BSU) No. 1 Address: Street Box 520
 Exact Location 405' FNL, 330' FEL
NW 1/4 NW 1/4 City Magnolia
 Sec. 18 Twp. 17 S Rge. 21 W State Arkansas
 County: Columbia
 Date Commenced 5/22/70
 Date Completed 9/4/70
 Elevation 281 ft.
 Total Depth Drilled 8338
 Electric Log Run: Yes No
 Electric Log Filed: Yes No Enclosed

RECEIVED

OCT 1 1970

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.)	<u>20" x 5/16th</u>	set at	<u>40</u>	ft. w/	<u>6</u>	yd.
Surface: (Size & Wt.)	<u>13 3/8", 48#</u>	set at	<u>543</u>	ft. w/	<u>310</u>	skts.
Intermediate: (Size & Wt.)	<u>9 5/8", 40#</u>	set at	<u>4534</u>	ft. w/	<u>1395</u>	skts.
Production: (Size & Wt.)	<u>(Liner) 5 1/2", 17#</u>	set at	<u>8155</u>	ft. w/	<u>1550</u>	skts.
Tubing: (Size & Wt.)		set at		ft.		

Perforations: Size No. Per Foot
 Perforated Intervals: Open Hole 8155' - 8338'
 Acidized: Yes No ; Interval 8155-8338 w/ 10000 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well 1
- Tank battery to which this well is connected: Existing pipeline New _____
- Liquid production from this well is sold to (processed in operator's plant)
(Address _____)
- Disposition of gas from this well: Vented Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test not applicable Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

PC

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71720-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Carter No. 1 (Sec.) 18 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A (Name of First Purchaser)

Whose principal place of business is _____ (Street) _____ (City) _____ (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) _____% _____
(Name of Transporter)

Remarks:
Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

By Charles Knight

No. 3549

ETHYL CORPORATION

L. C. Reynolds
(Company or Operator)
(Affiant)

L. C. Reynolds
Field Manager

PI/Dwights PLUS Online Summary Report

Well No. 3

Date: 5/1/2001

Time: 2:15 PM

----- General Information -----

State	: ARKANSAS	Final Status	: SERVICE
County	: COLUMBIA	Drill Total Depth	: 8338
Field	: KILGORE LODGE	Log Total Depth	: 8338
Operator Name	: DOW CHEMICAL CO THE		
Lease Name	: JOE CARTER		
Well Number	: 1	Spud Date	: MAY 22, 1970
API Number	: 03027100510000	Comp Date	: SEP 04, 1970
Regulatory API	:		
Init Lahee Class	: D	Hole Direction	:
Final Lahee Class	: U	Reference Elevation:	
Permit Number	: 21613	Ground Elevation	:
Geologic Province	: ARKLA BASIN	KB Elevation	:
Formation at TD	: 553SMKV		
Oldest Age Pen	: 553		
Township	: 17 S	Section	: 18 SEC
Range	: 21 W	Spot	: NW NW
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	: 405 FNL 330 FEL CONGRESS QTR QTR		
Latitude	: 33.2688400	Latitude (Bot)	:
Longitude	: -93.3236400	Longitude (Bot)	:
Lat./Long. Source	: TB		

----- Production Tests -----

Test	Top Form	Base Form	Top Depth	Base Depth	Choke	Oil GOR	Prod Grav	Method	Test Method
001	553SMKV	553SMKV						OPENHOLE	UNDESIGNATED

----- Production Volume -----

Test	Amount	Oil Unit	Desc	Amount	Cond Unit	Desc	Amount	Gas Unit	Desc	Amount	Wtr Unit	Desc
001												

----- Production Perforation -----

Test	Top	Base	Type	Method	Top Form	Base Form	Status	Count	Density	Per
001	8155	8338		OPENHOLE	553SMKV	553SMKV				

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	EL	0	8338		

----- Casing Data -----

Size	Base	Depth	Cement	Unit
13 3/8 IN		543		
9 5/8 IN		4534		

----- Liner Data -----

Size	Type	Cement	Unit	Top Depth	Base Depth
5 1/2 IN		1550	SACK	4504	8155

ARKANSAS OIL AND GAS COMMISSION

P.O. Box 1472

El Dorado, Arkansas 71731-1472

APPLICATION TO PLUG

Serial No. 21,613

Date _____

File Original Five Full Days Prior To Beginning Plugging Operations

Operator ALBEMARLE CORPORATION

Field KILGORE LODGE

County COLUMBIA

Operator's Address: Street P.O. BOX 729

City MAGNOLIA

State ARKANSAS Zip 71754-0729

Lease Name JOE CARTER Well No. 1

Location 405' FNL, 330' FEL

NW $\frac{1}{4}$ NW $\frac{1}{4}$

Section 18 Township 17S Range 21W

Type of well (Oil, Gas or Dry) BRINE

Date you wish to plug 02/17/99

Total Depth of Well 8338'

Name of party plugging well AMERICAN FRACMASTER LTD

Address: Street P.O. BOX 7276 / 1931 BARTON AVENUE

City SHREVEPORT

State LOUISIANA Zip 71137

AOGC-2(56) filed by _____ Date filed _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green
FLOYD GREEN

RECEIVED
ARK. OIL & GAS COMM
99 FEB 25 AM 10:43

NON
MB

Arkansas Oil and Gas Commission

P.O. Box 1472

El Dorado, Arkansas 71731-1472

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator ALBEMARLE CORPORATION Field KILGORE LODGE

Address all correspondence concerning this Pool SMACKOVER LIME

form to: ALBEMARLE CORPORATION County COLUMBIA

Street P O BOX 729 City MAGNOLIA State ARKANSAS

Lease JOE CARTER Well No. 1 Sec. 18 Twp. 17S Rge. 21W

Date well was plugged FEBRUARY 19, 1999 Total Depth of well 8338'

Was well filled with mud-laden fluid, according to regulations of the Commission? FILLED WITH CEMENT

How much mud applied? NA Were plugs used? NA If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock _____

Was notice given before plugging, to all available adjoining lease and land owners as required? NA

CLASS H PLUG FROM 8338' TO 5052' 450 SKS. 15.5 PPG, AF LITE +8%

GEL PLUG FROM 5052' TO SURFACE 886 SKS 11.50 PPG.

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13 3/8"			543	
9 5/8"			4534	
5 1/2"			4253	
4 1/2"			3718	

RECEIVED
 APR 6, 1999
 99 FEB 25 AM 10:43
 ARK. OIL & GAS COM.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.


 FLOYD GREEN

ARKANSAS OIL AND GAS COMMISSION
P. O. BOX 1472 2215 WEST HILLSBORO
EL DORADO, AR 71731-1472

"PLUGGING REPORT FOR ABANDONED PRODUCING WELLS"

COMPANY Albemarle Corp. WELL NAME Joe Carter #1
LOCATION NW, NW SEC 18 TWP 17 RGE 21
COUNTY Columbia FIELD Kilgore Lodge

CONDUCTOR 10 3/8" - 543' PRODUCTION 5 1/2" - 2534' + 4 1/2" - 3718'
SURFACE 9 5/8" - 4534' PERFORATIONS open Hole

PRODUCTION PLUG SET AT 8338 ± 0' WITH 1336 SKs

WORK DONE BY Frac Master DATE 2-17-18-19-99

WITNESSED BY Dimmie K. Endel

U.S.D.W. PLUG SET AT _____ WITH _____

WORK DONE BY _____ DATE _____

WITNESSED BY _____

A.F.W. PLUG SET AT _____ WITH _____

WORK DONE BY _____ DATE _____

WITNESSED BY _____

PLUGGED IN TOP OF SURFACE CASING WITH Hole full of cement.

WITNESSED BY _____ DATE _____

REMARKS: 2-17-99 226 SKs. 2-18-99 250 SKs. ~~226~~

From 8150' - 5032' used 476 SKs of class A cement.

From 5032' - 0' used 960 SKs of Light cement.

960
476
1436

Arkansas Oil and Gas Commission

P.O. Box 1472

El Dorado, Arkansas 71731-1472

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator ALBEMARLE CORPORATION Field KILGORE LODGE

Address all correspondence concerning this Pool SMACKOVER LIME

form to: ALBEMARLE CORPORATION County COLUMBIA

Street P O BOX 729 City MAGNOLIA State ARKANSAS

Lease JOE CARTER Well No. 1 Sec. 18 Twp. 17S Rge. 21W

Date well was plugged FEBRUARY 19, 1999 Total Depth of well 8338'

Was well filled with mud-laden fluid, according to regulations of the Commission? FILLED WITH CEMENT

How much mud applied? NA Were plugs used? NA If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock _____


Was notice given before plugging, to all available adjoining lease and land owners as required? NA

CLASS H PLUG FROM 8338' TO 5052' 450 SKS. 15.5 PPG, AF LITE +8%

GEL PLUG FROM 5052' TO SURFACE 886 SKS 11.50 PPG.

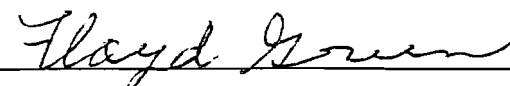
INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13 3/8"			543	
9 5/8"			4534	
5 1/2"			4253	
4 1/2"			3718	

RECEIVED
 APR. 01 8 54 AM '99
 99 FEB 25 AM 10:43


CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.


FLOYD GREEN



Map ID No. 4

see Dow Report for
more details

did not
include resp
w/ site
map.

MAP ID NO. 4

Status P & A

Operator Kendall Oil & Gas

Forms NA

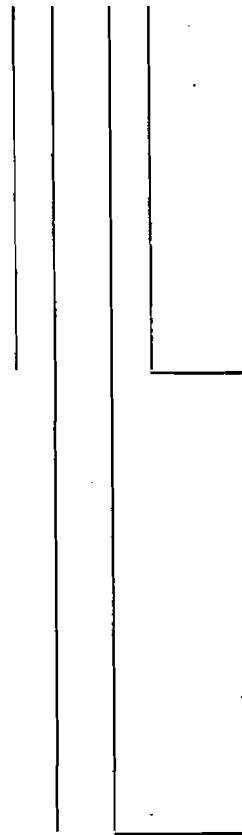
Lease Rhea, Kitchen & Fullenwider Distance from Injector

2,561'

Well # 1

Well Diagram

No Data Available



TD = 3110'

Potential Problems:

DEPARTMENT OF CONSERVATION AND INSPECTION

Application for Permit to Drill, Deepen, Abandon, or Plug and Perforate

Serial No. 6395

(1) Date 4-22

NOTICE—To drill, deepen, abandon or perforate in Arkansas without first securing a written permit in violation of the law and subject to prosecution.

NORTH
NW¼ NE¼

10-Acre Sub-Division, 640 Ft. Each Way

					X

(2) County Columbia

(3) Farm Rhea Kitchen & Fuller Well No. 1

(4) Sec 13 T 17 R 22

(5) Land Owner Rhea Kitchen & Fuller

(6) Owner of Well Kendall Oil & Gas

(7) Address Waldo, Arkansas

Box 171

(8) Permit to Drill

Drill, Deepen, Abandon, Plug and Perfo

(9) Oil, Gas or Test Well TEST

(10) Location of Well, in feet, from some corner

the Section 200' S of N Line; 150'

of E Line - NE Cor NE ¼

NE ¼ Sec 13, T 17 R 22

(11) Send Permit to W. O. Hudgens

Box 171 Waldo Ark.

Address

SW¼ SE¼
SINGLE SECTION PLAT
640 Acres

Mark Well Accurately on Section Plat Shown Above

Two typewritten copies of the log of each well on Department forms must be filed with this office not later than ten days after completion of drilling.

DEPARTMENT OF CONSERVATION AND INSPECTION

LIEN ON CASING TO GUARANTEE PROPER PLUGGING AND ABANDON

Serial No. 6295 Date 3-28-32

The Undersigned agrees that should Kendall Oil & Gas Co. Lease Fullenwider

Well No. 1 Sec. 13 Twp. 17 R. 22

Location 200' S of N. Line of NE 1/4
150' N of E - NE 1/4 of NE 1/4 County Columbia

be not plugged, when finally abandoned, in accordance with the law and rules of the State Board of Conservation, the State is given a lien on all casing in the well; and should the well be not plugged by the owner on final abandonment, the Commissioner of Conservation and Inspection, or his agents, may enter on the premises, plug the well and pull the casing therefrom. The Department of Conservation and Inspection shall retain the sum of \$200.00 for plugging the well, plus the cost of pulling the casing, and shall pay to the then owner of the well the proceeds of the sale of the salvaged casing in excess of said \$200.00 plus the cost of pulling the casing.

This 1st day of April, 1932

Kendall Oil & Gas Co
[Signature]
Sec. In Ch.

Well Data

Well Report
Copyright 1995-01 IHS Energy Group. All rights reserved.
***** MAR 05,2001 14:22:21 ***** PAGE 1

*** Well Header ***
(NORTH LOUISIANA - S. ARKANSAS - HISTORICAL WELL)

API Nbr: 03027013760000 State: ARKANSAS County: COLUMBIA
Oper: KENDALL Oper Code: 459044
Well: 1 Lease: DITCHENS-REA-ETAL
AAPG Prov: ARKLA BASIN Prov Code: 230
Field: WILDCAT Field Code: 054687
Prop Source Code: PETROLEUM INFORMATION/DWIGHTS

Meridian: FIFTH PRINCIPAL MERIDIAN 1815 Meridian Code: 05
Twp: 17.0S Rng: 22.0W SEC: 13.0 Spot:
Source: TBNAD27 Lat: 33.27030 Long: -93.32719

Contr: Tools: CABLE Rig Nbr:

Drlr Depth: 3110 FT TVD: Form @ TD:

Spud Date: 01/01/1934 Date Well Added: 01/01/1934 Abnd Date:
Comp Date: 01/24/1934 Last Update: 08/12/2000 TD Reached:

Final Status: D&A Pool:
Initial Well Class: NEW FIELD WILDCAT
Final Well Class: NEW FIELD WILDCAT-DRY (INCLUDING TEMPORARILY ABANDONED WELL)

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Casing/Liner/Tubing ***

*** Formation Tops/Bases ***

*** Fault Data ***

*** Core Description ***

*** Formation Test Data ***

□

Well Report
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***** MAR 05,2001 14:22:21 ***** PAGE 2

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zone ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Deviation Data ***

*** Directional Survey ***

*** Horizontal Drilling Data ***

*** Drilling Progress Narrative ***

----- Casing Data -----
Size Base Depth Cement Unit
13 3/8 IN 520
9 5/8 IN 4539 1395 SACK

----- Liner Data -----
Size Type Cement Unit Top Depth Base Depth
5 1/2 IN 4316 8238

Map ID No. 5

ARTIFICIAL PENETRATION REVIEW

MAP ID NO. 5

Status P & A

Operator I.B. Moore Trust

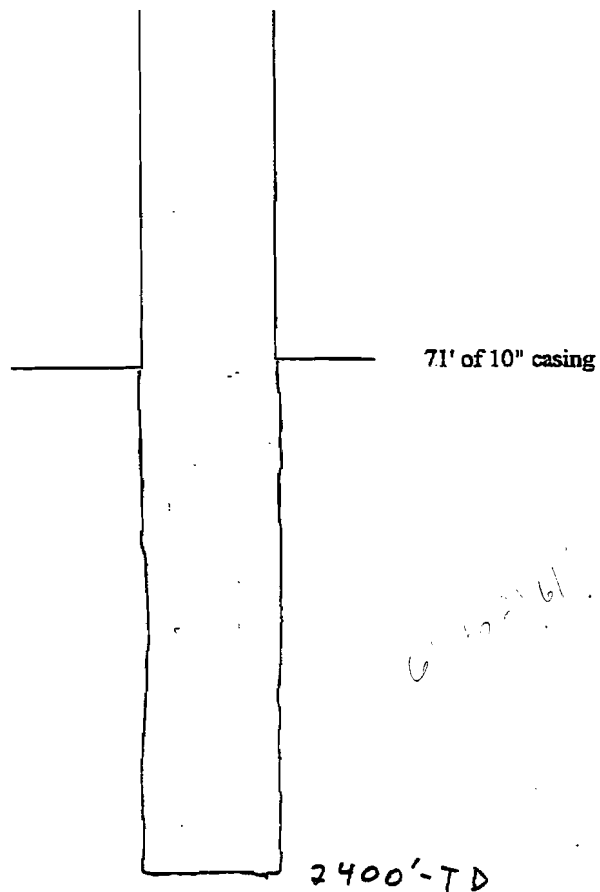
Forms AR Railroad Comm

Lease Fullerwider - Rhea - Kitchen

Distance from Injector 2810'

Well # 1

Well Diagram



Potential Problems:

NONE

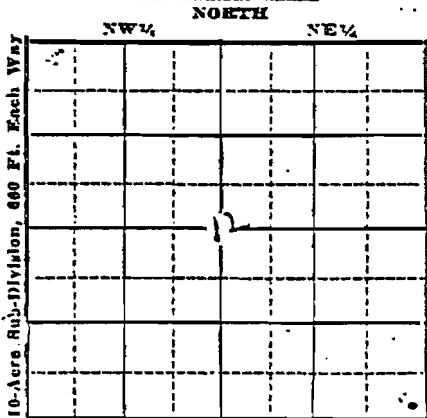
Form A

ARKANSAS RAILROAD COMMISSION

CONSERVATION DIVISION

Application for Permit to Drill, Deepen, Abandon, or Plug and Perforate ✓

Serial No. 3092



SINGLE SECTION PLAT
360 Acres

Mark Well Accurately on Section Plat Shown Above

Two typewritten copies of the log of each well on Department forms must be filed with this office not later than ten days after completion of drilling.

(1) Date Nov. 4 1924

NOTICE—To drill, deepen, abandon or perforate a well in Arkansas without first securing a written permit is an infraction of the law and subject to prosecution.

(2) County Columbia

(3) Farm _____ Well No. 1

(4) Sec. 17 T. 19 R. 22

(5) Land Owner Fulenwider-Rhea-Kits

(6) Owner of Well J. B. Moore

(7) Address Magnolia

_____ A:

(8) Permit to Drill

Drill, Deepen, Abandon, Plug and Perforate

(9) Oil, Gas or Test Well Test

(10) Location of Well in feet from some corner

the Section 200 ft North end

200 ft West

SE, Cor, SE, SE

(11) Send Permit to J. B. Moore

Name Magnolia Ark

Address

Well: Fullenwider #1 Moore et al
Locn: 200NW SE/4 Sec. 12-17S-22W

Result: Dry

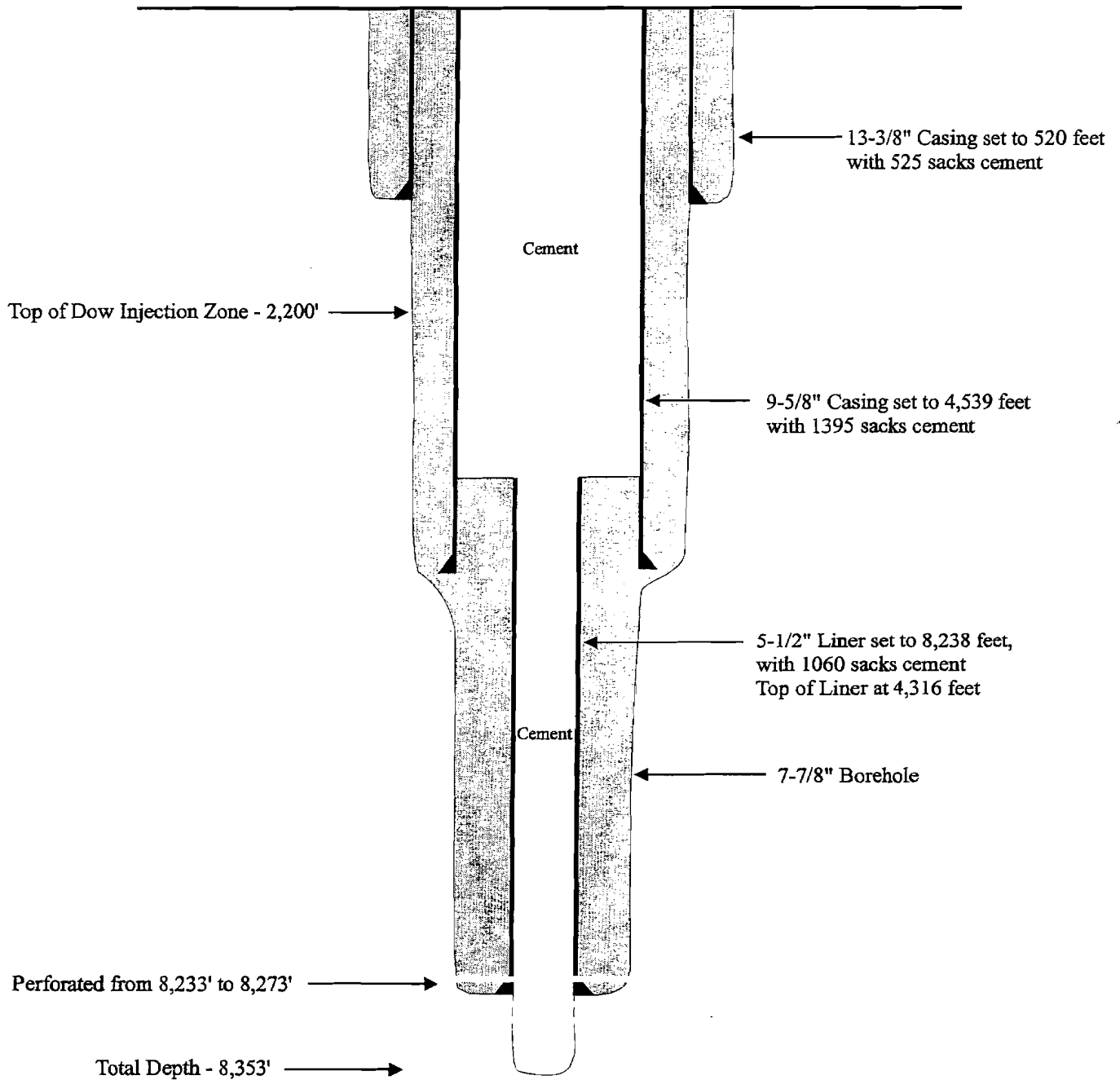
Elev:	PRODUCTION:
TD 2400'	Dry & Abandoned
	RECORD: SPUD 11/10/24 COMP 1/20/25
	10" 71'; 8" 2161' : "
	Csg. Pld.

G. P. ...
DIL REPORTS

Map ID No. 6

Map ID No. - 6
Operator - Ethyl Corporation
Field - Kilgore Lodge
Well No. - 1
Sec. 12, T-17-S, R-22-W
Completion Date - 6/24/70

API No. - 03-027-60013
Serial No. - 21,521
Lease - I. L. Ford
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 12/19/98



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

ARKANSAS OIL AND GAS COMMISSION

El Dorado, Arkansas

Serial No. Bene Suggs

9-8-68

Notice of Intention to Drill For Oil or Gas

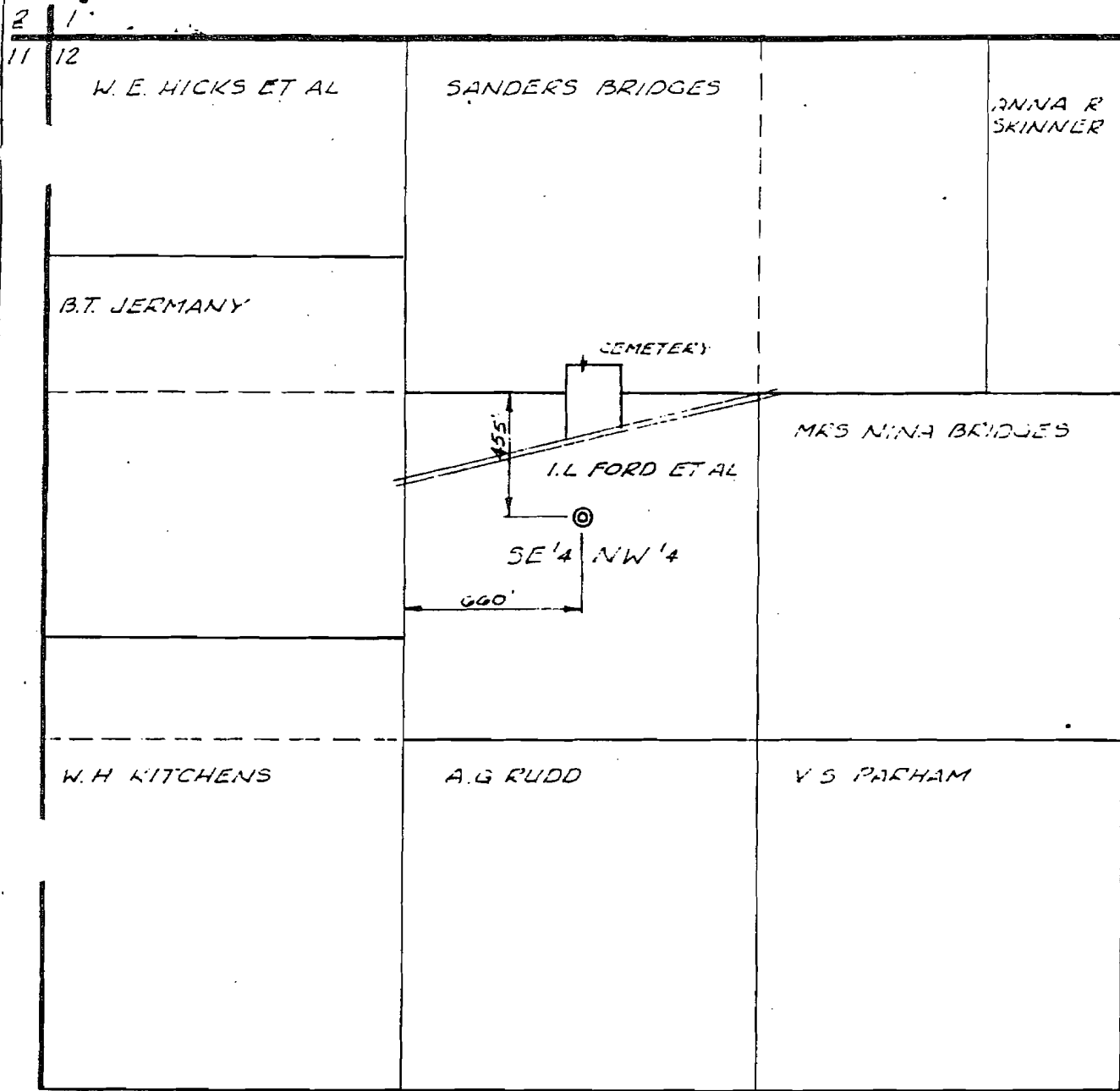
(This application to drill must be accompanied by a remittance of \$50.00)

Date August 8, 1968Name of Operator The Dow Chemical CompanySend Permit to: Street P. O. Box 520City MagnoliaState Arkansas 71753Lease Name I. L. Ford Well No. 1Acres in lease 40.5 Acres (Two Leases)Number of acres in and description of drilling unit 40 acres being SE-1/4 NW-1/4
Section 12, T-17-S, R-22-WLocation of proposed well in drilling unit (give in feet) 455' South and 660' East
of NW Corner of SE 1/4 NW 1/4Section 12 Township 17-S Range 22-WCounty Columbia Field Kilgore Lodge AreaDistance and direction from the nearest town 5.2 miles SW of WaldoDistance from proposed location to nearest drilling, completed or applied for well
1/2 mileRotary or cable tools Rotary Date work will start Not known at presentName of drilling or workover contractor Not known at presentDepth to be drilled 8,500'Formation you propose to complete in Smackover LimeRemarks: Oil & Gas production is not contemplated in this well. It is
located for brine production.**CERTIFICATE**

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. D. Vassan

RD



LOCATION PLAT

WELL NAME I.L. FORD, NO. 1 BRINE SUPPLY WELL
 LOCATION 660' FROM THE WEST LINE & 455' FROM THE NORTH LINE OF THE SE 1/4 NW 1/4 SECTION 12, T-17-S, R-22-W, COLUMBIA COUNTY, ARK.
 OPERATOR DOW CHEMICAL CO, MAGNOLIA, ARK

THE LOCATION SHOWN HEREON WAS STAKED FROM A GROUND SURVEY MADE AUG 2, 1968

W. I. Gates

CRISP & GATES
 SECURITIES BLDG.
 MAGNOLIA, ARK.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21,521

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date Dec. 18, 19 69

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name I. L. Ford Well No. 1

Acres in lease 40.5 Acres (Two Leases)

Number of acres in and description of drilling unit 40 acres being SE-1/4 NW-1/4
Section 12, T-17-S, R-22-W

Location of proposed well (Must agree with Surveyor's Plat) 455' South and 660' East
of NW Corner of SE 1/4 NW 1/4

Section 12 Township 17-S Range 22-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 5.2 miles SW of Waldo

Distance from proposed location to nearest drilling, completed or applied for well
1/2 mile

Rotary or cable tools Rotary Date work will start Approximately 12-29-69

Name of drilling or workover contractor Noble Drilling Company

Depth to be drilled 8,500'

Formation you propose to complete in Smackover Lime

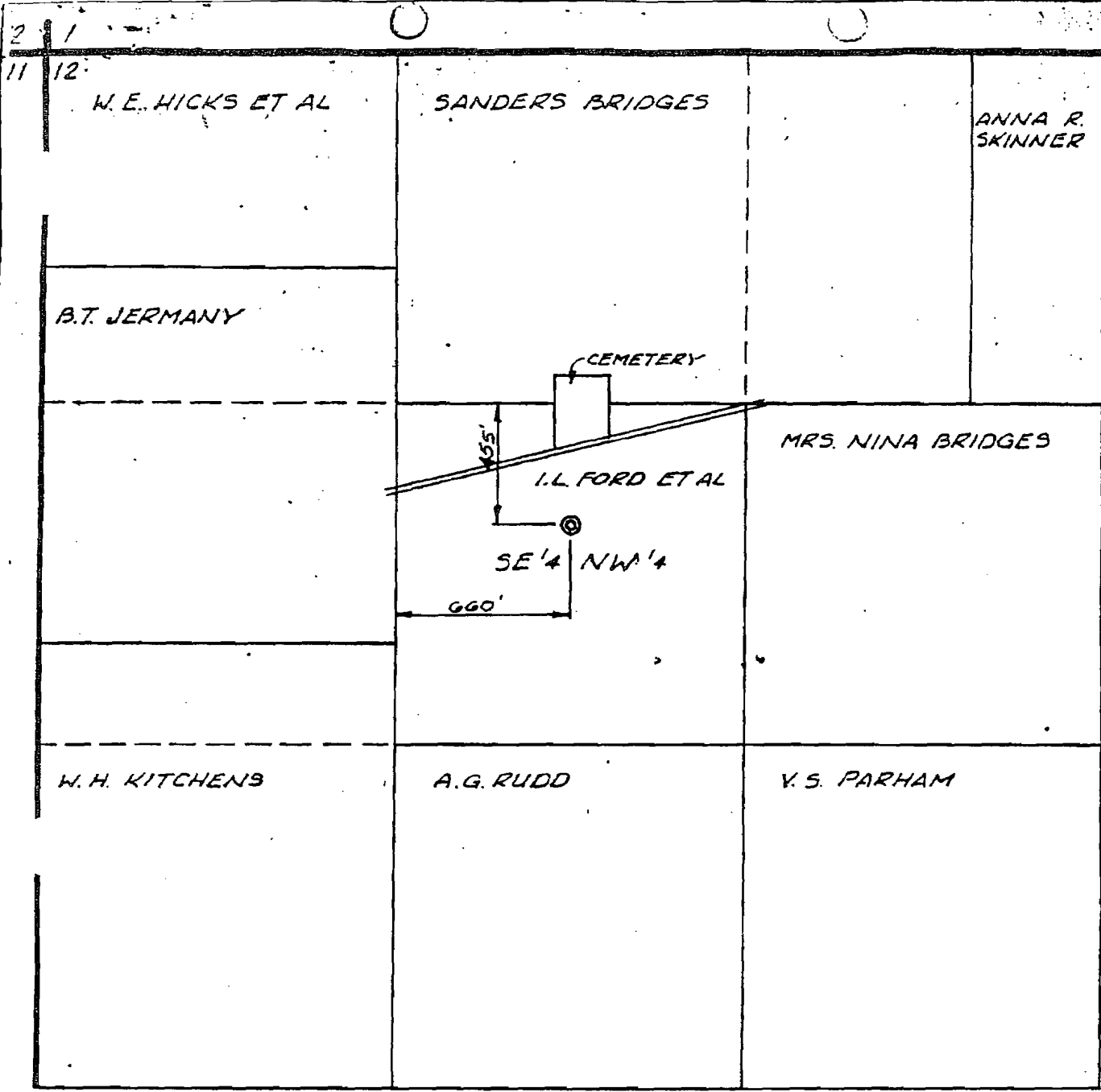
Remarks: Oil & Gas production is not contemplated in this well. It is
located for brine production.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

W. H. Johnson

RD



LOCATION PLAT

WELL NAME I.L. FORD, NO. 1 BRINE SUPPLY WELL
 LOCATION 660' FROM THE WEST LINE & 455' FROM THE NORTH LINE OF THE SE 1/4 NW 1/4 SECTION 12, T-17-S, R-22-W, COLUMBIA COUNTY, ARK.
 OPERATOR DOW CHEMICAL CO, MAGNOLIA, ARK.

THE LOCATION SHOWN HEREON WAS STAKED FROM A GROUND SURVEY MADE AUG. 2, 1968

W. F. Gates

CRISP & GATES
 SECURITIES BLDG.
 MAGNOLIA, ARK.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

21,521

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

LS. 21-5

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In -----
 Lease Name I. L. Ford No. 1 Address: Street P. O. Box 520
 Exact Location 660' FWL & 455' FNL
of SE1/4 NW 1/4 City Magnolia, Arkansas
 Sec. 12 Twp. 17S Rge. 22W
 County Columbia State Arkansas 71753
 Date Commenced 12-29-69
 Date Completed 6-24-70
 Elevation 353
 Total Depth Drilled 8353 *Amended 7/77*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No Enclosed

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20", 5/16" wall set at 40 ft. w/ 6-1/2yd sks.
 Surface: (Size & Wt.) 13-3/8, 48 lb. set at 520 ft. w/ 525 sks.
 Intermediate: (Size & Wt.) 9-5/8", 40 lb. set at 4539 ft. w/ 1395 sks.
 Production: (Size & Wt.) Liner 5-1/2", 17 lb. set at 4316-8238 ft. w/ 1060 sks.
 Tubing: (Size & Wt.) ----- set at ----- ft.
 Perforations: Size 0.45 No. Per Foot 4
 Perforated Intervals: 8233-8273

Acidized: Yes No ; Interval 8233-8273 & 8346-8376 w/ 10,000 gals.
 Fractured: Yes No ; Interval ----- w/ ----- lbs.
 of sand; ----- bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well -----
 2. Tank battery to which this well is connected: Existing pipeline New -----
 3. Liquid production from this well is sold to (Processed in operator's plant)
 (Address -----)
 4. Disposition of gas from this well: Vented Fuel Sold
 If sold, to whom -----
 Address -----

PRODUCTION

Date of Test not applicable Actual Length of Time Tested -----
 Type Well: Flowing Gas Lift Pump
 Tubing Pressure ----- Casing Pressure ----- Choke Size -----
 Net Oil Produced ----- bbls. Gas Produced ----- MCF % BSW ----- GOR -----
 Gravity Oil ----- BHP Recorded -----
 Net Oil in 24 Hours ----- Open Flow Potential ----- MCF -----
 Purpose of this test: Original Completion Workover Recompletion
 Allowable Requested -----

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

[Handwritten notes]

REMARKS:

Well completed for salt water production

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Ford No. 1 (Sec.) 12 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % (Name of Transporter) %

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87.

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3550

ETHYL CORPORATION

L. C. Reynolds
(Company or Operator)
(Affiant)
Field Manager

RECEIVED
ARK. OIL & GAS COM. ARKANSAS OIL AND GAS COMMISSION
P.O. Box 1472
98 DEC -9 AM 10:22 El Dorado, Arkansas 71731-1472

APPLICATION TO PLUG

Serial No. 21,521

Date 12/8/98

File Original Five Full Days Prior To Beginning Plugging Operations

Operator Albemarle Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Magnolia

State Arkansas Zip 71753-1890

Lease Name I. L. Ford Well No. 1

Location 660' FWL & 455' FNL of SE 1/4 NW 1/4

Section 12 Township 17S Range 22W

Type of well (Oil, Gas or Dry) Brine

Date you wish to plug 12/15/98

Total Depth of Well 8,353'

Name of party plugging well Halliburton or Fracmaster

Address: Street _____

City _____

State _____ Zip _____

AOGC-2(56) filed by _____ Date filed _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green
F. A. Green

Handwritten signatures and initials on the right margin.

Arkansas Oil and Gas Commission

P.O. Box 1472

El Dorado, Arkansas 71731-1472

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator ALBEMARLE CORPORATION Field KILGORE LODGE

Address all correspondence concerning this Pool SMACKOVER LIME

form to: ALBEMARLE CORPORATION County COLUMBIA

Street P O BOX 729 City MAGNOLIA State ARKANSAS

Lease I. L. FORD Well No. 1 Sec. 12 Twp. 17S Rge. 22W

Date well was plugged 12-19-98 Total Depth of well 8353'

Was well filled with mud-laden fluid, according to regulations of the Commission? FILLED WITH CEMENT

How much mud applied? NA Were plugs used? NA If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock HOLE FILLED WITH CEMENT

Was notice given before plugging, to all available adjoining lease and land owners as required? NA

170 SACKS OF PREM CEMENT ON BOTTOM 15.6 PPG

875 SACKS OF HLC PREM CEMENT 11.8 PPG

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13 3/8"			520	
9 5/8"			4,539	
5 1/2"			3,921	
4 1/2"			2,510	

4"

173

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

RECEIVED
 ARK. OIL & GAS COMM.
 98 DEC 22 AM 10:15

RA
 MB
 JOM
 [Signature]

Date: 5/1/2001
 Time: 2:15 PM

----- General Information -----

State	: ARKANSAS	Final Status	: SERVICE
County	: COLUMBIA	Drill Total Depth	: 8374
Field	: KILGORE LODGE	Log Total Depth	: 8371
Operator Name	: DOW CHEMICAL CO THE		
Lease Name	: I L FORD		
Well Number	: 1	Spud Date	: JAN 02, 1970
API Number	: 03027600130000	Comp Date	: JUN 24, 1970
Regulatory API	:		
Init Lahee Class	: D	Hole Direction	:
Final Lahee Class	: U	Reference Elevation	:
Permit Number	: 21521	Ground Elevation	:
Geologic Province	: ARKLA BASIN	KB Elevation	:
Formation at TD	: 553SMKV SMACKOVER		
Oldest Age Pen	: 553 UPPER JURASSIC		
Township	: 17 S	Section	: 12 SEC
Range	: 22 W	Spot	: SE NW
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	: 455 FNL 660 FWL CONGRESS QTR QTR		
Latitude	: 33.2802000	Latitude (Bot)	:
Longitude	: -93.3369800	Longitude (Bot)	:
Lat./Long. Source	: TB		

----- Production Tests -----

Test	Top Form	Base Form	Top Depth	Base Depth	Choke	Oil GOR	Prod Grav	Prod Method	Test Method
001	553SMKV	553SMKV	8233	8273				COMB	

UNDESIGNATED

----- Production Volume -----

Test	Amount	Oil Unit	Desc	Amount	Cond Unit	Desc	Amount	Gas Unit	Desc	Amount	Wtr Unit	Desc
001												

----- Production Treatment -----

Test	Top	Base	Volume	Meas	Amount	T/P	PSI	Inj	Type	Nbr	Agent	Add
001	8233	8273	10000	GAL					ACID			

----- Production Perforation -----

Test	Top	Base	Type	Method	Top Form	Base Form	Status	Count	Density	Per
001	8233	8273		COMB	553SMKV	553SMKV				4

----- Formations -----

Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source
601HSTN	HOSSTON	4830				LOG
553CNVL5	COTTON VALLEY SPLINTERY SH /CV SP S	6073				LOG
553BCKR	BUCKNER	8005				LOG
553SMKPL	SMACKOVER POROUS /LM/	8225				LOG

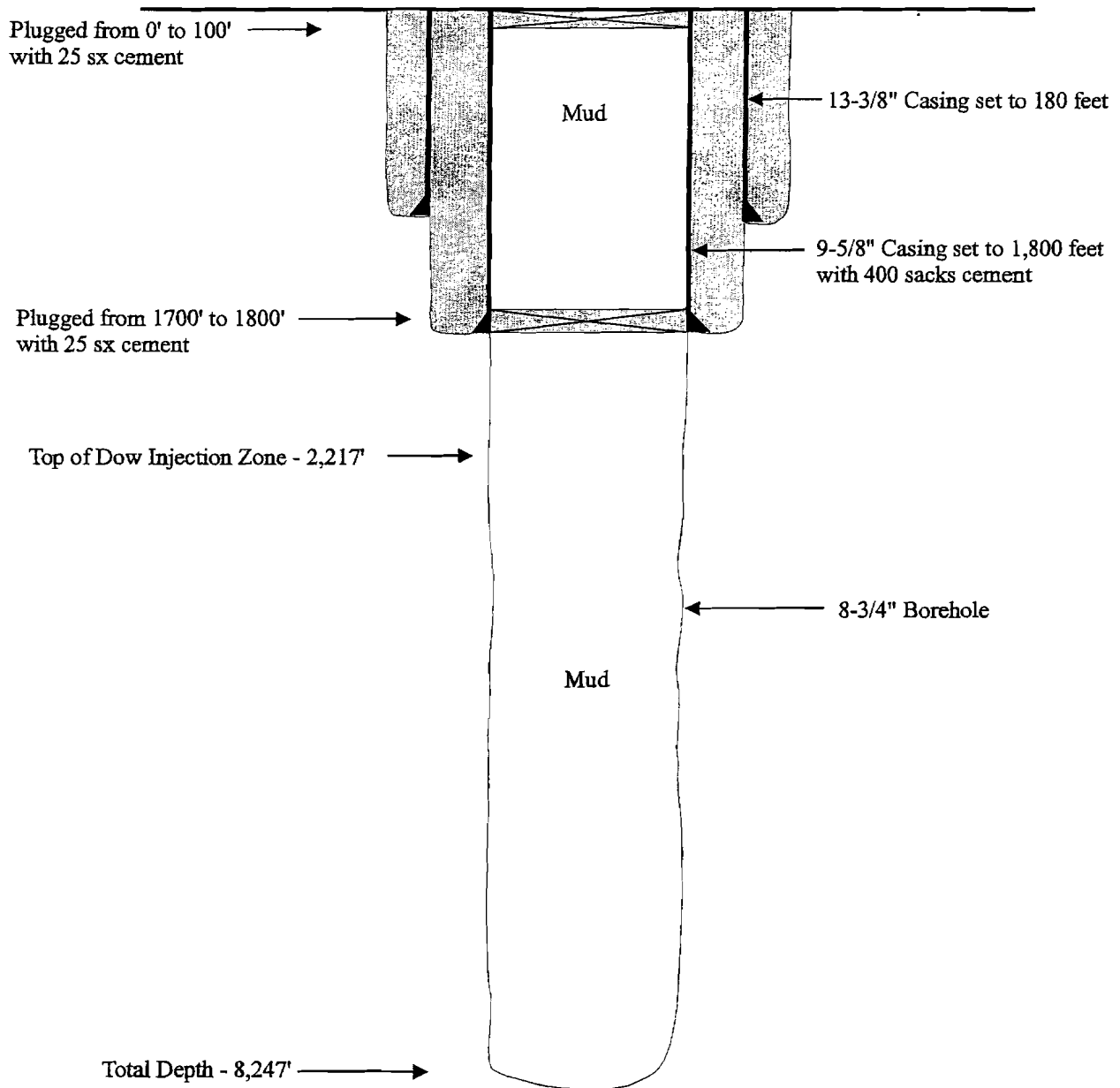
----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	EL	0	8371		

Map ID No. 7

Map ID No. - 7
Operator - E. G. Bradham
Field - Wildcat
Well No. - 1
Sec. 6, R-17-S, T-21-W
Completion Date - 11/23/50

API No. - 03-027-00973
Serial No. -
Lease - Huffman
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 11/24/50



ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

WELL RECORD

(To Be Filed On All Wells)

PRODUCER E. G. Bradham FIELD Wildcat

POOL _____

COUNTY Columbia

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:

STREET 1405 1st Nat'l Bank Bldg., CITY El Dorado, STATE Ark.

LEASE Huffman WELL NO. 1

LOCATION NW 1/4 SE 1/4, SEC. 6, TWP. 17, RGE. 21, ELEVATION 352
(Above sea level)

DRILLING COMMENCED Oct. 13, 1950 DRILLING COMPLETED Nov. 23, 1950

FORM NO. 2 FILED BY E. G. Bradham DATE Oct. 9, 1950

Casing Record

SIZE	PUT IN WELL		PULLED OUT		LEFT IN WELL		NO. SACKS CEMENT USED	SACKERS	FLOAT COLLARS AND SHOES
	Feet	Inches	Feet	Inches	Feet	Inches			
9 5/8	1000		None		1000		400		Howco

Kind of Tubing Head None Kind of Bradenhead None

Kind of fuel used to drill this well Natural Gas Amount used Unknown

Where fuel was secured Arkansas Louisiana Gas Company

Initial production of gas: Volume (MCF) _____ Shut-in pressure _____ Bottom hole pressure _____

Initial production of oil: Barrels Dry Hole

Amount of water with oil: Barrels _____ Per cent _____

Method of shutting off water _____ **PERFORATION RECORD**

Is water completely shut off? _____ Perforated with _____ shots

Remarks: _____ From _____ ft. to _____ ft.

SHOW FORMATION RECORD ON REVERSE SIDE

AFFIDAVIT

I/we hereby swear (or affirm) that the statements herein made are a full and correct report.

Signed G. V. B. [Signature]

Subscribed and sworn to before me this 28th day of November, 1950

My commission expires 11-25-51 [Signature]
Notary Public

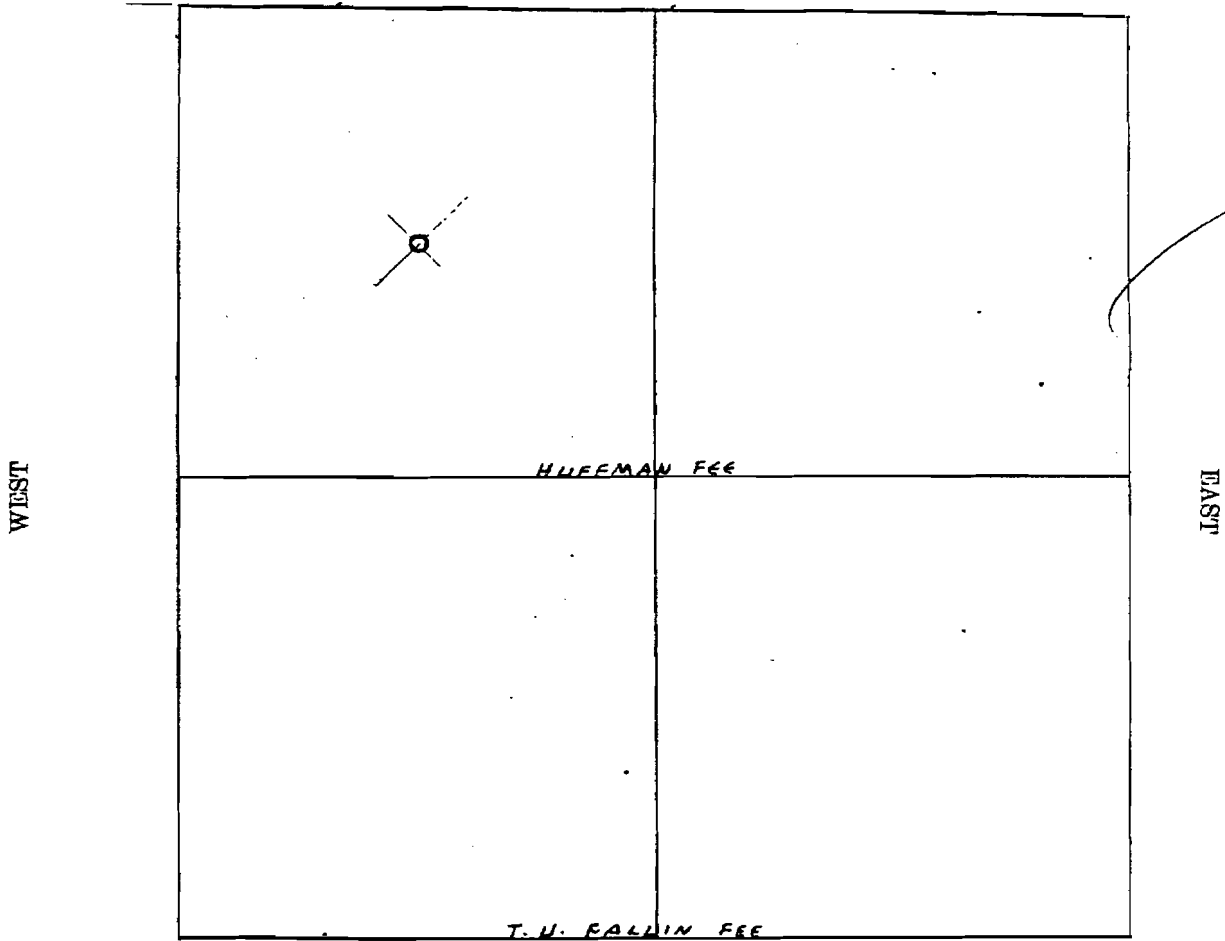
WELLS NOT TO BE PERMITTED TO PRODUCE OIL AND GAS FROM DIFFERENT STRATA
"No well shall be permitted to produce oil and/or gas from different strata through the same string of casing."

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT

(Be sure that all required locations, footage, distances, and scales are given)

NORTH

OCT 11 Rec'd



SE 1/4 SEC. 6 - 17 - 21

SOUTH

Scale of Plat 1" = 400'. Locate well in feet from nearest corner of section.

I, C. V. BLANCHARD, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name C. V. Blanchard Title Supt.

Subscribed and sworn to before me this 11th day of October, 1950

Commission Cassidy
11-25-51 Notary Public, County of Union State of Arkansas

Correspondence regarding this well should be addressed to:

Name E. J. Buchanan
List Well Land Blog.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this with the Commission, setting forth in detail the method used in plugging the well.)

PLUGGING METHODS AND PROCEDURE—The methods and procedure for plugging a well shall be as follows: (a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

(b) A cement plug not less than 15 feet in length shall be placed at approximately 50 feet below all fresh water-bearing strata.

(c) A plug shall be placed at the surface of the ground in each hole plugged in such manner as not to interfere with soil cultivation.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid.

(e) An uncased rotary drilled hole shall be plugged with approved heavy mud up to the base of the surface string at which point a plug of not less than 15 feet of cement shall be placed. The hole shall also be capped similar to other abandoned holes.

(f) The operator shall have the option as to the method of placing cement in the hole by (1) dump bailer (2) pumping through tubing (3) pump and plug, or (4) other method approved by the Commission.

Producer E. G. Bradham Field Wildcat

Pool _____

County Columbia

Address all correspondence concerning this form to:

Street 1st Nat'l Bank Bldg. City El Dorado, State Ark.

Lease Name Huffman Well No. 1 Sec. 6 Twp. 17 Rge. 21

Date Well was plugged November 24, 19 50

Was the well filled with mud-laden fluid, according to regulations of the Commission? Yes,

How was mud applied? Pump Were plugs used Yes. If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock

1700-1800 - Cement plug w/25 sacks cement.

0-100 - Cement plug w/25 sacks cement.

Was notice given before plugging, to all available adjoining lease and land owners as required? _____

(AFFIDAVIT)

State of ARKANSAS

County of UNION

Before me, the undersigned authority, on this day personally appeared S. W. B. Sandhary known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is authorized to make this report and has knowledge of the facts stated here in and that said report is true and correct.

Subscribed and sworn to before me this the 28th day of November, 1950

Josephine F. ...

Notary Public in and for Union County, Arkansas
Commission Expires: 11-25-51

COLUMBIA COUNTY

ARKANSAS

Bradham #1 Huffman
WILD CAT 6-17S-21W

Well: E. G. Bradham #1 Huffman

Result: Dry

Locn: C NW SE; 6-17S-21W

3 mi W & 1/2 mi N of Big Creek Field

Elev: 253'

PRODUCTION:

TOPS BY ELEC LOG:

B/Anhy 3830'

T/James 4362'

T/Travis Peak 4752'

T/Cotton Valley 4922'

T/Buckner 7888'

End Log 8098'

T/Smackover 8120 samples

TD 8246'

DRY & ABANDONED

RECORD: SPUD 10-12-50 COMP 11-26-50

13 3/8" 180', 9 5/8" 1800'

CRD 8005-12', rec 7' sh; CRD 8124-30', rec 1' 11 w/sul

odor; 2 1/2' porous li w/GO, stns; 1 1/2' slily porous li

w/SO & slty tst; CRD 8130-36'; 3' dense li; 3' oolitic

li w/SO & slty tst; ran DST 8124-36'; 1" top & 3/8"

btm chks; 3000' wtr cushion; rec wtr cushion & sml amt

oil cut mud; CRD 8136-46'; 2' dense li & 3' slily

porous li w/fair odor; CRD 8146-52', rec oolitic li w/1' carrying odor; 12 min

DST 8146-52', rec 600' slt wtr; took 76 sidewall samples, rec show of oil at

3834-38' & 3842-46'.

The Bradham
SIL REPORTS

Date: 12-1-50

Card No: 1

ARK rb

PI/Dwights PLUS Online Summary Report

Well No. 7

Date: 5/31/2001
Time: 1:49 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : D&A-O
County          : COLUMBIA          Drill Total Depth : 8246
Field           : WILDCAT           Log Total Depth  : 8098
Operator Name   : BRADHAM E G
Lease Name      : HUFFMAN
Well Number     : 1                 Spud Date       : OCT 12, 1950
API Number      : 03027009730000    Comp Date       : NOV 26, 1950
Regulatory API  :
Init Lahee Class : WF                 Hole Direction  :
Final Lahee Class : WF                 Reference Elevation: 353   ES
Permit Number   :
Geologic Province : ARKLA BASIN          Ground Elevation :
Formation at TD : 553SMKV             SMACKOVER       KB Elevation     :
Oldest Age Pen  : 553             UPPER JURASSIC
Township        : 17 S
Range           : 21 W
Base Meridian   : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location :
Latitude         : 33.2896800        Latitude (Bot)  :
Longitude        : -93.3159000       Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Formations -----

```

Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source
Lithology						
605TOKO	TOKIO	2938				LOG
601CRCSB	BASAL CRETACEOUS /LOWER CRETACEOUS/	3180				LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3679		3830		LOG
602JMES	JAMES	4362				LOG
601SLGP	SLIGO /PETTET/	4622				LOG
601PTTTP	PETTET POROUS /PETTET LM POROUS/	4690		4698		LOG
601TVPTP	TRAVIS PEAK /TTP/	4752				LOG
553CNVL	COTTON VALLEY /GROUP/	5922				LOG
553BCKR	BUCKNER	7888				LOG
553SMKVC	SMACKOVER LM	8117				SPL

```

----- Core Data -----

```

Formation	Top Depth	Base Depth	Recovered	Type	Show
553BCKR	8005	8012	7 FT	CONV	
553SMKVC	8124	8130	5.5 FT	CONV	OSTN
553SMKV	8130	8136	6 FT	CONV	
553SMKV	8136	8146	5 FT	CONV	
553SMKV	8146	8152	5 FT	CONV	ODOR
601CRCSB	3558	6486		SDWL	
602KPCK	3834	3834		SDWL	OSTN
602KPCK	3838	3838		SDWL	OSTN

602KPCK	3842	3842	SDWL	OSTN
602KPCK	3846	3846	SDWL	OSTN

----- Formation Tests -----

Test	Type	Top Depth	Base Depth	Top Form	Top Choke	Bottom Choke	Show
001	DST	8124	8136	553SMKV	24/64	16/64	S
002	DST	8124	8152	553SMKV	24/64	16/64	

----- Pressure and Time -----

Test	Hydro		Init Flow		Final Flow		Shut-in		Open Time		Shut-in Time	
	Init	Final	Init	Final	Init	Final	Init	Final	Init	Final	Init	Final
001						1310						12
002						1740		3170				10

----- Cushion -----

Test	Length	Type
001	3000	WTR
002	3000	WTR

----- Pipe Recovery -----

Test	Amount	Unit	Desc	Rec Type	Rec Method
001	3000	FT	B		PIPE
001	15	FT	OCM		PIPE
002	3000	FT	WB		PIPE
002	650	FT	XW		PIPE

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	EL	0	8098		

----- Casing Data -----

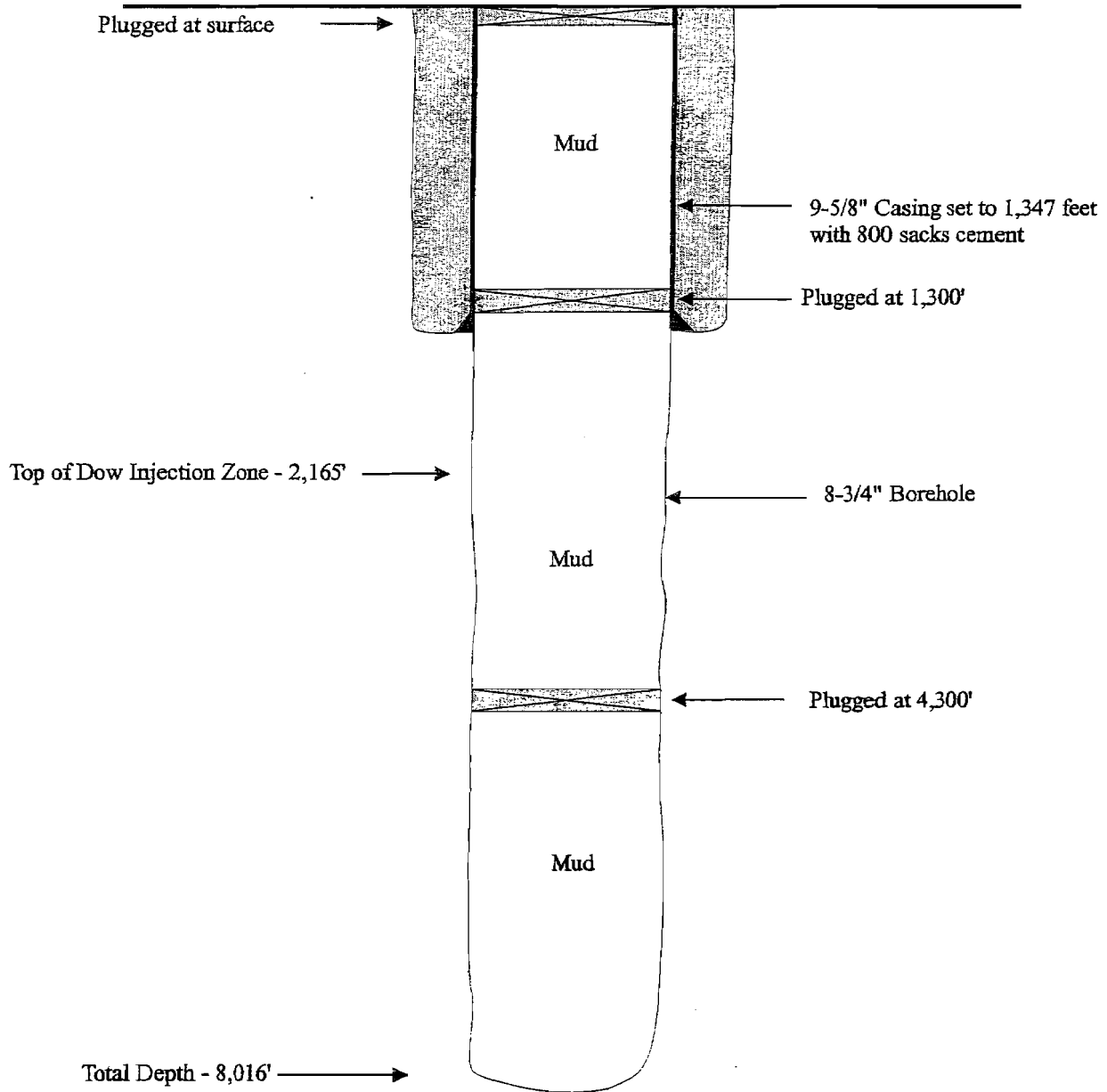
Size	Base	Depth	Cement	Unit
13 3/8 IN		180		
9 5/8 IN		1800		

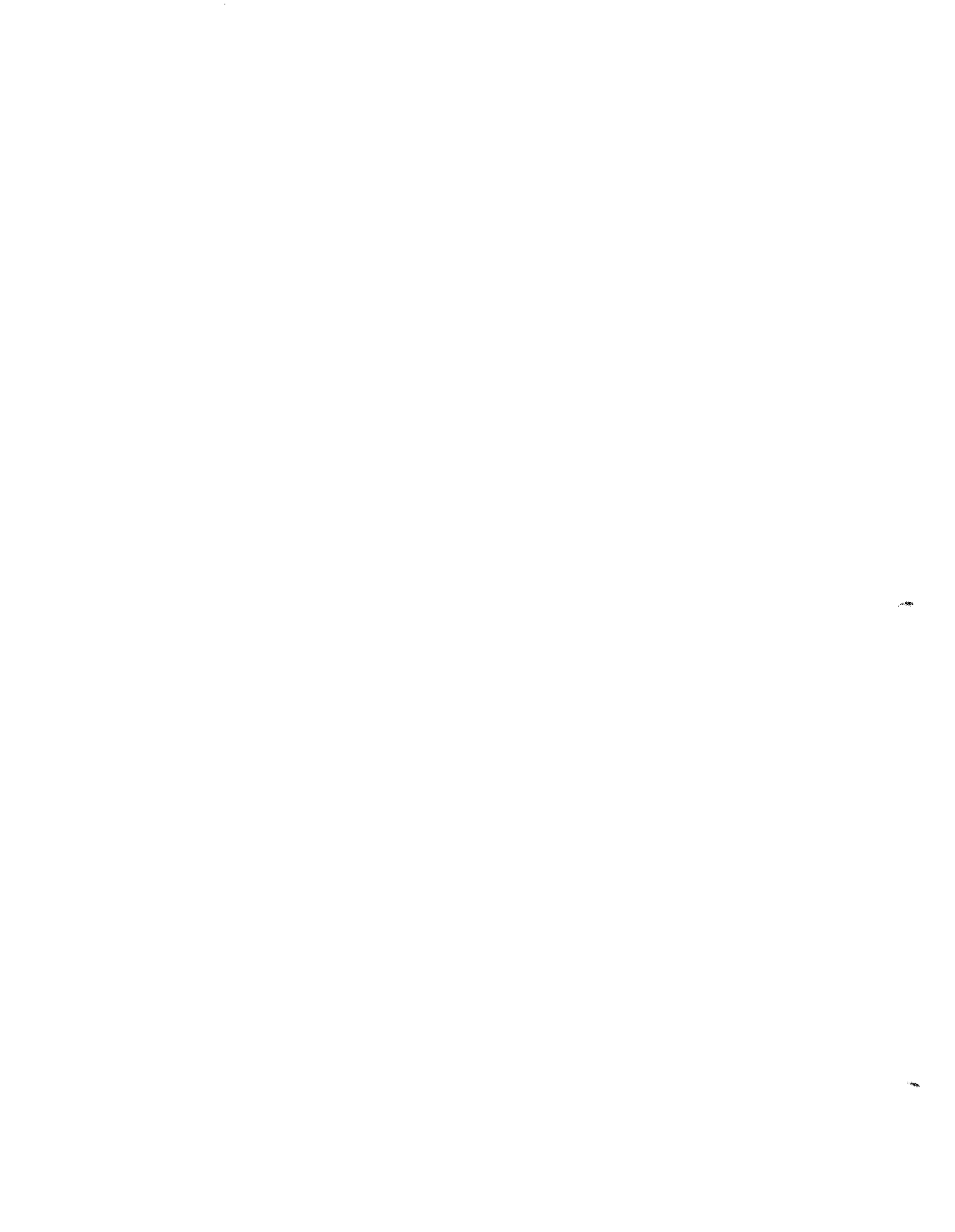
Dwights Energydata Narrative
 Accumulated through 1997
 Dwights number:

Map ID No. 13

Map ID No. - 13
Operator - Lawton-Partee Oil Co.
Field - Wildcat
Well No. - 1
Sec. 5, R-17-S, T-21-W
Completion Date - 10/21/57

API No. - 03-027-00971
Serial No. - 15,108
Lease - J. O. Valentine
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 10/24/57





ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 15,108

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

STATE OF ARKANSAS
YIELDING PERMIT TO DRILL

Date September 19, 1957

Name of Operator Lawton-Partee Oil Company

Send Permit to: Street Box 620

City Magnolia,

State Arkansas

Lease Name J. O. Valentine Well No. A-1

Acres in lease 40

Number of acres in and description of drilling unit 40

Location of proposed well in drilling unit (give in feet) Center SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$

Section 5 Township 17 South Range 21 West

County Columbia Field Wildcat

Distance and direction from the nearest town 3 $\frac{1}{2}$ Miles Northwest of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
Unknown

Rotary or cable tools Rotary Date work will start Immediately

Name of drilling or workover contractor Lawton-Partee Oil Company

Depth to be drilled 8,100'

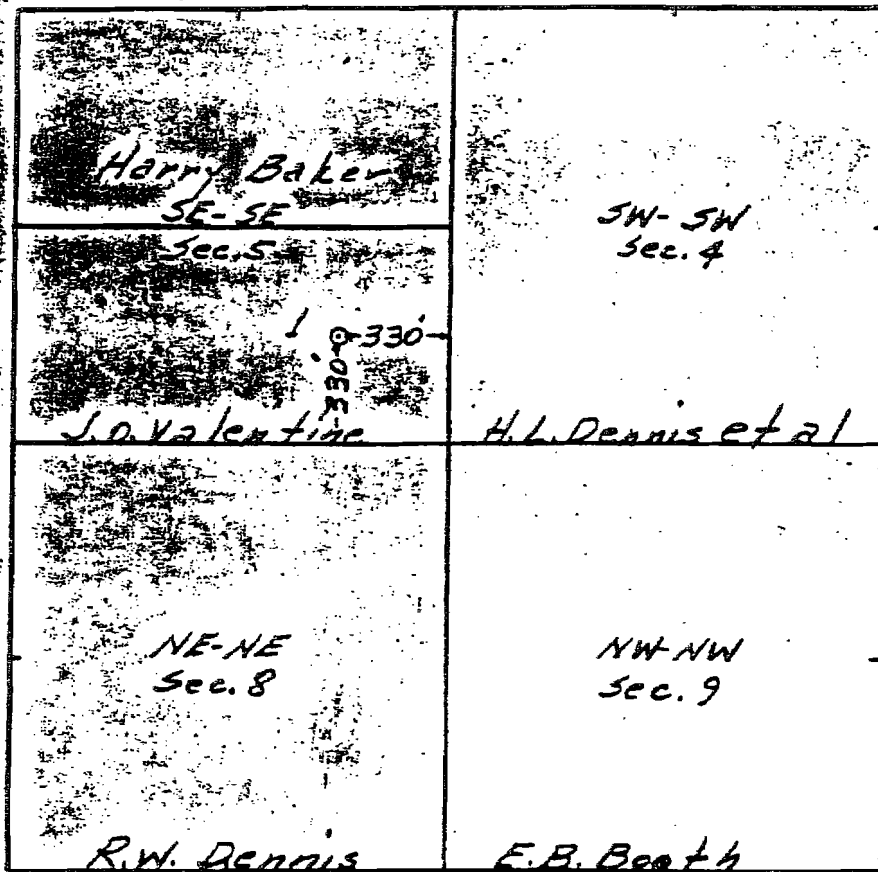
Formation you propose to complete in Smackover Lime

Remarks:

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Law Partee



PLAT SHOWING LOCATION

WELL J.O. Valentine No. 1
 LOCATION Center of SE-SE-SE- Sec. 5 -
T175-R21W-Columbia County, Ark.
 FOR Lanton-Partee Oil Co.

CERTIFICATE:

THIS PLAT WAS PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND.

DATE: Sept. 19, 1957

BY: C. Wesley Williams
 LAND SURVEYOR

MAGNOLIA BLUEPRINT CO.
 202 N. JACKSON ST.
 MAGNOLIA, ARKANSAS

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted

WELL DESCRIPTION

Field Wildcat Producer Lawton-Partee Oil Company
 Pool Completed In Smackover Lime
 Lease Name J. O. Volentine No. A-1 Address: Street Box 620
 Exact Location Center SE¹/₄ SE¹/₄ SE¹/₄ City Magnolia,
 Sec. 5 Twp. 17 Rge. 21 State Arkansas
 County Columbia
 Date Commenced September 22, 1957
 Date Completed October 22, 1957
 Elevation Ground 300.51'
 Total Depth Drilled 8,014
 Electric Log Run: Yes X No _____
 Electric Log Filed: Yes Included No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 9 5/8" - 32.30# H40 set at 1,347 ft. w/ 800 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: Dry
 Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well One
 2. Tank battery to which this well is connected: Existing _____ New _____
 3. Liquid production from this well is sold to (D R Y)
 (Address _____)
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION DATA

Date of Test D R Y Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 15,108

Date November 4, 1957

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Lawton-Partee Oil Company

Field Wildcat

County Columbia

Operator's Address: Street Box 620

City Magnolia,

State Arkansas

Lease Name J. O. Volentine Well No. A-1

Location Center SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$

Section 5 Township 17 South Range 21 West

Character of well (Oil, Gas or Dry) Dry

Date you wish to plug Immediately

Total Depth of Well 8,014'

Name of party plugging well Lawton-Partee Oil Company

Address: Street Box 620

City Magnolia

State Arkansas

AOGC-2(56) filed by Lawton-Partee Oil Company Date filed September 20, 1957

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Lesley

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.

Operator Lawton-Partee Oil Company Field Wildcat

Address all correspondence concerning this Pool Smackover

form to: Lawton-Partee Oil Company County Columbia

Street Box 620 City Magnolia, State Arkansas

Lease J. O. Volentine Well No. A-1 Sec. 5 Twp. 17 Rge. 21

Date well was plugged October 24, 1957 Total Depth of well 8,014'

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Rig Pump Were plugs used? No If so, show all shoulders for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement

rock Cement Plug at 4,300', cement plug at 1,300' in bottom of surface, plug in top of 9 5/8" surface pipe

Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
9 5/8"	1,347'	--	1,347'	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Les Nudly

Columbia County

Arkansas Outpost Big Creek Fld 5-17S-21W

Well: Lawton-Partee Oil Co., Colorado O&G Corp & Sun Oil Co. J.C. Valentine
Loc'n: Sec 5-17S-21W, C SE SE SE, 1 mi W/discovery(abnd), (D&A)
2 3/8 mi W-NW/Mag

Spuds: 9-23-57 Comp: 10-21-57 Elev: 309' TD: 8016' C/Lawton-
Casings: 9 5/8" 1337' Partee

Prod Zone: None

IP: None

Comp Info: Crd 4565-95', rec 30' sh & tight li, NS; S/T: James 4250',
Crd 8004-14', rec 10' li, light gray, ool, gd perm, gd GO&T, no salty
taste; DST 8007-14', 1/4" chs, 2000' WC, op 11 mins, GTS 9 mins, WCTS 11
mins, flwd est 500,000 CYGPD w/spray cond, TP 600%, rec 75' cond & 225'
SW, BHPT 2955-2975'; DST 8006-14', 1/4" chs, 3500' WC, op 54 mins, GTS
35 mins, WCTS 37 mins, flwd est 750,000 CYGPD w/spray cond, TP 1600%, rec
10' cond & 1170' SW, BHPT 2950-2955', BHPSI 3170*/20 mins, reamed to btm
& ran EL to TD 8016'.

Tops: (Elec Log) Ark 1706', Mac 1834', Sara 2170', B/An 2488', Tokio 2883',
MA 3563-3720', Hogg Mac 4470', Sligo 4525', Hosa 4642', CV 5908', Bunker
7790', Smk 7994', For 8004'.

Sun Oil
Oil 1200011

Date: 10-24-57

Card No: 1 Ark.

Date: 5/3/2001
Time: 3:16 PM

----- General Information -----

State	: ARKANSAS	Final Status	: D&A-OG
County	: COLUMBIA	Drill Total Depth	: 8016
Field	: BIG CREEK	Log Total Depth	: 8016
Operator Name	: LAWTON PARTEE OIL CO		
Lease Name	: J O VALENTINE A		
Well Number	: 1	Spud Date	: SEP 23, 1957
API Number	: 03027009710000	Ccmp Date	: OCT 21, 1957
Regulatory API	:		
Init Lahee Class	: WO	Hole Direction	:
Final Lahee Class	: WO	Reference Elevation:	310 DF
Permit Number	:	Ground Elevation	:
Geologic Province	: ARKLA BASIN	KB Elevation	:
Formation at TD	: 553SMKV SMACKOVER		
Oldest Age Pen	: 553 UPPER JURASSIC		
Township	: 17 S	Section	: 5 SEC
Range	: 21 W	Spot	: C SESESE
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	:		
Latitude	: 33.2844800	Latitude (Bot)	:
Longitude	: -93.2938300	Longitude (Bot)	:
Lat./Long. Source	: TB		
Location Narrative	: Type	Remark	
	: LOCATION	C SE SE SE SEC 5-17S-21W 1 MILE WEST	

OF

PRODUCTION

----- Formations -----

Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source
Lithology						
605NCTC	NACATOCH	1834				LOG
605TOKO	TOKIO	2882				LOG
605TOKO	TOKIO	2895				SPL
605TSCG	TUSCALOOSA GROUP	3120				LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3562		3717		LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3565		3725		SPL
602JMES	JAMES	4248				LOG
601TVPTP	TRAVIS PEAK /TTP/	4645				SPL
601TVPTP	TRAVIS PEAK /TTP/	4652				LOG
553CNVL	COTTON VALLEY /GROUP/	5815				SPL
553CNVL	COTTON VALLEY /GROUP/	5907				LOG
553BCKR	BUCKNER	7778				LOG
553SMKV	SMACKOVER	7997				LOG
553SMKPL	SMACKOVER POROUS /LM/	8004				LOG
605ANNNC	ANNONA /ANNONA CHALK/			2490		LOG
605ANNNC	ANNONA /ANNONA CHALK/			2490		SPL

----- Core Data -----

Formation	Top Depth	Base Depth	Recovered	Type	Show
-----------	-----------	------------	-----------	------	------

553SMKV 4565 4595 30 FT CONV
 553SMKV 8004 8014 10 FT CONV GAS

----- Formation Tests -----

Test	Type	Top Depth	Base Depth	Top Form	Top Choke	Bottom Choke	Show
001	DST	8007	8014	553SMKV	16/64	16/64	S
002	DST	8006	8014	553SMKV	16/64	16/64	S

----- Pressure and Time -----

Test	Hydro		Init Flow		Final Flow		Shut-in		Open Time		Shut-in Time	
	Init	Final	Init	Final	Init	Final	Init	Final	Init	Final	Init	Final
001					2955	2975						11
002					2950	2955		3170				54

----- Cushion -----

Test	Length	Type
001	2000	WTR

----- Pipe Recovery -----

Test	Amount	Unit	Desc	Rec Type	Rec Method
001	75	FT	C		PIPE
001	225	FT	XW		PIPE
002	10	FT	C		PIPE
002	1170	FT	XW		PIPE

----- Material to Surface -----

Test	Amount	Unit	Fluid	Typ	Time
001			GAS		9
002			CUSH		37
002			GAS		35

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	EL	0	8016		

----- Casing Data -----

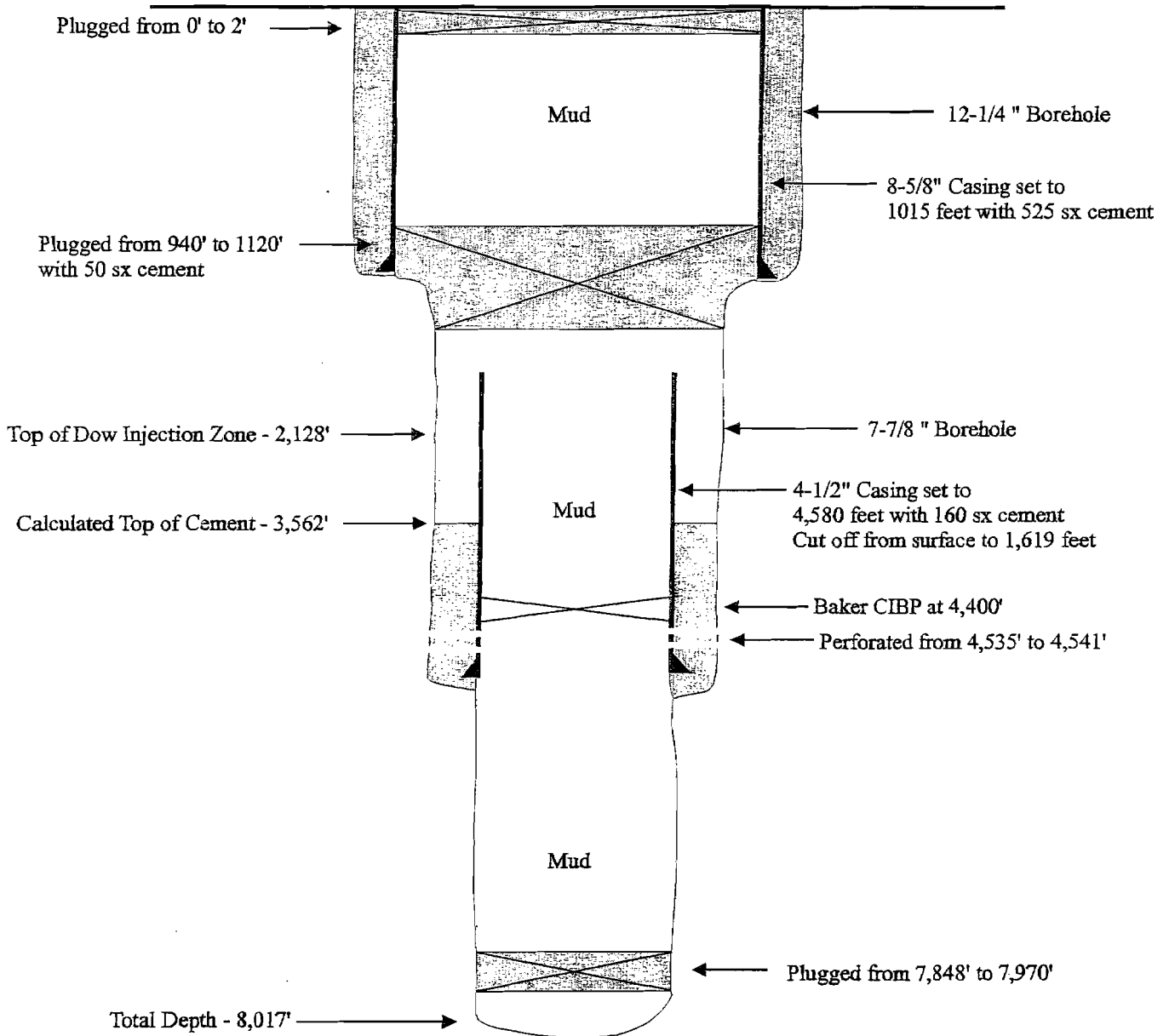
Size	Base	Depth	Cement	Unit
9 5/8 IN		1337		

Dwights Energydata Narrative
 Accumulated through 1997
 Dwights number:

Map ID No. 23

Map ID No. - 23
Operator - Bryan Production (Monexco)
Field - Kilgore Lodge
Well No. - 1
Sec. 9, R-17-S, T-21-W
Completion Date - 10/9/81

API No. - 03-027-10800
Serial No. - 26,167; 27,523
Lease - Verna Nipper
Type - Dry Hole Re-entry
Status - Plugged
County - Columbia
Date Plugged - 12/5/81



15

COMPANY: Schlumberger FIELD: VENTURA COUNTY: CALIFORNIA STATE: CALIFORNIA		WELL: 15699 DEPTH: 1150 FT	
LOGGING DATA (Grid area with various data points and handwritten notes)			

DEPTH (FT)	RESISTIVITY (OHMS IN)	SPHERICALLY FOCUSED LOG	REMARKS
0	10		
10	100		
20	10		
30	10		
40	10		
50	10		
60	10		
70	10		
80	10		
90	10		
100	10		
110	10		
120	10		
130	10		
140	10		
150	10		
160	10		
170	10		
180	10		
190	10		
200	10		
210	10		
220	10		
230	10		
240	10		
250	10		
260	10		
270	10		
280	10		
290	10		
300	10		

SPONTANEOUS POTENTIAL (Scale and data area)	RESISTIVITY OHMS IN AT DEEP INDUCTION R_{100} 0 --- 10 0 --- 100	CONDUCTIVITY IN OHMS IN AT DEEP INDUCTION C_{100} 0 --- 10 0 --- 100
	SPHERICALLY FOCUSED LOG R_{10} 0 --- 10 0 --- 100	

02 027 10, 800

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 26,167

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date March 25, 19 80

Name of Operator Monexco Oil & Gas Exploration

Send Permit to: Street C/O Kern Drilling P. O. Box 688

City Magnolia

State Arkansas 71753

Lease Name Verna W. Nipper Well No. 1

Acres in lease _____

Number of acres in and description of drilling unit 1/2 SW/4

NE/4 SW/4 Sec. 9-17S-21W

Location of proposed well (Must agree with Surveyor's Plat) 460' From the North Line and 330' From the West Line of the NE/4 SW/4

Section 9 Township 17S Range 21W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 4 miles from Magnolia

Distance from proposed location to nearest drilling, completed or applied for well _____

Rotary or cable tools Rotary Date work will start approx. 2 weeks

Name of drilling or workover contractor Kern Division of Transcontinental Drlg. co. Inc.

Depth to be drilled 8100'

Formation you propose to complete in Smackover

Remittance _____

RECEIVED

MAR 27 1980

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

ARKANSAS OIL AND GAS COMMISSION

[Signature]

PH
O.H.
KED

R-21 W

E. B. BOOTH

HELEN GREEN

OLLIE MOONEY

ROY NIPPER

NE 1/4 SW 1/4

Pond
19 3 W.

SKLAR & PHILLIPS
C. F. JONES

CENTRAL
ROOFING

8 9

17 16

WELL LOCATION PLAT

OPERATOR MONEXCO OIL & GAS EXPLORATION

WELL NAME VERNA W. NIPPER NO. 1

LOCATION 460' FROM THE NORTH LINE AND 330' FROM THE WEST LINE OF
THE NE 1/4 SW 1/4 SECT. 9, T-17 S R-21 W COLUMBIA CO. ARK.

The location shown hereon was staked from a ground survey
made 3-14 1980

DATE 12/11/80 3-20-80

CRISP SURVEYING SERVICE
216 S. Washington St.
Magrillo, Ark.

Scale 1" = 600'

R.L.S. 454

T
17
S

Well Completion and Recompletion Report
(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

26/67
B.W.
Jan

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Monexco Oil & Gas Exploration
 Pool Completed In Dry
 Lease Name Nipper No. 1 Address: Street 4221 First International Bldg.
 Exact Location 460 FNL & 330 FWL of
NE/4 SW/4 City Dallas
 Sec. 9 Twp. 17S Rge. 21W State Texas 75270
 County Columbia
 Date Commenced 5-10-80
 Date Completed 7-23-80
 Elevation KDB 269.46
 Total Depth Drilled 8017
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

RECEIVED
AUG 13 1980

CASING, TUBING, PERFORATING AND COMPLETION PROGRAMS

Conductor: (Size & Wt.) 8 5/8 24# set at 1015 ft. w/ 525 sks.
 Surface: (Size & Wt.) 8 5/8 24# set at 1015 ft. w/ 525 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: _____
 Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well _____
 2. Tank battery to which this well is connected: Existing _____ New _____
 3. Liquid production from this well is sold to (_____
 (Address _____
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test _____ Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J. T. Collins

27

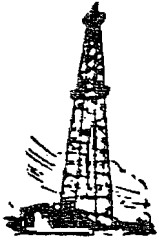
Well was P&A as follows

- 1) Set a 35 sx cement plug from 7970-7848
- 2) Set a 30 sx cement plug from 1065-965 and a 5 sx plug from 10-0. Cut off casing and welded a steel plate on top of casing.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.



J. T. Collins, Inc.

Petroleum Consultant

TELEPHONE 318/222-2567

1500 N. MARKET • SUITE B-112

SHREVEPORT, LA. 71107

June 2, 1980

DRILLING
COMPLETIONS
WORKOVERS
PROPERTY MANAGEMENT

Arkansas Oil and Gas Commission
314 East Oak
El Dorado, Arkansas 71730

Re: Request permission to pump
the fluid in the reserve pit
down the surface casing and
P&A the well.

The subject well is the Nipper #1, located 460 FNL
and 330 FWL of the NE/4 SW/4 Section 9, T17S, R21W, Columbia
County, Arkansas. Operator is Monexco Oil and Gas Exploration.

I request permission to pump the fluids from the
reserve pit down the surface casing and then plug and abandon
the well. P&A procedure is to place a 50' cement plug w/ 25' in
and 25' out of surface casing which is bottomed at 1015', then
cut off casing below plow depth, place a 5 sx cement plug in top
and weld a steel plate on top. Mr. Saulsbury will be notified
prior to plugging well.

RECEIVED

JUN 3 1980

Sincerely,

J. T. Collins

J. T. Collins

ARKANSAS OIL & GAS COMMISSION



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street • Ft. Dorado, Arkansas 71730

Ralph A. Dumas
Director

Ph. 501 862 4965

June 3, 1980

Mr. J. T. Collins
1500 N. Market
Suite B-112
Shreveport, LA 71107

Re: Monexco Oil & Gas
#1 Nipper
Sec. 9-17S-21W
Columbia County, Ark.

Dear Sir:

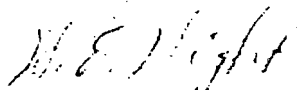
Your request to pump the fluid in the reserve pit down the surface casing of the referenced well has been reviewed and found to be reasonable. This letter shall be your authority as requested in your letter of June 2, 1980.

This department shall be notified in time to have a field representative present at the time the well is officially plugged and abandoned.

We will expect this work to be completed in a period of ten (10) days.

We trust that this letter will serve your purpose, and if we may be of further assistance, please advise.

Yours very truly,


W. E. Wright
Petroleum Geologist

WEW/jas

COMMISSION MEMBERS • James D. Reynolds, Chairman, Camden
Thomas C. Mueller, Vice Chairman, Fort Smith • E. Boyd Anderson, El Dorado • C. G. Davis, Magnolia
Neil R. Price, Smackover • James O. Starks, Mena • Hayer C. McClendon, Texarkana

An Agency of the Arkansas Department of Commerce
An equal opportunity employer

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 26167

Date August 11, 1980

**File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders**

Operator Monexco Oil and Gas Exploration
 Field Kilgore Lodge
 County Columbia
 Operator's Address: Street 4221 First International Bldg.
 City Dallas
 State Texas 75270
 Lease Name Nipper Well No. 1
 Location 460 FNL & 330 FWL of NE/4 SW/4
 Section 9 Township 17S Range 21W
 Character of well (Oil, Gas or Dry) Dry
 Date you wish to plug 7-23-80
 Total Depth of Well 8017
 Name of party plugging well H&N Oil Well Cementing
 Address: Street 4511 West Hillsboro
 City El Dorado
 State Arkansas 71730
 AOGC-2(56) filed by J.T. Collins Date filed 8-11-80

RECEIVED

AUG 13 1980

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J.T. Collins

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Monexco Oil & Gas Exploration Field Kilgore Lodge

Address all correspondence concerning this Pool Dry

form to: Same as above County Columbia

Street 4221 First International Bldg. Dallas City Dallas State Texas 75270

Lease Nipper Well No. 1 Sec. 9 Twp. 17S Rge. 21W

Date well was plugged 7-23-80 Total Depth of well 8017

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Full Were plugs used? If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock

Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

RECEIVED
AUG 13 1980

INFORMATION ON CASING RECLAIMED FROM WELL
ARKANSAS OIL & GAS COMMISSION

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J. L. Lewis

Re-enter #26,167

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 27523

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)
150.00

Date Aug. 17, 19 81

Name of Operator BRYAN PRODUCTION CO.

Send Permit to: Street 14110 DALLAS PARKWAY #110

City DALLAS

State TX. 15240

Lease Name VERNA NIPPER Well No. 1

Acres in lease 160 ACRES

Number of acres in and description of drilling unit 20 ACRES RUNNING NORTH SOUTH FROM THE WEST LEASE LINE

Location of proposed well (Must agree with Surveyor's Plat) RE-ENTRY OF VERA W. NIPPER 330' FROM WEST LEASE LINE + 460' FROM N. LINE. OF NE 1/4 SW 1/4

Section 9 Township 17 S Range 21 W

County COLUMBIA Field Kilgore Lodge

Distance and direction from the nearest town 3 MI. W. N.W. MAGNOLIA

Distance from proposed location to nearest drilling, completed or applied for well NONE ON THE LEASE

Rotary or cable tools ROTARY Date work will start 8-24-81

Name of drilling or workover contractor B + B WELL SERVICE

Depth to be drilled 4500'

Formation you propose to complete in PETTET

Remarks: _____

RECEIVED

AUG 20 1981

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cary Bell

sk
LF

R-21 W

E. B. BOOTH

HELEN GREEN

OLLIE MOONEY

ROY NIPPER

NE 1/4 SW 1/4

T
17
S

0 Dow
8.3 W

SKEAR & PHILLIPS
C. F. JONES

CENTRAL
ROOFING

10 Dow
8.6 W

8 9

17 16

RECEIVED

AUG 20 1981

WELL LOCATION PLAT

OPERATOR MONEXCO OIL & GAS EXPLORATION

WELL NAME VERNA W. NIPPER NO. 1

LOCATION 460' FROM THE NORTH LINE AND 330' FROM THE WEST LINE OF THE NE 1/4 SW 1/4 SECT. 9, T-17 S R-21 W COLUMBIA CO. ARK.

ARKANSAS OIL & GAS COMMISSION

The location shown hereon was staked from a ground survey made 3-14 1980

PLAT DELIVERED 3-26-80
CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

Scale 1" = 600'

R.L.S. 45

Re-enter

COMPANY Bryan Production Co. WELL NAME & NO. Verna Nipper # 1
LOCATION 460' FNL & 330' FNL of NE 1/4 SW 1/4 SEC. 9 TWP. 17S RGE. 21W
County Columbia Field Kilgore Lodge
Depth to be drilled 4500 feet. Surface casing required 1015 feet. already set
Date to start drilling 8-24-81 Contractor B & B well service
Date permitted 8-21-81

To be inspected during drilling operation:

Size Surface Casing 8 5/8 inches. Amount of Casing set 1015 feet.

Size Hole 12 1/4 inches.

Sacks of Cement 525. Returns on Cement Date Set 5-10-80

Cemented by Halliburton Witnessed by Telephone

To be witnessed upon completion of Dry Hole:

Plug above any show or sand producing in offset well set at _____ feet with _____ sacks of cement.

Plug below base of fresh water sands set at _____ feet with _____ sacks of cement.

Plugged in top of surface casing with _____ sacks of cement.

DATE PLUGGED _____ CEMENTED BY _____

TOTAL DEPTH _____

WITNESSED BY _____

ARKANSAS OIL AND GAS COMMISSION

REMARKS:

Originally drilled by Monexco Oil & Gas Exploration

27528

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field KILGORE LOAGE Name of Operator BRYAN PRODUCTION CO.
Pool Completed In _____
Lease Name VERDA NIPPER No. 1 Address: Street 4110 DALLAS PARKWAY #110
Exact Location 460' FROM A. LEASE LINE City DALLAS
330' FROM W. LEASE LINE State TX 75240
Sec. 9 Twp. 17 S Rge. 21 W
County COLUMBIA
Date Commenced 8-25-91
Date Completed 10-9-91
Elevation 269.4' KB
Total Depth Drilled 4600'
Electric Log Run: Yes No _____
Electric Log Filed: Yes _____ No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Surface: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Production: (Size & Wt.) 4 1/2 set at 4520 ft. w/ 1600 sks.
Tubing: (Size & Wt.) _____ set at _____ ft.
Peforations: Size 3 1/8" No. Per Foot 4
Peforated Intervals: 4535 - 4541

Acidized: Yes _____ No ; Interval _____ w/ _____ gals.
Fractured: Yes _____ No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well ONE
2. Tank battery to which this well is connected: Existing _____
3. Liquid production from this well is sold to (N/A)
(Address) _____
4. Disposition of gas from this well: Vented Fuel _____ Sold _____
If sold, to whom _____
Address _____

RECEIVED
OFC 18 1991

PRODUCTION

ARKANSAS OIL & GAS COMMISSION

Date of Test 10-9-91 Actual Length of Time Tested 24 HRS.
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours NONE Open Flow Potential SHOW - NONE MCF _____
Purpose of this test: Original Completion Workover _____ Recompletion _____
Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cary Dade

U.S.A.
D.K.
D.K.

WELL WAS PLUGGED + ABANDONED -

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 27523
~~27552~~

Date 12-1-81

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator BRYAN PRODUCTION CO.

Field KILGORE LOAGE

County COLUMBIA

Operator's Address: Street 14110 DALLAS PARKWAY #110

City DALLAS

State TX. 75240

Lease Name VERNA NIPPER Well No. 1

Location 460' FROM N. LEASE LINE + 330' FROM WEST LEASE LINE

Section 9 Township 17 S Range 21 W

Character of well (Oil, Gas or Dry) DRY

Date you wish to plug 12-3-81

Total Depth of Well 4600'

Name of party plugging well B & B WELL SERVICE

Address: Street BOX 106

City STEPHENS

State ARK.

AOGC-2(56) filed by BRYAN PRODUCTION CO. Date filed 8-21-81

CERTIFICATE

I declare under the penalties of perjury that this report has been examined and to the best of my knowledge is true, correct and complete.

Gary Bled

RECEIVED

DEC 18 1981

22552

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator BRYAN PRODUCTION Co. Field KILGORE LODGE

Address all correspondence concerning this Pool PETTI

form to: BRYAN PRODUCTION Co. County COLUMBIA

Street 1440 DALLAS PARKWAY #110 City DALLAS State TEXAS

Lease VERNA NIPPER Well No. #1 Sec. _____ Twp. _____ Rge. _____

Date well was plugged 12-05-81 Total Depth of well 4691'

Was well filled with mud-laden fluid, according to regulations of the Commission? _____

How much mud applied? _____ Were plugs used? YES If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock 4 1/2" BAKER PLUG SET @ 4400' - CEMENT PLUG 100' IN 7 7/8" HOLE - 50' IN 8 5/8" CASING 24# - 2' CEMENT PLUG @ TOP - WELDED PLATE ON TOP.
Was notice given before plugging, to all available adjoining lease and land owners as required? YES

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
4 1/2"	1730'		2961'	

RECEIVED

DEC 18 1981

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

B. D. Allen
B+B Well Service Inc.

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

FIELD Kilgore Lodge COMPANY & WELL Bryan Prod. Co. ^{Verna} ^{Nipper #1}

LOCATION 330' FWL & 460' FNL of NE/4 of SW/4 Sec. 9

PRODUCING INTERVAL _____ SIZE CASING Perfs. 4535-41 ^{1020' deep} 4 1/2 prod.

PLUGGED AT 4400 feet, by bailer, or pump, with Steel B.P. sacks of cement.

LENGTH OF PLUG Steel B.P. feet.

DATE PLUGGED 12-4-81 M. S. Lang

FRESH WATER PLUG AT 1120 ~~210~~ 940 feet, by bailer, or pump, with 50 sacks of cement.

LENGTH OF PLUG 160 feet.

DATE PLUGGED 12-5-81 Halliburton

PLUGGED AT TOP OF SURFACE CASING. YES NO

REMARKS: T.P. 4200'

ARKANSAS OIL AND GAS COMMISSION

WITNESS

Gary

Columbia County

Arkansas

Bryan Prod 1 Verna Nipper
Kilgore Lodge Fld 9-17S-21W D

Well: BRYAN PROD CO
Loc'a: 1 Verna Nipper API 03-027-10600-0001

Result: D&A

Sec 9-17S-21W 460 FNL, 330 FWL NE SW

Re-entry: 8/25/81, Comp: 10/9/81, Elev: 269 KB, TD: 4600, Contr:
B&B Well Service

Casing: 8 5/8 @ 1000 w/525 (Old), 4 1/2 @ 4580 w/160

Comp Info: (Orig drid by Monexco O&G Expl, OTD 8017 (Smackover), D&A
5730/80) Cind out to TD 4600, set csg, perf 4535-41 (Pettet), tstd
smi amt gas

Tops: No info

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Petroleum Information

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 2/16/82

Card No. 2 Ark.

Columbia County

Arkansas

Kilgore Ledge Fld 9-175-21W 0

Well: MONEXCO OIL & GAS EXPL
1 Verna W. Nipper API 03-027-10800

Result: D&A

Loc'n: Sec 9-175-21W, 460 FNL, 330 FWL NE SW.

Spud: 5-9-80; Comp: 5-30-80; Elev: 271 ES Grd; TD: 8017; C/ Kern Drig

Casing: 8 5/8 @ 1000/525 sx

Comp Info: DTD 8017, ran logs

Tops: No Info

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Petroleum Information.

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 6-24-80

Card No.

2 Ark.

PI/Dwights PLUS Online Summary Report

Well No. 23

Date: 5/3/2001
 Time: 3:16 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : D&A
County         : COLUMBIA           Drill Total Depth : 8017
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : MONEXO EXPL CO
Lease Name     : NIPPER VERNA W
Well Number    : 1                   Spud Date       : MAY 09, 1980
API Number     : 03027108000000      Comp Date        : MAY 30, 1980
Regulatory API :
Init Lahee Class : D                   Hole Direction   :
Final Lahee Class : D                   Reference Elevation: 271   ES
Permit Number  : 26167               Ground Elevation :
Geologic Province : ARKLA BASIN          KB Elevation     :
Formation at TD : 553SMKV             SMACKOVER
Oldest Age Pen : 553                   UPPER JURASSIC
Township       : 17 S                   Section          : 9   SEC
Range          : 21 W                   Spot             : NW NE SW
Base Meridian  : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 460 FNL 330 FWL CONGRESS QTR QTR
Latitude         : 33.2751300           Latitude (Bot)   :
Longitude        : -93.2873300         Longitude (Bot)  :
Lat./Long. Source : TB
    
```

```

----- Log Data -----
Run No   Log Type   Top   Base   Log   Max
         EL         0     8017  MD    Temp
    
```

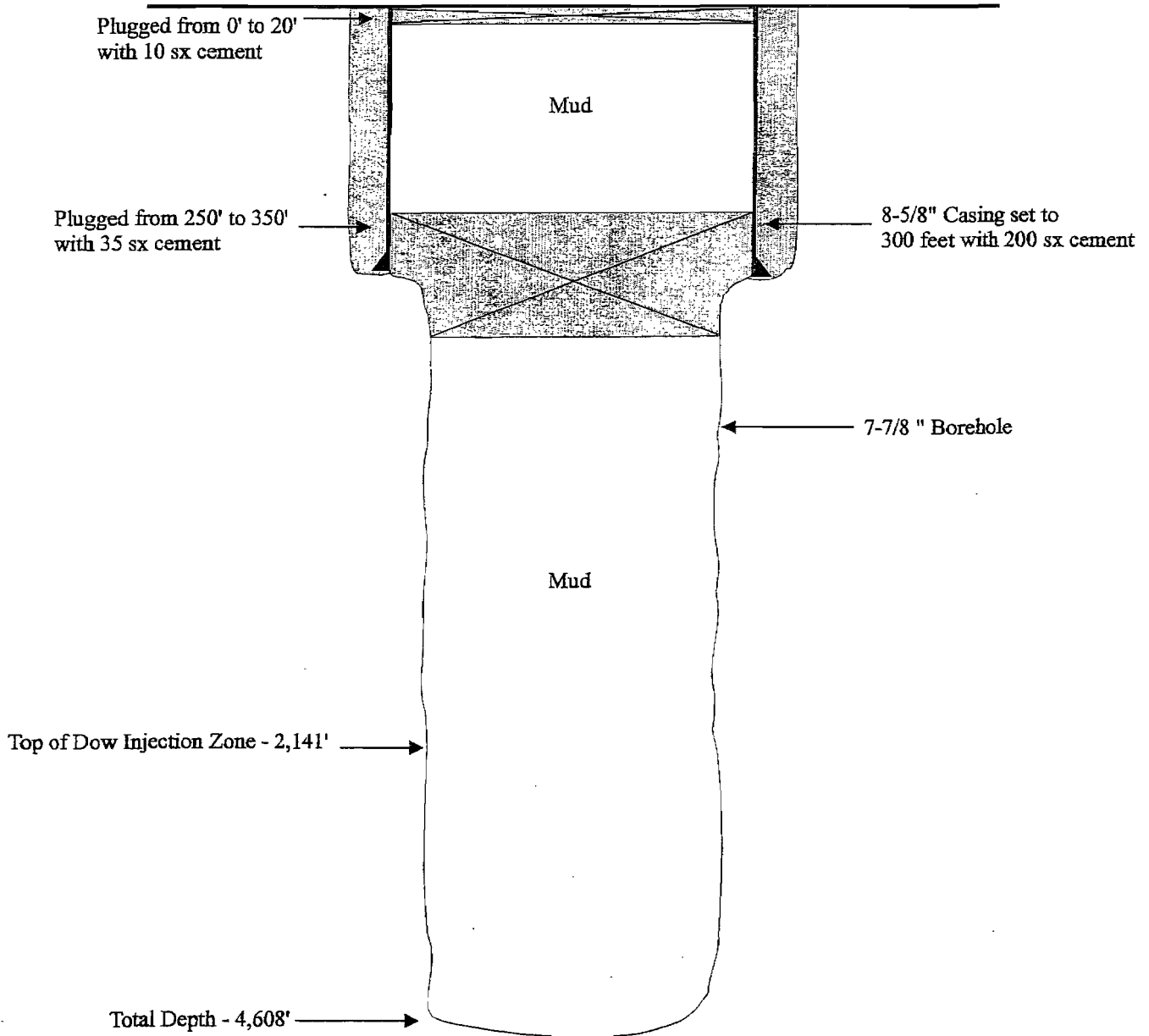
```

----- Casing Data -----
SizeBase Depth Cement Unit
8 5/8 IN     1000     525 SACK
    
```

Map ID No. 24

Map ID No. - 24
Operator - Sklar & Phillips
Field - Kilgore Lodge
Well No. - 1
Sec. 9, R-17-S, T-21-W
Completion Date - 12/11/78

API No. - 03-027-10692
Serial No. - 25,258
Lease - Nipper
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 12/11/78



ARKANSAS OIL AND GAS COMMISSION

El Dorado, Arkansas

Serial No. 25,258

RECEIVED

Notice of Intention to Drill For Oil & Gas

(This application to drill must be accompanied by a remittance of \$5000) 7 1978

Date October 16,

ARKANSAS OIL & GAS COMMISSION

Name of Operator SKLAR & PHILLIPS OIL CO.

Send Permit to: Street P. O. Box 3735

City Shreveport

State Louisiana 71103

Lease Name NIPPER Well No. 1

Acres in lease 158 1/2

Number of acres in and description of drilling unit 40

Location of proposed well (Must agree with Surveyor's Plat) 794' from the South line & 290' from the East line of the SE 1/4 SW 1/4

Section 9 Township 17 South Range 21 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 3 Miles West of Magnolia, Arkansas

Distance from proposed location to nearest drilling, completed or applied for well 200' North of Dow Chemical Co.'s Nipper #1 - A Brine Supply Well.

Rotary or cable tools Rotary Date work will start November 30, 1978 (Estimate)

Name of drilling or workover contractor Unknown

Depth to be drilled 4900'

Formation you propose to complete in Perrit

Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. J. May
R. J. May - Production Manager

pg
LF

R-21 W

ROY NIPPER

OLLIE MOONEY

SE 1/4 SW 1/4

No. 1

290'
294'
200'
S.S.W.

C. F. JONES

CENTRAL ROOFING

Hwy. 132

SMALL TRACTS

MARSHALL MOONEY

E. B. GARRARD

T
17
S

WELL LOCATION PLAT

OPERATOR SKLAR & PHILLIPS OIL CO.

WELL NAME NIPPER NO. 1

LOCATION 794' FROM THE SOUTH LINE AND 290' FROM THE EAST LINE OF THE SE 1/4 SW 1/4 SECT. 9, T-17 S R-21 W COLUMBIA CO. ARK.

The location shown hereon was staked from a ground survey made 10-12 1978

Scale 1" = 600'

W. A. Crisp
R.L.S. 484

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

B.W.

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Wildcat Kilgore Lodge Producer SKLAR & PHILLIPS OIL CO.
Pool Completed In Not Applicable
Lease Name NIPPER No. 1 Address: Street P. O. Box 3735
Exact Location 794' E8L & 290' E6L of the
SE $\frac{1}{4}$ SW $\frac{1}{4}$ City Shreveport
Sec 9 Twp 17S Rge 21W
County Columbia State Louisiana 71103
Date Commenced 11/30/78
Date Completed 12/11/78
Elevation 269' Gr
Total Depth Drilled 4608' *H. Williams*
Electric Log Run: Yes No
Electric Log Filed: Yes No (One will be mailed as soon as we receive it)

RECEIVED

DEC 19 1978

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sds.
Surface: (Size & Wt.) 8-5/8" 24# set at 300 ft. w/ 200 sds.
Intermediate: (Size & Wt.) None set at _____ ft. w/ _____ sds.
Production: (Size & Wt.) None set at _____ ft. w/ _____ sds.
Tubing: (Size & Wt.) None set at _____ ft.
Perforations: Size _____ No. Per Foot _____
Perforated Intervals: None

Acidized: Yes No ; Interval _____ w/ _____ gals.
Fractured: Yes No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
2. Tank battery to which this well is connected: Existing _____ New _____
3. Liquid production from this well is sold to (_____
(Address _____
4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION DATA

Date of Test _____ Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
Allowable Requested NONE - DRY HOLE

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. J. May
R. J. May - Production Manager

Drill Stem Test recovered 445' of salt water (130,000 ppm).
Ran Schlumberger Dual Induction Laterolog - No Shows.

Well plugged while rig still on location by drilling contractor.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

#10973

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 25,258

Date January 16, 1979

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator SKLAR & PHILLIPS OIL CO.

Field Kilgore Lodge

County Columbia

Operator's Address: Street 2925 Mansfield Road

City Shreveport

State Louisiana

Lease Name NIPPER Well No. 1

Location ¹⁴⁹794' from the South line & 290' from the East line of the SE $\frac{1}{4}$
SW $\frac{1}{4}$ Section 9, T17 S, R21 W.

Section 9 Township 17S Range 21W

Character of well (Oil, Gas or Dry) Dry

Date you wish to plug December 11, 1978

Total Depth of Well 4608'

Name of party plugging well SMACKOVER DRILLING COMPANY

Address: Street 703 Mid South Towers

City Shreveport,

State Louisiana

AOGC-2(56) filed by Sklar & Phillips Oil Co. Date filed October 16, 1978

RECEIVED
JAN 17 1979

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and
to the best of my knowledge is true, correct and complete.

ARKANSAS OIL & GAS COMMISSION

RJ May
R. J. May, Production Manager

SK
S

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator SKLAR & PHILLIPS OIL CO. Field Wildcat Kilgore Lodge

Address all correspondence concerning this Pool _____

form to: SKLAR & PHILLIPS OIL CO. County Columbia

Street P. O. Box 3735 City Shreveport State Louisiana

Lease NIPPER Well No. 1 Sec. 9 Twp. 17S Rge. 21W

Date well was plugged 12/11/78 Total Depth of well 4608'

Was well filled with mud-laden fluid, according to regulations of the Commission? YES

How much mud applied? CASING CAPACITY Were plugs used? YES If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock Placed 35 Sk. plug from 350' to 250' & 10 Sk. plug from 20' to Top of Csg.

Was notice given before plugging, to all available adjoining lease and land owners as required? YES

Roy Nipper (Landowner)

Dow Chemical Company

INFORMATION ON CASING RECLAIMED FROM WELL

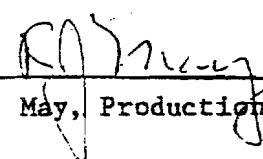
SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
8-5/8"	N O N E		300'	

RECEIVED

DEC 19 1978

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.



 R. J. May, Production Manager

Well: SKLAR & PHILLIPS OIL CO Result: D&A
 Loc'n: 1 Nipper API 03-027-10692

Sec 9-17S-21W, 794 FSL, 290 FEL SE SW, 3/4 mi E/Kilgore Lodge Fld

Spud: 11-29-78; Comp: 12-11-78; Elev: 269 Grd, 278 DF, 278 KB; TD: 4608; C/
 Smackover Drtg

Casing: 8 5/8 @ 300/200 sx

Comp Info: Crd 4545-70 (Pat), rec 10' lms, hd gry, crys, tite, NS, 3' lms hd gry to
 tan sdy good flour & st, silip&p 6' sd, brown fine grained, clean, good p&p good od,
 taste, & st, 1' lms, hd gry, sdy, tite, good, od & taste & st, bleeding brn oil, 5' sh,
 DST 4555-70 (James), 5/8" B $\frac{1}{2}$ T cks, op 30 mins, steady blow, no TP, SI 60 mins,
 rec 445' SW, 130,000 ppm IHP 2155#, IFP 30#, FFP 668#, SI 2025#, FHP 2155#,
 DTD 4608, ran logs, LTD 4607 (Pat), Rig Rel 12-10-78
 Tops: (Elec Log) Mwy 1255, Arka 1642, Nec 1820, B/An 2470, MA 3528, B/MA 3692,
 James 4218, Silgo 4484

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Petroleum Information

CORPORATION

4 Building at 411 Station Campus

Date: 1-2-79

Card No

2 Ark.

Date: 5/3/2001
 Time: 3:16 PM

----- General Information -----

State	: ARKANSAS	Final Status	: D&A-O
County	: COLUMBIA	Drill Total Depth	: 4608
Field	: KILGORE LODGE	Log Total Depth	: 4607
Operator Name	: SKLAR&PHILLIPS OIL C		
Lease Name	: NIPPER		
Well Number	: 1	Spud Date	: NOV 29, 1978
API Number	: 03027106920000	Comp Date	: DEC 11, 1978
Regulatory API	:		
Init Lahee Class	: WS	Hole Direction	:
Final Lahee Class	: WS	Reference Elevation	: 278 KB
Permit Number	: 25258	Ground Elevation	: 269
Geologic Province	: ARKLA BASIN	KB Elevation	: 278
Formation at TD	: 601CRIN	CRAIN SD /CRAIN/	
Oldest Age Pen	: 601	CRETACEOUS COAHUILAN	
Township	: 17 S	Section	: 9 SEC
Range	: 21 W	Spot	: NE SE SW
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	: 794 FSL 290 FEL CONGRESS QTR		
Latitude	: 33.2714600	Latitude (Bot)	:
Longitude	: -93.2859300	Longitude (Bot)	:
Lat./Long. Source	: TB		

----- Formations -----

Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source
Lithology						
651MDWYH	MIDWAY /GROUP/ SH/	1255				LOG
605AKDPC	ARKADELPHIA /CHALK/ LM/	1642				LOG
605NCTC	NACATOCH	1820				LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3528		3692		LOG
602JMES	JAMES	4218				LOG
601SLGP	SLIGO /PETTET/	4484				LOG
605ANNNC	ANNONA /ANNONA CHALK/			2470		LOG

----- Core Data -----

Formation	Top Depth	Base Depth	Recovered	Type	Show
601CRIN	4545	4570	25 FT	CONV	BLDO

----- Formation Tests -----

Test	Type	Top Depth	Base Depth	Top Form	Top Choke	Bottom Choke	Show	
001	DST	4555	4570	602JMES	40/64	16/64		
Pressure and Time								
	Hydro		Init Flow	Final Flow	Shut-in	Open Time	Shut-in Time	
Test	Init	Final	Init	Final	Init	Final	Init	Final
001	2155	2155		30	668	2025	30	60
Pipe Recovery								
Test	Amount	Unit	Desc	Rec	Type	Rec	Method	

001 445 FT B PIPE

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	IL	0	4607		
01	ILD	310	4601		

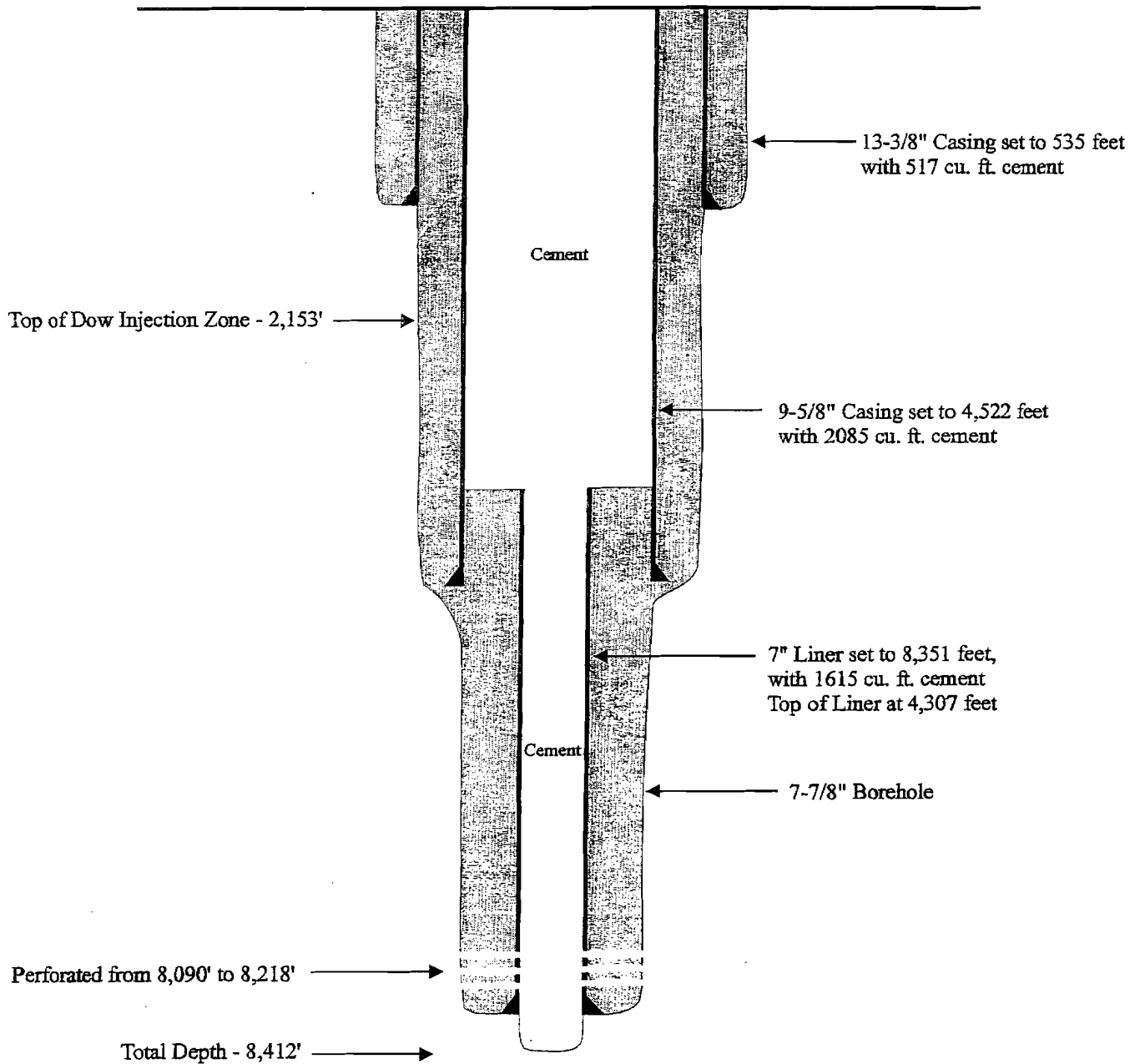
----- Casing Data -----

Size	Base	Depth	Cement	Unit
8 5/8 IN		300	200	SACK

Map ID No. 25

Map ID No. - 25
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 1
Sec. 9, T-17-S, R-21-W
Completion Date - 2/3/67

API No. - 03-027-01491
Serial No. -
Lease - V. W. Nipper et al
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 4/29/92



ARKANSAS OIL AND GAS COMMISSION

El Dorado, Arkansas

Serial No. Brine Supply

✓
5-12-66

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date May 10, 19 66

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 22468

City Houston

State Texas 77027

Lease Name V. W. Nipper, et al Well No. 1

Acres in lease 167.5 acres

Number of acres in and description of drilling unit 40 Acres being the SE/4 SW/4

Section 9, T-17-S, R-21-W

Location of proposed well in drilling unit (give in feet) 600' north and 280'

west of SE Corner of SE/4 SW/4

Section 9 Township 17-S Range 21-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 2-1/2 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well 1/2 mile

Rotary or cable tools Rotary Date work will start May 15, 1966

Name of drilling or workover contractor H & S Drilling Company

Depth to be drilled 8500 feet

Formation you propose to complete in Smackover Limestone

Remarks: Oil and/or gas production is not contemplated in this well.

It is located for a Brine Production Well.

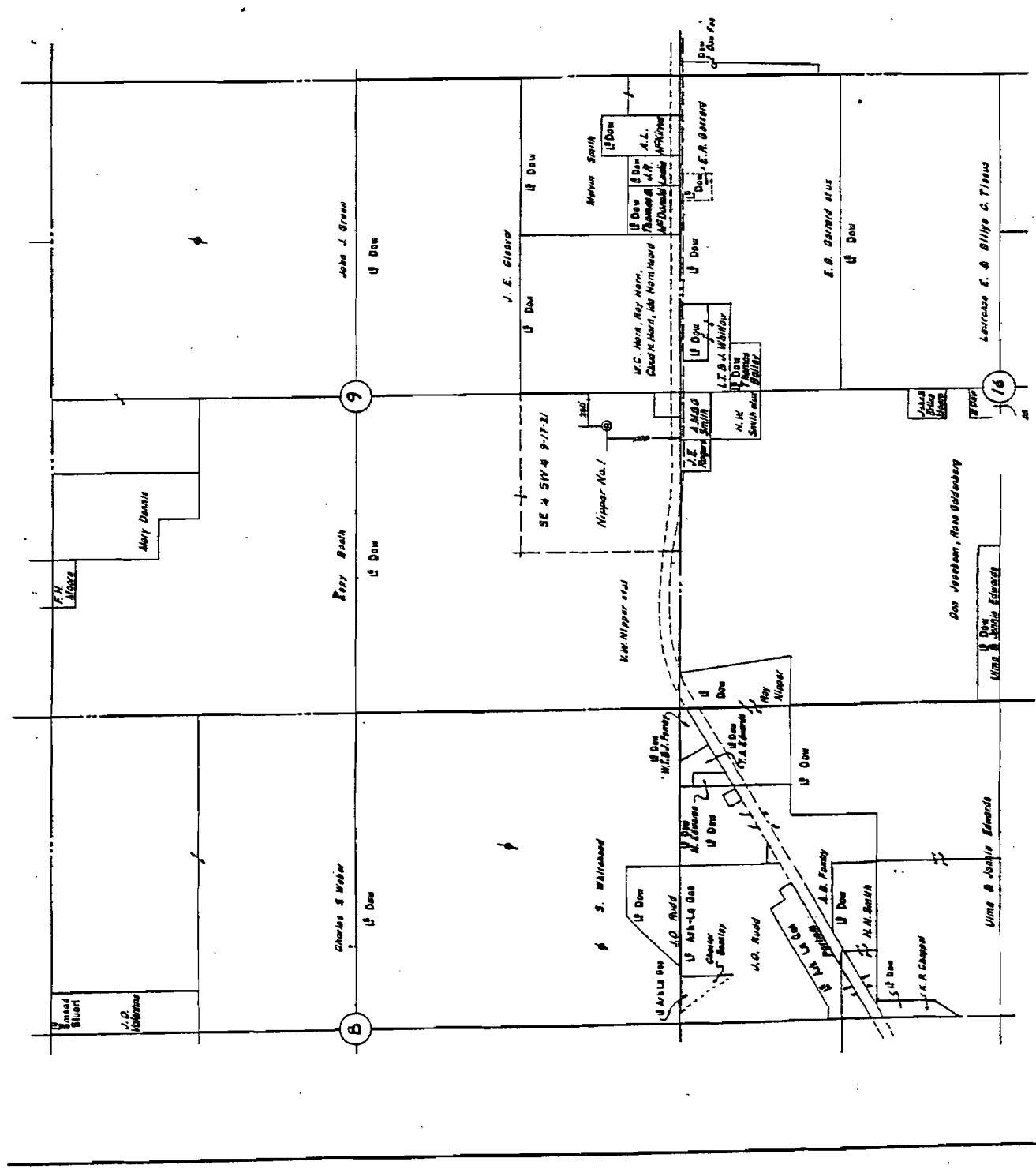
RD

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Maurice Lewis, Jr.

Maurice Lewis, Jr., Superintendent
Drilling and Production



Dow Chemical Con

Well Location P

Surveyed by
 Barnes & Crisp
 Surveyors & Engineers
 Magnolia, Arkansas
 signed B.L.L.
 Date Dec 1921

Minor Well
 600' North of 200' West
 SE Cor. of SE 1/4 S 1
 Sec 9-T11S-R21
 Columbia County, Ark.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Producer ~~Smith~~ Dow Chemical Co.
Pool Completed In Smackover Limestone
Lease Name V. W. Nipper, et al No. 1 Address: Street P. O. Box 500
Exact Location 600' North and 280' West
of SE Corner SE/4 SW/4 City Magnolia
Sec. 9 Twp. 17-S Rge. 21-W
County Columbia State Arkansas
Date Commenced 5/18/66
Date Completed 2/3/67
Elevation 268' Ground
Total Depth Drilled 8412' *Smackover T.C.*
Electric Log Run: Yes No
Electric Log Filed: Yes No

RECEIVED

MAR 15 1967

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20", 5/16" Wall set at 30 ft w/ 5 yds concrete
Surface: (Size & Wt.) 13-3/8", 48# set at 535 ft w/ 517 cu ft
Intermediate: (Size & Wt.) 9-5/8", 40# set at 4522 ft w/ 2085 cu ft
Production: (Size & Wt.) 7", 26# liner set at 8351 ft w/ 1615 cu ft
Tubing: (Size & Wt.) 5-1/2", 17# set at 3105 ft
Perforations: Size 3/8" No. Per Foot One hole every 2'.
Perforated Intervals: 8090' to 8140'; 8150' to 8184'; 8204' to 8218'.

Acidized: Yes No ; Interval Perforated interval above w/ 7500 gals.
Fractured: Yes No ; Interval w/ lbs.
of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 2
2. Tank battery to which this well is connected: Existing Not applicable New --
3. Liquid production from this well is sold to (Not applicable
(Address --
4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom Not applicable
Address --

PRODUCTION

Date of Test 2/6/67 Actual Length of Time Tested 24 hours.
Type Well: Flowing Gas Lift Pump Reda
Tubing Pressure 70 psi Casing Pressure Zero Choke Size Open
Net Oil Produced None bbls. Gas Produced Negligible MCF % BSW 100 GOR Infinite
Gravity Oil N.A. BHP Recorded Not recorded.
Net Oil in 24 Hours Not applicable Open Flow Potential Not applicable MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested None

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Maurice Lewis, Jr.
Maurice Lewis, Jr.
Superintendent, Drilling & Production

8
R
11/11

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Nipper No. 1 (Sec.) 9 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____%
(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED:
ARKANSAS OIL & GAS COMMISSION

June 11, 1987
Shirley Knight
No. 3 555

ETHYL CORPORATION

(Company or Operator)
L. C. Reynolds
(Affiant)
L. C. Reynolds
Plant Manager

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. Ms fee

Date 3-31-92

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Ethyl Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Macolia

State Arkansas

Lease Name V. W. Nipper, et al Well No. 1

Location 600' North and 280' West of SEC

SE 1/4 SW 1/4

Section 9 Township 17S Range 21W

Character of well (~~Oil, Gas or Brine~~) Brine

Date you wish to plug 4-7-92

Total Depth of Well 8351'

Name of party plugging well Halliburton

MAR 31 1992

Address: Street _____

City Bossier

State Louisiana

ARKANSAS OIL & GAS COMMISSION

AOGC-2(56) filed by Dow Chemical Date filed 5-10-66

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and
to the best of my knowledge is true, correct and complete.

Floyd Green

MAX
R.H
Dull

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Snackover Lime

form to: Ethyl Corporation County Columbia

Street P.O. Box 729 City Magnolia State Arkansas 71753

Lease V. W. Nipper, et al Well No. 1 Sec. 9 Twp. 17S Rge. 21W

Date well was plugged 4-29-92 Total Depth of well 8412'

Was well filled with mud-laden fluid, according to regulations of the Commission? Filled with cement

How much mud applied? _____ Were plugs used? _____ If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock Filled with 11.0 lbs./gal. cement 8351' to 0 (991 sacks)

Was notice given before plugging, to all available adjoining lease and land owners as required? NA
Cut casing off and welded plate 2' below ground level.

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13-3/8"			518	
9-5/8"			4507	
7"			4044	

R.H.
MA
RECEIVED
MAY 04 1992

ARKANSAS OIL & GAS COMMISS.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

Columbia County Arkansas Dow #1 Nipper
Kilgore Lodge Bromine Plant. 9-17S-21W
Well: DOW CHEMICAL CO. #1 V. M. Nipper etal Result: WATER SUPPLY
Loc'n: Sec 9-17S-21W, 600' FSL, 280' FEL SE SW

Spud 5-11-66; Comp 6-13-66; Elev 283' KB; TD 8412'; C/H & S Drig. Co.

Casing 20" 30'/5 yds, 13 3/8" 520'/385 sx, 9 5/8" 4522'/1516 sx, 7" 8412'

Prod Zone: (Smk) perf NYA

IP: NA

Comp Info: Set cond w/spudder, started up w/big rig 5-18-66; drid to 8051',
Crd 8051-5258' (Smk), no details; TD 8412', ran IEL to 8410', ran MLC &
FDL; set csg, Will not perf at this time.

Tops: (Elec Log) Nac 1828', B/An 2478', Tokio 2930', Tus 3125', L/Cret 3250',
MA 3540-3701', Jas 4226', Per 4562', TP 4676', CV 5860', Buckner 7856',
Smk 8060'

Date:

7-12-66

Card No.: 9 Ark.

RHI77

Date: 5/1/2001

Time: 2:15 PM

```

----- General Information -----
State          : ARKANSAS          Final Status   : SERVICE
County        : COLUMBIA          Drill Total Depth : 8412
Field         : KILGORE LODGE      Log Total Depth  :
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : V W NIPPER ETAL
Well Number    : 1                 Spud Date      : MAY 18, 1966
API Number     : 03027014910000    Comp Date      : APR 24, 1967
Regulatory API :
Init Lahee Class : U              Hole Direction  :
Final Lahee Class : U              Reference Elevation: 283   KB
Permit Number  :
Geologic Province : ARKLA BASIN          Ground Elevation :
Formation at TD : 553SMKV          SMACKOVER        KB Elevation    : 283
Oldest Age Pen : 553              UPPER JURASSIC
Township      : 17 S              Section         : 9   SEC
Range         : 21 W              Spot            : SW
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 600 FSL 280 FEL CONGRESS QTR
Latitude         : 33.2708900      Latitude (Bot)  :
Longitude        : -93.2851900     Longitude (Bot) :
Lat./Long. Source : TB
Location Narrative : Type
                  : LOCATION      Remark
                  :                600 N 280 W OF SE/C SW 9-17S-21W
    
```

```

----- Production Tests -----
Test   Top   Base   Top   Base   Choke   Oil   Prod   Test
Form   Form   Form   Depth Depth   Method GORGrav Method Method
001   553SMKV 553SMKV 8094 8222                PERF
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil   Cond   Gas   Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top   Base   Type   Method   Top Form   Base Form   Status Count   Density   Per
001   8094 8104                PERF      553SMKV   553SMKV
001   8106 8118                PERF      553SMKV   553SMKV
001   8120 8132                PERF      553SMKV   553SMKV
001   8134 8144                PERF      553SMKV   553SMKV
001   8154 8164                PERF      553SMKV   553SMKV
001   8166 8176                PERF      553SMKV   553SMKV
001   8178 8188                PERF      553SMKV   553SMKV
001   8208 8222                PERF      553SMKV   553SMKV
    
```

```

----- Formations -----
Form Code Form Name   Top   Top   Base   Base
Lithology Depth   TVD   Depth   TVD Source
605NCTC   NACATTOCH          1828                               LOG
    
```

605TOKO	TOKIO	2930		LOG
605TSCG	TUSCALOOSA GROUP	3125		LOG
601CRCSB	BASAL CRETACEOUS /LOWER CRETACEOUS/	3250		LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3540	3701	LOG
602JMES	JAMES	4226		LOG
601HSTN	HOSSTON	4676		LOG
553CNVL	COTTON VALLEY /GROUP/	5860		LOG
553BCKR	BUCKNER	7856		LOG
553SMKV	SMACKOVER	8060		LOG
605ANNNC	ANNONA /ANNONA CHALK/		2478	LOG

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	EL				

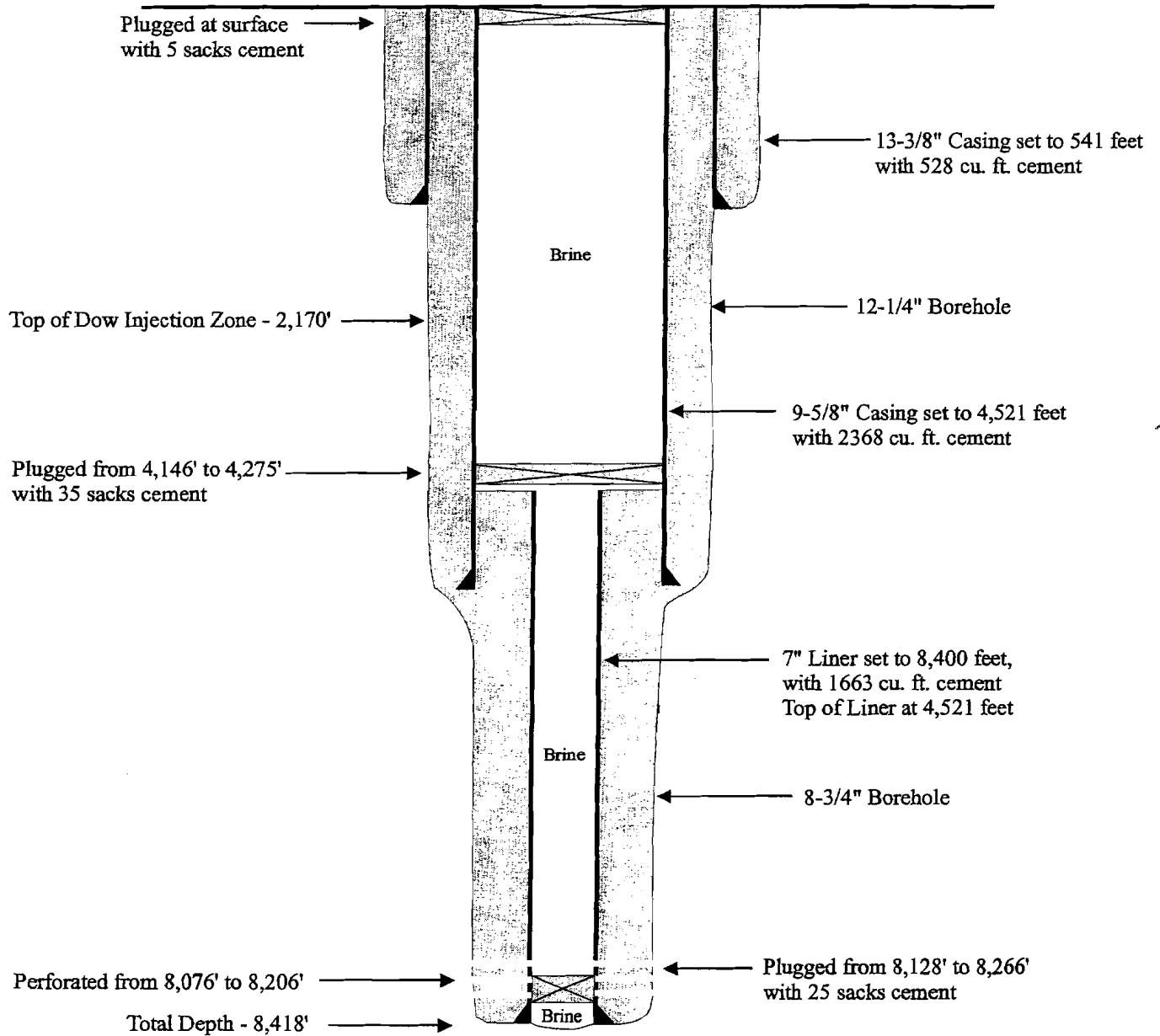
----- Casing Data -----

Size	Base	Depth	Cement Unit
20 IN		42	
13 3/8 IN		532	
9 5/8 IN		4522	
7 IN		8356	

Map ID No. 27

Map ID No. - 27
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 2
Sec. 9, T-17-S, R-21-W
Completion Date - 1/31/67

API No. - 03-027-01492
Serial No. -
Lease - V. W. Nipper et al
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 4/25/88



ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. Brine Supply

✓
5-12-66

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date May 10, 1966

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 22468

City Houston

State Texas 77027

Lease Name V. W. Nipper, et al Well No. 2

Acres in lease 167.5 Acres

Number of acres in and description of drilling unit 40 Acres being the NW/4,
SW/4 Section 9, T-17-S, R-21-W

Location of proposed well in drilling unit (give in feet) 280' north and 50' east
of SW Corner of NW/4 SW/4

Section 9 Township 17-S Range 21-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 3 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1/2 mile

Rotary or cable tools Rotary Date work will start June 15, 1966

Name of drilling or workover contractor H & S Drilling Company

Depth to be drilled 8500 feet.

Formation you propose to complete in Smackover Limestone

Remarks: Oil and/or gas production is not contemplated in this well.

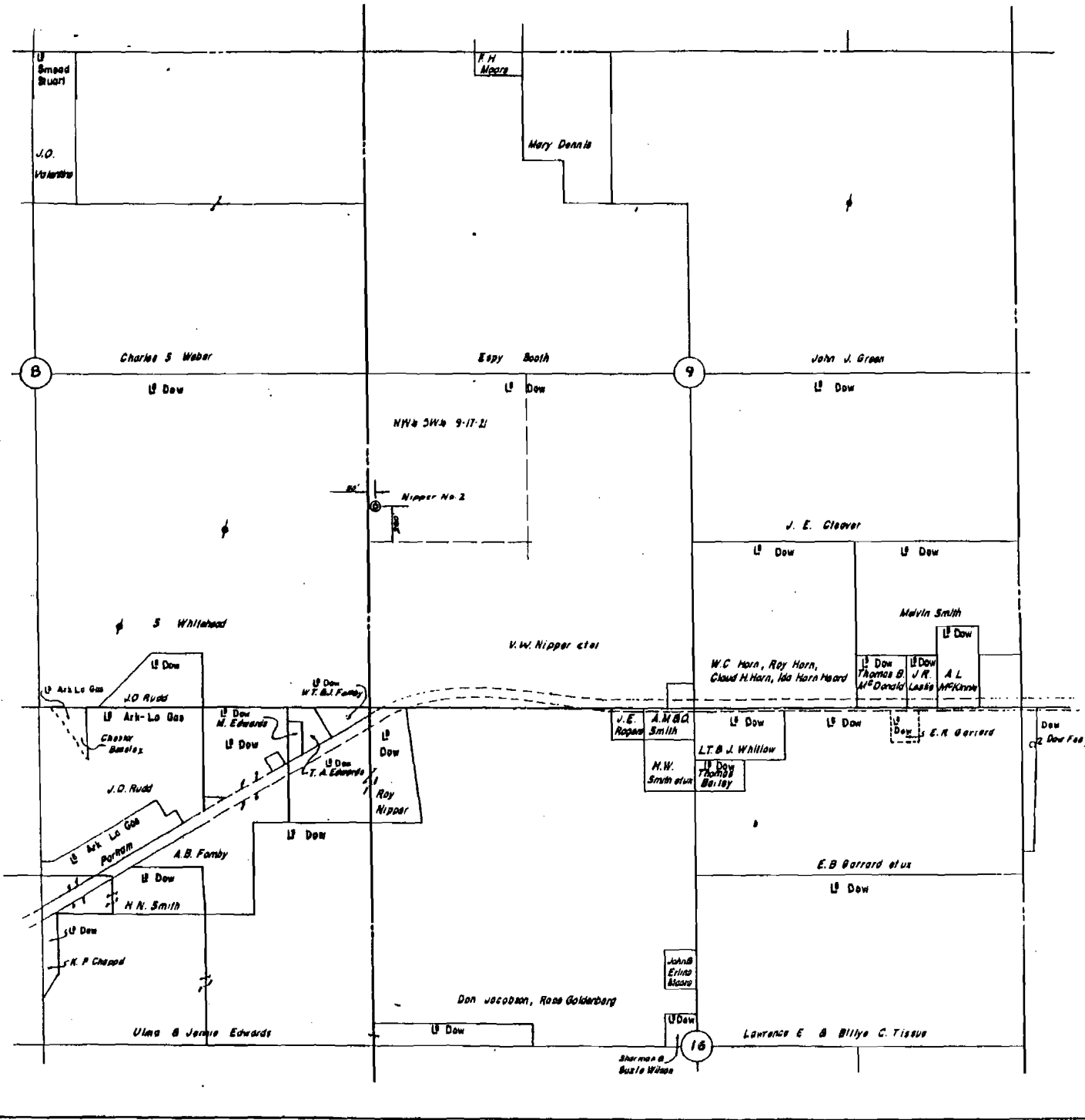
It is located for a Brine Production Well.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Maurice Lewis, Jr.
Maurice Lewis, Jr.; Superintendent,
Drilling and Production

RTD



Dow Chemical Camp
Well Location Plat
 Nipper No 2
 280' North & 50' East of
 SW Cor of NW 1/4 SW
 Sec 9-T17S-R21W
 Columbia County Arkansas

Surveyed by
Barnes & Crisp
 Surveyors & Engineers
 Magnolia, Arkansas

By	Drawn	Checked
...
Date	9-7-66	

16

Scale: 1" = 1000'

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

B.N.

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Producer Essex Dow Chemical Co.
 Pool Completed In Smackover Limestone
 Lease Name V. W. Nipper, et al No. 2 Address: Street P. O. Box 500
 Exact Location 280' North and 50' East
of SW Corner, NW/4, SW/4 City Magnolia
 Sec. 9 Twp. 17-S Rge. 21-W State Arkansas
 County Columbia
 Date Commenced 6/20/66
 Date Completed 1/31/67
 Elevation 282' Ground
 Total Depth Drilled 8418' *Sanchez 7.0.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

RECEIVED
MAR 15 1967

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" 5/16" Wall set at 30 ft. w/ 5 yds. concrete
 Surface: (Size & Wt.) 13-3/8", 48# set at 541 ft. w/ 528 cu ft
 Intermediate: (Size & Wt.) 9-5/8", 40# set at 4521 ft. w/ 2368 cu ft
 Production: (Size & Wt.) 7", 26# liner set at 8400 ft. w/ 1663 cu ft
 Tubing: (Size & Wt.) 5-1/2", 17# set at 3106 ft.
 Perforations: Size 3/8" No. Per Foot one hole every 2'
 Perforated Intervals: 8076' to 8134'; 8146' to 8176'; 8192' to 8206'.

Acidized: Yes No ; Interval Perforated interval above w/ 7500 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 2
 2. Tank battery to which this well is connected: Existing Not applicable New --
 3. Liquid production from this well is sold to (Not applicable)
 (Address --)
 4. Disposition of gas from this well: Vented Fuel _____ Sold _____
 If sold, to whom Not applicable
 Address Not applicable

PRODUCTION

Date of Test 2/6/67 Actual Length of Time Tested 24 hours
 Type Well: Flowing _____ Gas Lift _____ Pump Reda
 Tubing Pressure 65 psi Casing Pressure Zero Choke Size Open
 Net Oil Produced None hbls. Gas Produced Negligible MCF % BSW 100 GOR Infinite
 Gravity Oil N. A. BHP Recorded Not recorded.
 Net Oil in 24 Hours Not applicable Open Flow Potential Not applicable MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested None

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Maurice Lewis, Jr.
 Maurice Lewis, Jr.
 Superintendent, Drilling & Production

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Nipper No. 2 (Sec.) 9 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) (Name of Transporter)

Remarks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
By Marilyn Knight
No. 3556

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
L. C. Reynolds (Affiant)
Plant Manager

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. Dafee

Date 4/18/88

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Ethyl Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Magnolia

State Arkansas

Lease Name V. W. Nipper, et al Well No. 2

Location 280' North and 50' East of SW corner, NW/4, SW/4

Section 9 Township 17S Range 21W

Character of well (Oil, Gas or Dry) Brine well

Date you wish to plug 4/20/88

Total Depth of Well 8,418'

Name of party plugging well H&N Oil Well Cementing Co. / Gillespie Well Service

Address: Street P. O. Box 251 P. O. Box 847

City El Dorado Magnolia

State Arkansas 71730 Arkansas 71753

AOGC-2(56) filed by Dow Chemical U.S.A. Date filed 5/10/66

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green
Field Superintendent

RECEIVED
APR 20 1988

ARKANSAS OIL & GAS COMMISSION

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

RECEIVED
 MAY 02 1988
 ARKANSAS OIL & GAS COMMISSION

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
 AND COMPLY THEREWITH.**

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover

form to: Ethyl Corporation County Columbia

Street P. O. Box 729 City Magnolia State AR

Lease V. W. Nipper, et al Well No. 2 Sec. 9 Twp. 17-S Rge. 21-W

Date well was plugged 4/25/88 Total Depth of well 8418

Was well filled with mud-laden fluid, according to regulations of the Commission? used water only

How much mud applied? full hole Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock 25 sacks 8128' to 8266', 35 sacks 4146' to 4275', 5 sacks plug in top of 10/8

Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13-3/8"			541	
9-5/8"			4521	
7"			3879	

ME
SWS
OK

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

ARKANSAS OIL AND GAS COMMISSION

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

COMPANY Ethyl Corporation WELL NAME & NO. V.W. Nipper #2
 LOCATION 280' N & 50' E of SWc NW SW SEC. 9 TWP 17 RGE 21
 COUNTY Columbia FIELD Kilgore Lodge CONTRACTOR Gillispie
 PLUGGING PROGRAM PERFORATIONS (8076-8134)(8146-8176)
 FACE (8192-8206)
 PRODUCTION _____

PRODUCTION PLUG SET AT 8128-8266 FEET, WITH 25 SX WORK DONE BY _____
H & H
4-25-88

WITNESSED BY St. Suckling

DEEPER PLUG SET AT _____ FEET, WITH _____ WORK DONE BY _____

PLUGGED IN TOP OF SURFACE CASING WITH 5 SX
 WITNESSED BY St. Suckling

REMARKS:

20" @ 30'
 13 3/8" ^{1148#} @ 541'
 9 5/8" - 40# @ 4521'
 7" - 26# @ 8400'

plug set @ 4275-4146
 w/355x
 H & H
 4-25-88

Columbia County Arkansas Dow #2 Nipper
Kilgore Lodge Bromine Plant 9-17S-21W
Well: DOW CHEMICAL CO. #2 V. W. Nipper et al Result: WTR SUPPLY
Loc'n: Sec 9-17S-21W, 280' FSL, 50' FWL NW SW

Spud: 6-15-66; Comp: 7-20-66; Elev: NA; TD: 8418'; C/H & S Drig. Co.
Casing: 20" 30' / 5 yds, 13 3/8" 545' / 446 sx, 9 5/8" 4521' / 1580 sx, 7" liner 4215-8415'
Prod Zone: Smk
IP: NA
Comp Info: Set cond w/spudder, started up w/big rig 6-20-66; Crd 8038-8341'
(Smk), no details; TD 8418', ran logs, set 7" liner, Dropped from Report.
Tops: No Info

Date: 10-18-66 Card No.: 2 Ark.

Date: 5/1/2001
 Time: 2:15 PM

```

----- General Information -----
State      : ARKANSAS           Final Status   : SERVICE
County    : COLUMBIA          Drill Total Depth : 8418
Field     : KILGORE LODGE     Log Total Depth  : 8420
Operator Name : DOW CHEMICAL CO THE
Lease Name : V W NIPPER ETAL
Well Number : 2                Spud Date      : JUN 20, 1966
API Number  : 03027014920000  Comp Date      : APR 24, 1967
Regulatory API :
Init Lahee Class : U          Hole Direction  :
Final Lahee Class : U          Reference Elevation: 298   KB
Permit Number :                Ground Elevation :
Geologic Province : ARKLA BASIN      KB Elevation    : 298
Formation at TD : 553SMKV          SMACKOVER
Oldest Age Pen : 553                UPPER JURASSIC
Township    : 17 S              Section         : 9   SEC
Range       : 21 W              Spot            : NW SW
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 280 FSL 50 FWL CONGRESS QTR QTR
Latitude        : 33.2740600      Latitude (Bot)  :
Longitude       : -93.2927600     Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Choke      Oil      Prod      Test
      Form      Form      Depth   Depth
001   553SMKV   553SMKV   8074    8209
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
      Amount  Unit Desc Amount  Unit Desc Amount  Unit Desc Amount  Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count      Density Per
001   8074    8089      PERF      PERF      553SMKV      553SMKV      7
001   8091    8109      PERF      PERF      553SMKV      553SMKV      7
001   8103    8113      PERF      PERF      553SMKV      553SMKV      7
001   8115    8125      PERF      PERF      553SMKV      553SMKV      7
001   8127    8137      PERF      PERF      553SMKV      553SMKV      7
001   8149    8161      PERF      PERF      553SMKV      553SMKV      7
001   8163    8179      PERF      PERF      553SMKV      553SMKV      7
001   8195    8209      PERF      PERF      553SMKV      553SMKV      7
    
```

```

----- Core Data -----
Formation Top Depth Base Depth Recovered      Type      Show
553SMKV      8037      8241
    
```

```

----- Log Data -----
Run No      Log Type      Top      Base      Log      Max
           01      EL          0      8420      MD      Temp
    
```

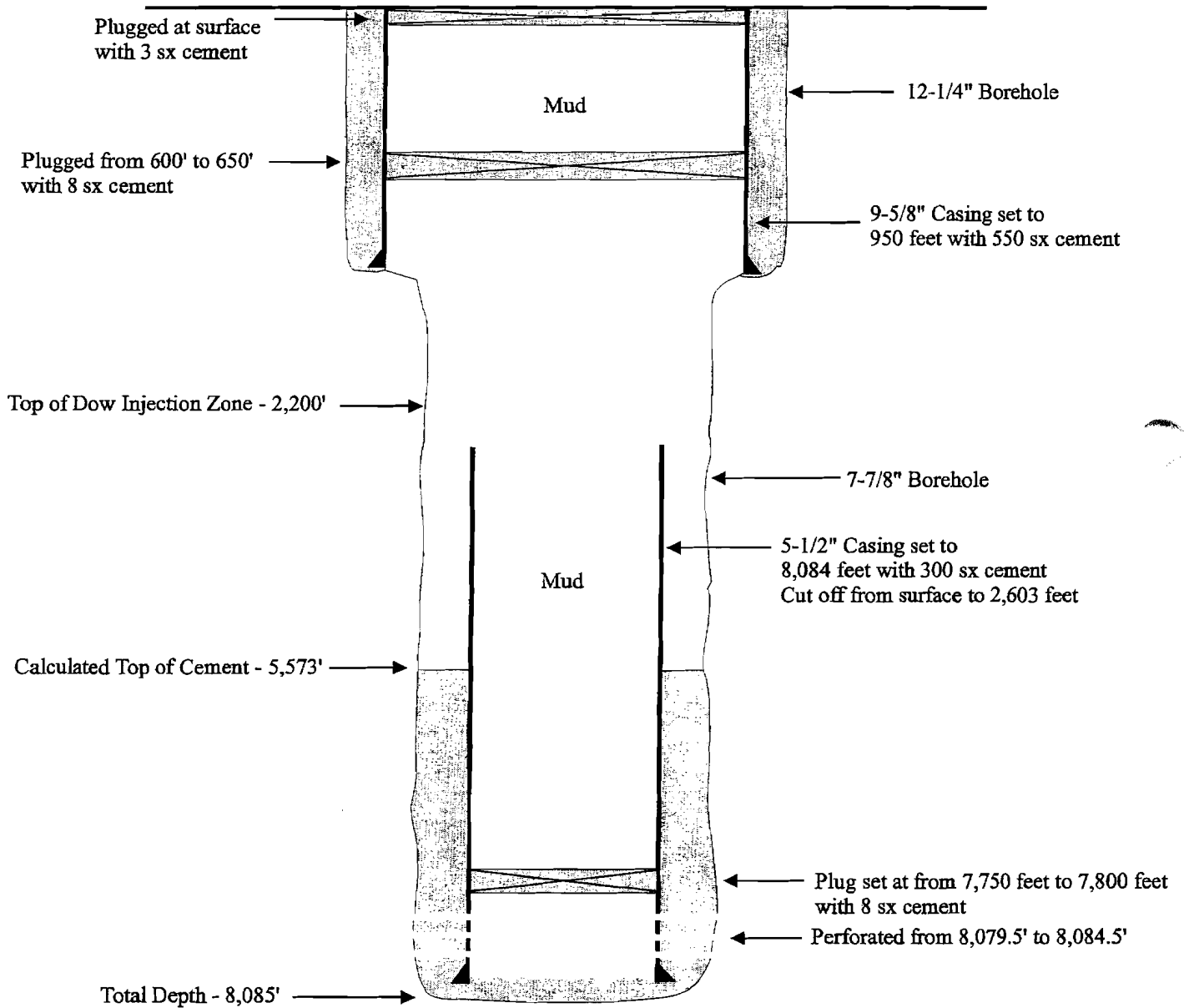
----- Casing Data -----

SizeBase	Depth	Cement Unit
20 IN	30	
13 3/8 IN	540	
9 5/8 IN	4521	
7 IN	8362	

Map ID No. 28

Map ID No. - 28
Operator - Whitaker Oil Company
Field - Kilgore Lodge
Well No. - 1
Sec. 8, R-17-S, T-21-W
Completion Date - 5/20/60

API No. -
Serial No. - 17,155
Lease - B. F. Dennis
Type - Oil
Status - Plugged
County - Columbia
Date Plugged - 4/15/65



ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

AOGC-2 (56)
RECEIVED

Serial No. 17,155

APR 9 1960

Notice of Intention to Drill For Oil or Gas Arkansas Oil & Gas Commission

(This application to drill must be accompanied by a remittance of \$50.00)

Date April 9, 19 60

Name of Operator Whitaker Oil Company

Send Permit to: Street 201 Whitaker Building

City Carthage

State Texas

Lease Name B. F. Dennis Well No. 1

Acres in lease 80 acres

Number of acres in and description of drilling unit 80 Acres being the N/2 of SE/4 of Section 8, T 17 S, R 21 W.

Location of proposed well in drilling unit (give in feet) 100' FSL; 100' FWL of NE/4 of SE/4 of

Section 8 Township 17 S Range 21 W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town Approximately 4 miles W of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well 1065' NE of the Ark. Fuel Oil Corp. #1 B. F. Dennis, an abandoned oil well.

Rotary or ~~rotary~~ Rotary Date work will start On issue of permit

Name of drilling or workover contractor Unknown

Depth to be drilled 8500 Feet

Formation you propose to complete in Smackover

Remarks: In addition to the Smackover, completion will be planned in any productive zones encountered at lesser depth.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

By: [Signature]
WHITAKER OIL COMPANY

*O.K'd
by O.C.B.*

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT

(Be sure that all required locations, footage, distances, and scales are given)

(Scale cannot be smaller than 1" = 1,000')

RECEIVED

APR 9 1960

Arkansas Oil & Gas Corp

8500 Feet to
BRADHAM #1 Huffman

NORTH

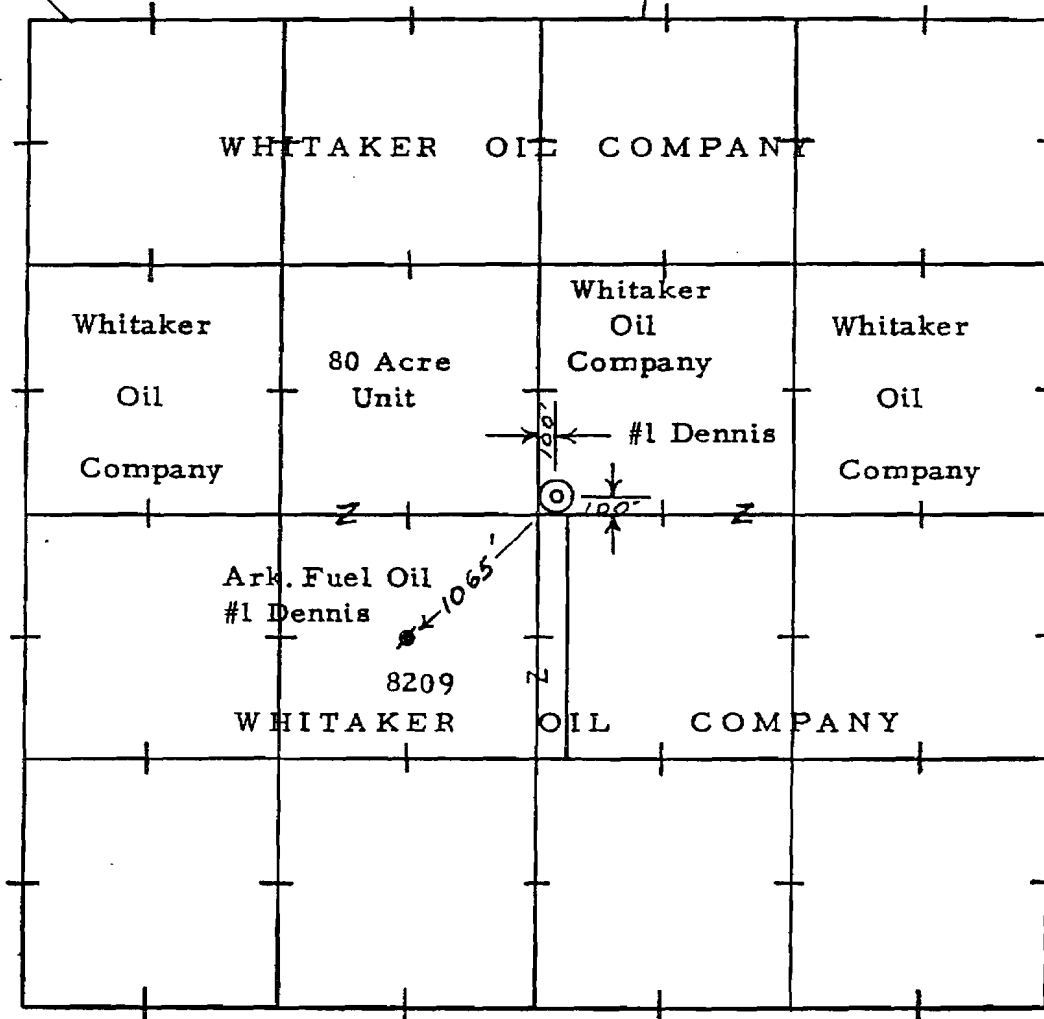
4500 Feet to
LAWTON #1 Valentine

5800 Feet to

LOVE #1 Stager

WEST

EAST



Scale 1" = 1000 Feet

Proposed Unit consists of N 1/2 of SE 1/4 of Sec. 8, T17S - R21W
SOUTH

Certificate

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

By: Fred Whitaker
WHITAKER OIL COMPANY

RECEIVED

APR 9 1960

Arkansas Oil & Gas Commission

FRED WHITAKER
OIL AND GAS OPERATOR
SECOND FLOOR WHITAKER BUILDING
CARTHAGE, TEXAS

April 8, 1960

Arkansas Oil & Gas Commission
Eldorado, Arkansas

Re: Whitaker Oil Co. -B. F. Dennis Well #1

Gentlemen:

This is to certify that Whitaker Oil Company is the present owner and holder of the oil and gas leases on the various tracts of land surrounding the 80 acre unit proposed to be formed around the Whitaker Oil Co-#1 Dennis Well, said Unit being the N/2 of the SE/4 of Section 8, Township 17 South, Range 24 West, in Columbia County, Arkansas.

The undersigned does further certify that the South 1/2 of the SE/4 of Section 8, is owned by the same royalty owners as the North 1/2 of said Section.

Yours very truly,

WHITAKER OIL COMPANY

By: *Fred Whitaker*

FW/bn

Well Completion and Recompletion Report MAY 25 1960

(Instructions: See Reverse Side)

Arkansas Oil & Gas Commission

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Producer Whitaker Oil Company
 Well ~~Not~~ Completed In Smackover Lime
 Lease Name B. F. Dennis No. 1 Address: Street 201 Whitaker Building
 Exact Location 100' N 100' E of SW_C
NE 1/4 SE 1/4 City Carthage
 Sec. 8 Twp. 17S Rge. 21W State Texas
 County Columbia
 Date Commenced 4-19-60
 Date Completed 5-20-60
 Elevation 316 DF
 Total Depth Drilled 8085
 Electric Log Run: Yes No
 Electric Log Filed: Yes No *
 * Electric log will be filed in 30 days, with the request that it be held confidential for an additional 60 days.

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 9-5/8" 32.30# set at 950 ft. w/ 550 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) 5-1/2" 15.5#, 17# & 20# set at 8084 ft. w/ 300 sks.
 Tubing: (Size & Wt.) 2" EUE 4.70# set at 8060 ft.
 Perforations: Size 1-11/16 No. Per Foot 4
 Perforated Intervals: 8079.5 - 8084.5 by Lane-Wells gamma ray log
 Acidized: Yes No ; Interval perforated interval w/ 1000 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing New
 3. Liquid production from this well is sold to (to be determined)
 (Address _____)
 4. Disposition of gas from this well: Vented Fuel Sold
 If sold, to whom _____
 Address _____

PRODUCTION DATA

Date of Test 5-21-60 Actual Length of Time Tested 11.83 hours
 Type Well: Flowing Gas Lift Pump
 Tubing Pressure 1500 psig Casing Pressure 1900 psig Choke Size 11/64
 Net Oil Produced 55.42 bbls. Gas Produced 269.34 MCF % BSW 0.4 GOR 4860
 Gravity Oil 41.5 BHP Recorded 3600 psia (calculated)
 Net Oil in 24 Hours 112.8 bbl. Open Flow Potential -- MCF
 Purpose of this test: Original Completion Workover Recompletion
 Allowable Requested 100 BPD

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Lee Flood

Production data shown on reverse side are best of several tests made, results of which are shown below:

Choke Size	Test Period	Oil Rate	Gas Rate	GOR	Flowing Pressures, PSI	
	Hr.	Bbl. Per Day	MCF Per Day		Casing	Tubing
8/64"	10.33	57.7	370.25	6410:1	2150	1800
9/64"	6.75	76.4	455.18	5960:1	2050	1550
10/64"	12.0	73.1	480.19	6570:1	2050	1700
11/64"	11.83	112.8	548.60	4860:1	1900	1500
12/64"	3.58	120.7	653.05	5410:1	1850	1400
14/64"	5.0	139.2	876.40	6295:1	1700	1450
16/64"	4.0	186.2	1061.78	5700:1	1600	1300

These preliminary tests are believed to be inconclusive but are being filed to comply with the 5-day requirement to avoid penalty.

Further testing will continue and amended reports will be filed if ratios improve. In the meantime, discussions are underway with Arkansas Louisiana Gas Company to determine if a connection can be made whereby gas may be sold; at the same time, a study is being made of the economics of recompressing the gas and returning it above a packer into an upper gas zone presently unopened behind the pipe as a means of reducing the net gas-oil ratio, if a sales outlet is not immediately available.

Inasmuch as we prefer to produce a well at as uniform rate as possible to eliminate stop-cocking, it means that a 41-bbl. penalized allowable would require about a 7/64" choke and would result in a GOR of possibly 7500 to 1 whereas to produce 100 BPD on an OCT P-38 choke would be at a GOR of about 5000:1. For this reason, we are requesting a 100-bbl. unpenalized allowable on this well for a period not to exceed 30 days while arrangements are completed either to sell the gas or to return it to the reservoir.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease B. F. Dennis (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Producer Whitaker Oil Company Organization No. None Field Kilgore Lodge

Address all correspondence concerning this form to: Whitaker Oil Company

Street 201 Whitaker Bldg. City Carthage State Texas

The above named producer hereby authorizes Lion Oil and Refining Company
(Name of Transporter)

Whose principal place of business is Eldorado, Arkansas
(Street) (City) (State)

And whose field address is Lion Pump Station, Magnolia, Arkansas

To transport 100 % of the oil produced from the lease designated above until further notice.

Other transporters transporting oil from this lease are:

None % ----- %
(Name of Transporter) (Name of Transporter)

marks:

The undersigned certifies that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 31st day of May, 1960

APPROVED 5-31-60
ARKANSAS OIL & GAS COMMISSION

By E. Murphy

No. C-501

WHITAKER OIL COMPANY
(Company or Operator)
Lee Flood Manager of Operations
(Affiant) (Title)

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Lee Flood

Lee Flood

*Called for Mr. Flood to advise allowable to be based on 2000/1
GOR effective June 21st. He was out so talked to secretary
and left word with her as to action taken on request,*

FRED WHITAKER
OIL AND GAS OPERATOR
SECOND FLOOR WHITAKER BUILDING
CARTHAGE, TEXAS

RD

OXFORD 3-4851

June 15, 1960

Mr. Edward A. Albares
Arkansas Oil and Gas Commission
El Dorado, Arkansas

Subject: Whitaker Oil Company-B. F. Dennis #1
Kilgore Lodge Field, Smackover Pool,
Columbia County, Arkansas

Dear Mr. Albares:

Transmitted herewith are initial forms AOGC-5 and AOGC-6 covering operations for the month of May, 1960 on subject well.

It will be noted that tests during June are shown on form AOGC-5. The reason for this is that it was not until after June 1 that we were able to install an orifice meter that would give us reliable measures of produced gas volume.

Also enclosed is a Thermofax copy of our intercompany notes concerning production tests on subject well which may provide you with additional information concerning the well's performance.

We have had several meetings with Arkansas Louisiana Gas Company in the last few days and it now appears that we will be able to deliver gas into one of two of their main lines approximately one mile East of our Dennis #1. In order to process the gas to meet contractual requirements we must sweeten and dehydrate the gas to meet the following conditions:

Total Sulphur - not more than 5 gr. per hundred cubic feet

H₂S - not more than 1/4 gr. per hundred cubic feet

Water - not more than 7 lb. per million cubic feet

Page 2
June 15, 1960
Mr. Edward A. Albares

We are presently negotiating with Ingersoll Corp. and Delta Tank Company, both in Shreveport, concerning design and fabrication of an amine-glycol unit with capacity to handle the gas to be produced by the present well and the additional well to be drilled on this lease.

In addition to the above processing equipment, we must install one mile of 2-1/2" line and a compressor to boost the pressure to 500 psi or 800 psi, depending on which of the two ALGCO lines we will be required to enter.

It is expected that while there may be three to four weeks delay in delivery of the processing equipment, it now appears that we should be able to have all the facilities installed by not later than July 15.

Based on this schedule, together with the fact that the produced gas volume appears to be more or less constant, we respectfully request the commission to grant us an additional 30 day period during which we may be permitted to produce this well without penalty.

If you find that you need any more information concerning our request for this extension, it will be appreciated if you will call the undersigned collect.

With best personal regards,

Sincerely yours,

WHITAKER OIL COMPANY



Lee Flood
Manager of Operations

LF/rw
encls.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

✓
4-9-65-

Serial No. 17,155

Date April 9, 1965

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator BOB CURRY (International Helium, Inc.)

Field COLUMBIA

County KILGORE LODGE

Operator's Address: Street c/o J. C. Ingram

City El Dorado, Ark.

State _____

Lease Name B. F. DENNIS Well No. 1

Location 100' N & E of SWc NE 1/4 SE 1/4 8-17S-21W

Section 8 Township 17 S Range 21 W

Character of well (Oil, Gas or Dry) oil

Date you wish to plug at once ~~at once~~

Total Depth of Well 8085

Name of party plugging well J. C. Ingram

Address: Street _____

City El Dorado, Arkansas

State _____

AOGC-2(56) filed by Whitaker Oil Co. Date filed 4-9-60

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

John C. Ingram

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator Bob Curry (International Helium, Inc.) Field Bodcaw 1/2 Sec 10

Address all correspondence concerning this Pool _____

form to: Ingram Casing Pulling Co. County Columbia

Street 105 Bodenhamer Circle City El Dorado State Ark.

Lease B. F. Dennis Well No. 1 Sec. 8 Twp. 17S Rge. 21 W

Date well was plugged 4 / 15 / 65 Total Depth of well 8200 ft.

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes.

How much mud applied? Filled Were plugs used? Yes. If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of

cement and rock Top plug set 7800 ft. - 7750 ft. with 8 sks. Cement. Water

plug set 650 ft. - 600 ft. with 8 sks. cement. as notice given before plugging, to all available adjoining lease and land owners as required? Yes.

5 sks. cement in top of surface pipe.

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
5 1/2"	2603		6597	
4 5/8	950			

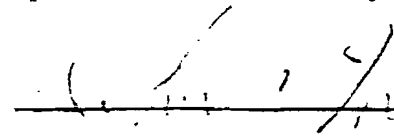
RECEIVED

APR 19 1965

Arkansas Oil & Gas Commission

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.



PLUGGING REPORT FOR ABANDONED PRODUCING WELL

FIELD Kilgore Lodge COMPANY & WELL International Helium Inc.
8075 - 79 B.F. Dennis #1
PRODUCING INTERVAL 8079 1/2 - 84 1/2 SIZE CASING 5 1/2 15.5" # @ 8084 300 SK
PLUGGED AT 7850 feet, by bailer or pipe, with 6 sacks of cement.
LENGTH OF PLUG 53 feet.
DATE PLUGGED 4-12-65.
FRESH WATER PLUG AT 650 feet, by bailer or pipe, with 19 sacks of
cement. LENGTH OF PLUG 51 feet.
DATE PLUGGED 4-16-65.
PLUGGED AT TOP OF SURFACE CASING. YES ✓ 75 SK. NO _____.

REMARKS: 9 5/8" @ 950 water @ 750
2.65' / SK
19 SK.

ARKANSAS OIL & GAS COMMISSION WITNESS

Hampton Bussey

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

RECEIVED

MAY 25 1960

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Arkansas Oil & Gas Commission

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Producer Whitaker Oil Company
 Well ~~Not~~ Completed In Smackover Lime
 Lease Name R. E. Dennis No. 1 Address: Street 201 Whitaker Building
 Exact Location 100' N 100' E of SW
NE 1/4 SE 1/4 City Carthage
 Sec 8 Twp. 17S Rge. 21W State Texas
 County Columbia
 Date Commenced 4-19-60
 Date Completed 5-20-60
 Elevation 316 DF * Electric log will be filed in 30 days,
 Total Depth Drilled 8085 with the request that it be held
 Electric Log Run: Yes X No confidential for an additional 60 days.
 Electric Log Filed: Yes No *

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 9-5/8" 32.30# set at 950 ft. w/ 550 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) 5-1/2" 15.5#, 17# & 20# set at 8084 ft. w/ 300 sks.
 Tubing: (Size & Wt.) 2" EUE 4.70# set at 8060 ft.
 Perforations: Size 1-11/16 No. Per Foot 4
 Perforated Intervals: 8079.5 - 8084.5 by Lane-Wells gamma ray log

Acidized: Yes X No _____; Interval perforated interval w/ 1000 gals.
 Fractured: Yes No X; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing X New _____
 3. Liquid production from this well is sold to (_____ to be determined
 (Address _____
 4. Disposition of gas from this well: Vented X Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION DATA

Date of Test 5-21-60 Actual Length of Time Tested 11.83 hours
 Type Well: Flowing X Gas Lift _____ Pump _____
 Tubing Pressure 1500 psig Casing Pressure 1900 psig Choke Size 11/64"
 Net Oil Produced 55.42 bbls. Gas Produced 269.34 MCF % BSW 0.4 GOR 4860
 Gravity Oil 41.5 BHP Recorded 3600 psia (calculated)
 Net Oil in 24 Hours 112.8 bbl. Open Flow Potential -- MCF
 Purpose of this test: Original Completion X Workover _____ Recompletion _____
 Allowable Requested 100 BPD

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Lee Flood

**Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS**

ITEM # 137

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Bob Curry (International Helium, Inc.) Field Bodcaw Kugan Job

Address all correspondence concerning this Pool _____
form to: Ingram Casing Pulling Co. County Columbia

Street 105 Bodenhamer Circle City El Dorado State Ark.

Lease B. F. Dennis Well No. 1 Sec. 8 Twp. 17S Rge. 21 W

Date well was plugged 4 / 15 / 65 Total Depth of well 8200 ft.

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes.

How much mud applied? Filled Were plugs used? Yes. If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock Top plug set 7800 ft. - 7750 ft. with 8 sks. Cement. Water plug set 650 ft. - 600 ft. with 8 sks. cement.

was notice given before plugging, to all available adjoining lease and land owners as required? Yes.

3 sks. cement in top of surface pipe.

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
5 1/2"	2603		6597	
4 5/8	2603		950	

RECEIVED
JUL 19 1965
Arkansas Oil & Gas Commission

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

/

Columbia County Arkansas Whitaker #1 Dennis
Kilgore Lodge Field 8-17S-21W

Well: Whitaker Oil Co. #1 R. F. Dennis Result: Oil
Loc'n: Sec 8-17S-21W, 100' FSGWL's NE SE, 900' NE/disc (abnd)

Spud: 4-19-60 Comp: 5-20-60 Elev: 316' DF TD: 8085' C/Janlyn Oil Co., Inc

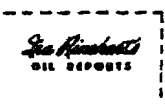
Casing: 9 5/8" 950'/550 sx, 5 1/4" 8085'/300 sx.

Prod Zone: (Smk) prod thru perf 8079 1/2-84 1/2'.

IPF: 113 BOPD, 4/10% BS&W, 11/64" ch, TP 1500#, CP 1900#, GOR 4860:1, Grav 41.5 deg.

Comp Info: Crd Per, no details; Crd Smk, no details; TD 8085', ran elec log, set csg, perf 20/8079 1/2-84 1/2', 2" 8060', A/1,000 gals.

Tops: No Info.



Date: 5-27-60

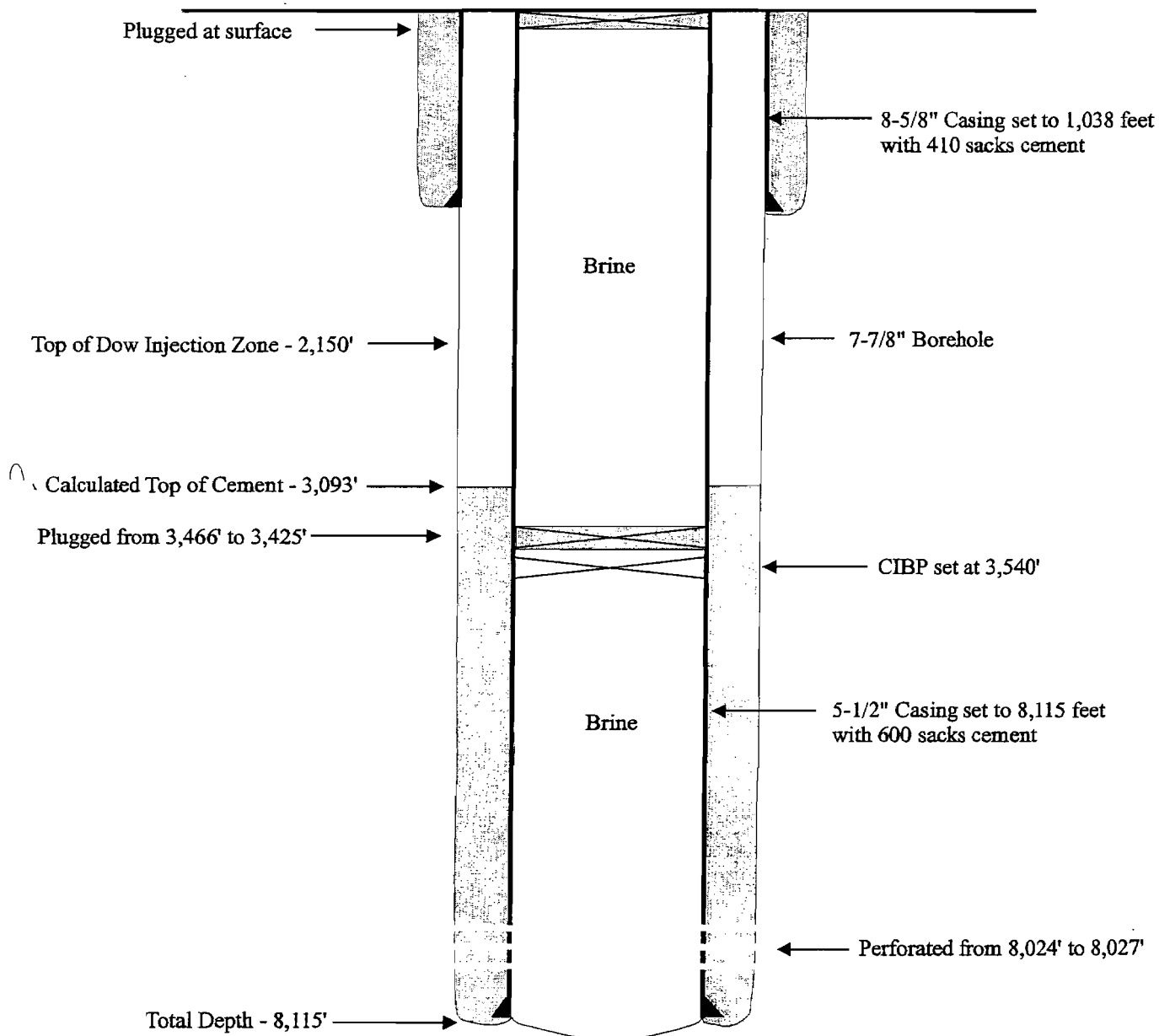
Card No.: 1

Ark.

Map ID No. 29

Map ID No. - 29
Operator - Petrofunds, Inc.
Field - Kilgore Lodge
Well No. - 1
Sec. 8, R-17-S, T-21-W
Completion Date - 8/23/69

API No. - 03-027-10013
Serial No. - 21,244
Lease - Sorrels et al
Type - Oil
Status - Plugged
County - Columbia
Date Plugged - 6/24/71





215 NO. C-IE-77642-SL NP

SCHLUMBERGER INDUCTION-ELECTRICAL LOG

COUNTY COLUMBIA, ARKANSAS FIELD of KILGORE LODGE LOCATION SEC. 8, T17S-81W WELL #1 SORRELS ET AL COMPANY PETROFUNDS, INC.	COMPANY	PETROFUNDS, INC.			
	WELL	#1 SORRELS ET AL			
	FIELD	KILGORE LODGE			
	COUNTY	COLUMBIA	STATE	ARKANSAS	
LOCATION	510' FWL 660' FSL W/2 NE/4		Other Services: BHC - CST		
Sec.	8	Twp.	17S	Rge.	21W

Permanent Datum:	GROUND LEVEL	Elev.	273.8'	Elev.:	K.B. 283.8'
Log Measured From	KB	10	Ft. Above Perm. Datum	D.F.	
Drilling Measured From				G.L.	273.8'

Date	7-26-69				
Run No.	ONE				
Depth-Driller	8114				
Depth-Logger	8121				
Btm. Log Interval	8120				
Top Log Interval	1042				
Casing-Driller	8 5/8"	@ 1039	@	@	@
Casing-Logger	1042				
Bit Size	7 7/8"				
Type Fluid in Hole	GEL-CAUS				
Dens.	10.1	45			
Visc.					
pH					
Fluid Loss	--	--	ml	ml	ml
Source of Sample	PIT				
R _{sp} @ Meas. Temp.	0.75	@ 92 °F	@ °F	@ °F	@ °F
R _{sp} @ Meas. Temp.	0.25	@ 186 °F	@ °F	@ °F	@ °F
R _{sp} @ Meas. Temp.	0.77	@ 186 °F	@ °F	@ °F	@ °F
Source: R _{sp}	C	C			
R _{sp} @ BHT	0.37	@ 186 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS				
Max. Rec. Temp.	186	°F	°F	°F	°F
Equip. Location	3857	WAG.			
Recorded By	MUSE-MOREL				
Witnessed By	BILLINGSLEY-SCOGGINS				

COMPLETION RECORD

SPUD DATE _____ COMPLETION DATE _____

CASING RECORD _____

IP _____

GOR _____ GR _____

TP _____ CP _____

PERFORATIONS _____

TREATMENT _____

REMARKS S.O. #782

03 027 10,013 .

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21,244

5-27-69

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date May 26, 19 69

Name of Operator Petrofunds, Inc.

Send Permit to: Street P. O. Box 419

City Shreveport, Louisiana

State _____

Lease Name Sorrels et al Well No. 1

Acres in lease 80 acres

Number of acres in and description of drilling unit 80 acres - W/2 of NE/4
of Section 8, T-17-S, R-21-W, Columbia County, Arkansas

Location of proposed well in drilling unit (give in feet) 510' from the West
line and 660' from the South line of the designated drilling ^{W/2} unit.

Section 8 Township 17-S Range 21-W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 4 miles West of Magnolia, Ark.

Distance from proposed location to nearest drilling, completed or applied for well
approximately 1500' from the Petrofunds, Inc. - Volentine #1

Rotary or cable tools Rotary Date work will start June 1, 1969

Name of drilling or workover contractor not determined at this time.

Depth to be drilled 8100'

Formation you propose to complete in Smackover

Remarks: _____

RECEIVED

MAY 27 1969

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by the COMMISSION and to the best of my knowledge is true, correct and complete.

David L. Billingsley
David L. Billingsley, Agent

Map of Survey
LOCATING PETROFUNDS INC. WELL
Sorrels et al #1

In the SW 1/4 of NE 1/4 of Sec. 8-T175-R21W
 Columbia County, Ark.

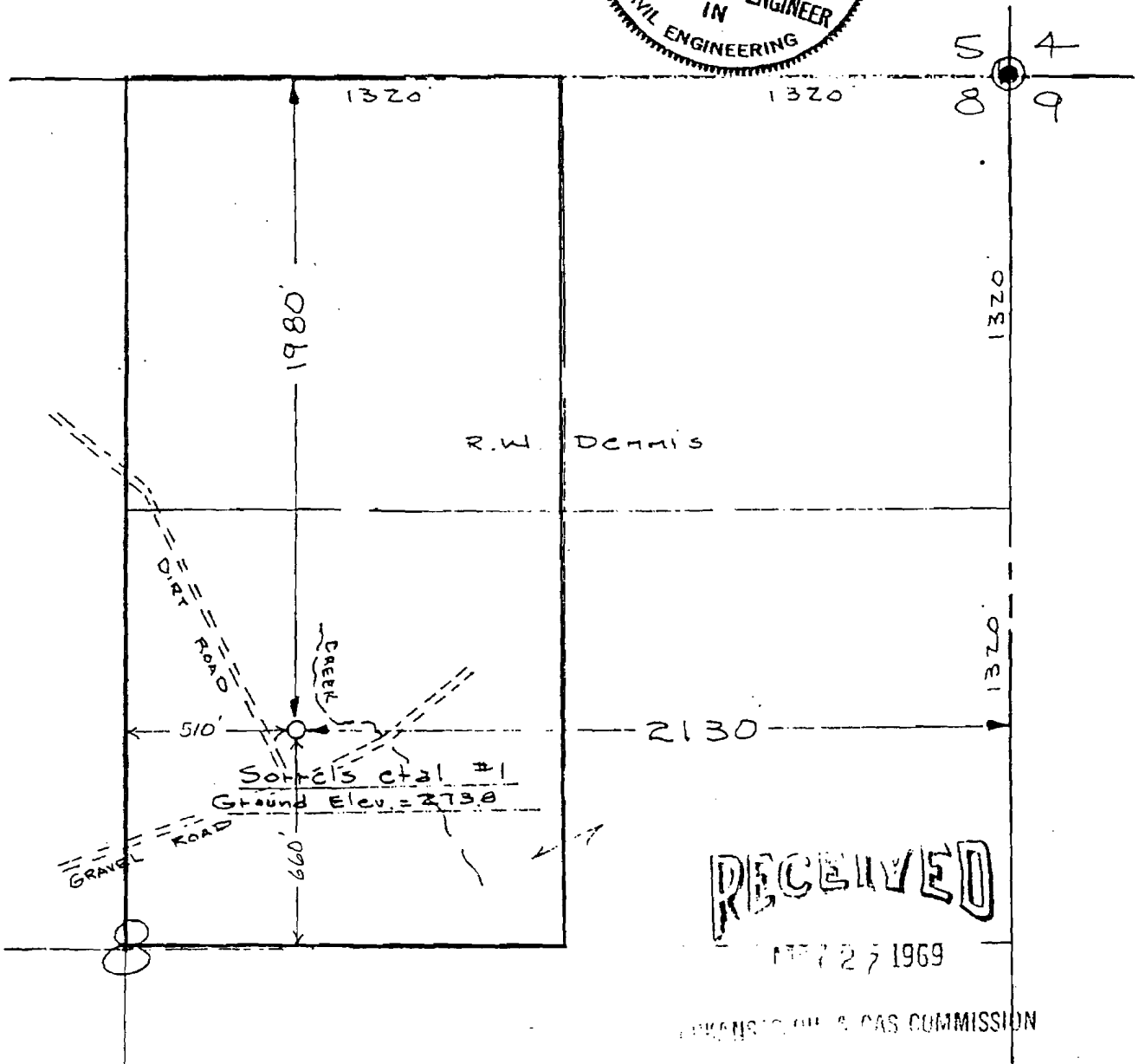
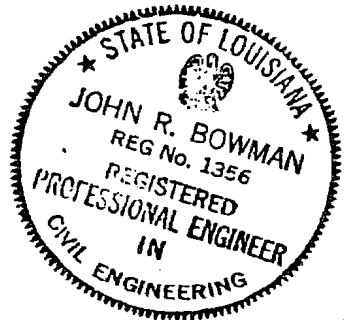
May 9, 1969

Scale: 1" = 500'

I, John R. Bowman, hereby certify that stake has been set for Petrofunds Inc. well, Sorrels et al #1, 1980 South & 2130 West from the NE corner of Sec. 8-T175-R21W as shown hereon.

JOPA ENGINEERS, INC.
 516 Lane Building
 Shreveport, La.

John R. Bowman



ARKANSAS OIL & GAS COMMISSION

KILGORE LODGE FIELD

COLUMBIA COUNTY, ARKANSAS

EXHIBIT No. 2

STRUCTURE: TOP SMACKOVER POROSITY

CI=50'

SCALE 1" = 2000'

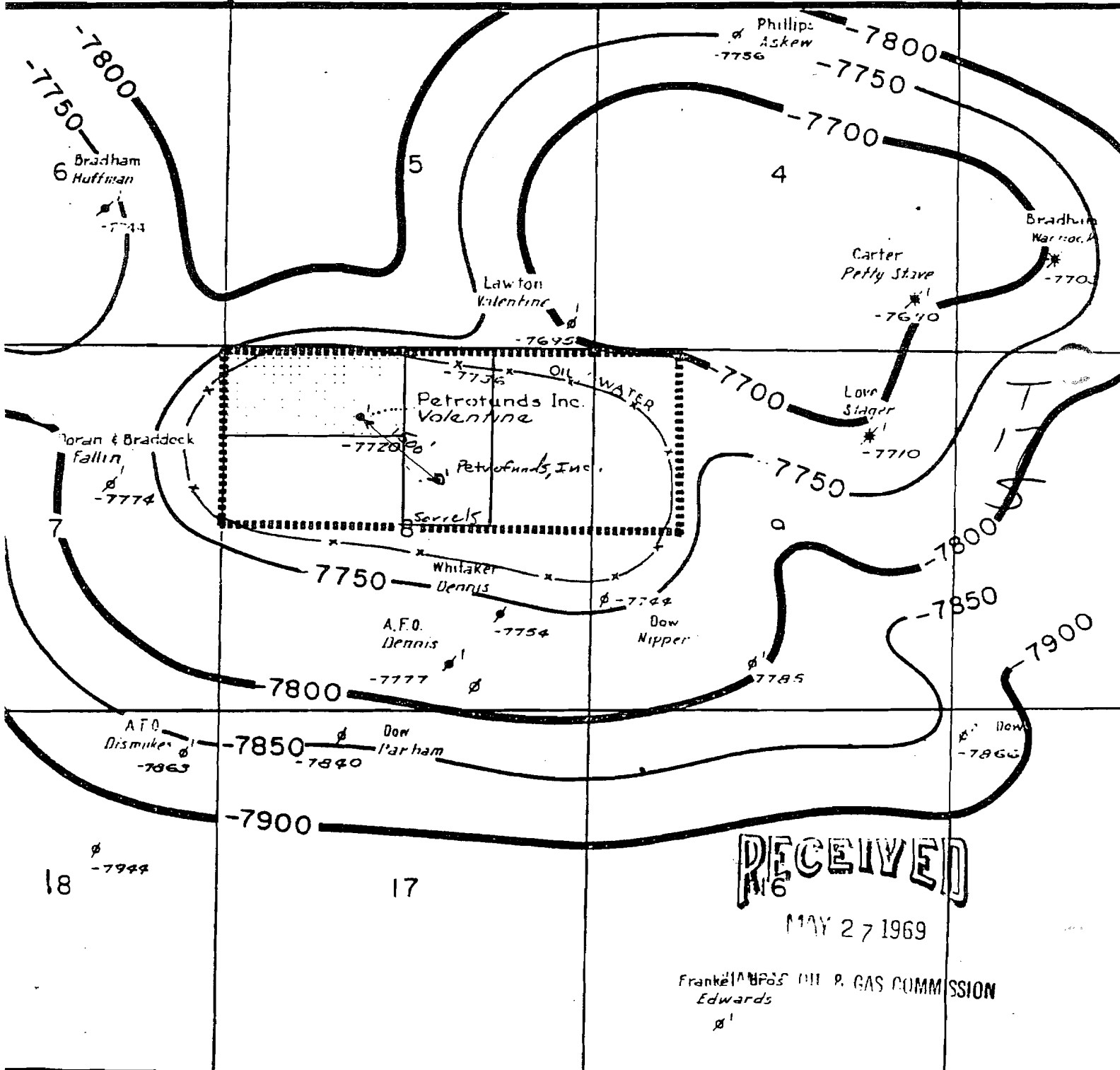
— LEGEND —



AREA TO BE SPACED



PRODUCING UNIT



STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

21244

B.W.

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Petrofunds, Inc.
 Pool Completed In Smackover
 Lease Name Sorrels et al No. 1 Address: Street P. O. Box 419
 Exact Location 510' FWL & 660' FSL
of W/2 of NE/4 of Sec. 8 City Shreveport
 Sec. 8 Twp. 17S Rge. 21W State Louisiana
 County Columbia
 Date Commenced 6/22/69
 Date Completed 8/23/69
 Elevation 273.8
 Total Depth Drilled 8115 *SMACKOVER T.O.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 8-5/8; 24# set at 1038 ft. w/ 410 sks.
 Production Intervals: (Size & Wt.) 5-1/2; 14, 15.5 & 17# set at 8115 ft. w/ 600 sks.
~~Production Intervals:~~ (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) 2-7/8 set at 5498 ft.
 Perforations: Size 1/2 No. Per Foot 4
 Perforated Intervals: 8024-8027'
 Acidized: Yes No ; Interval 8024-27' w/ 500 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing _____ New
 3. Liquid production from this well is sold to (Monsanto Company)
 (Address El Dorado, Arkansas)
 4. Disposition of gas from this well: Vented Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test 8/23/69 Actual Length of Time Tested 12 hours
 Type Well: Flowing _____ Gas Lift _____ Pump
 Tubing Pressure 50 Casing Pressure 250 Choke Size 16/64
 Net Oil Produced 32.5 bbls. Gas Produced 13.0 MCF % BSW 25 GOR 400:1
 Gravity Oil 34 BHP Recorded 2852 psi
 Net Oil in 24 Hours 65 Open Flow Potential _____ MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested 65 BOPD

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

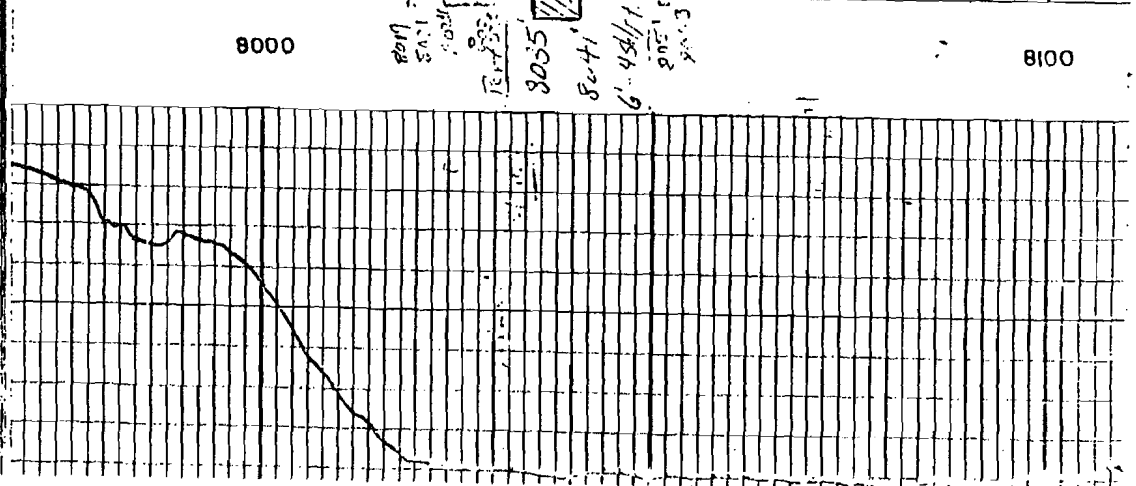
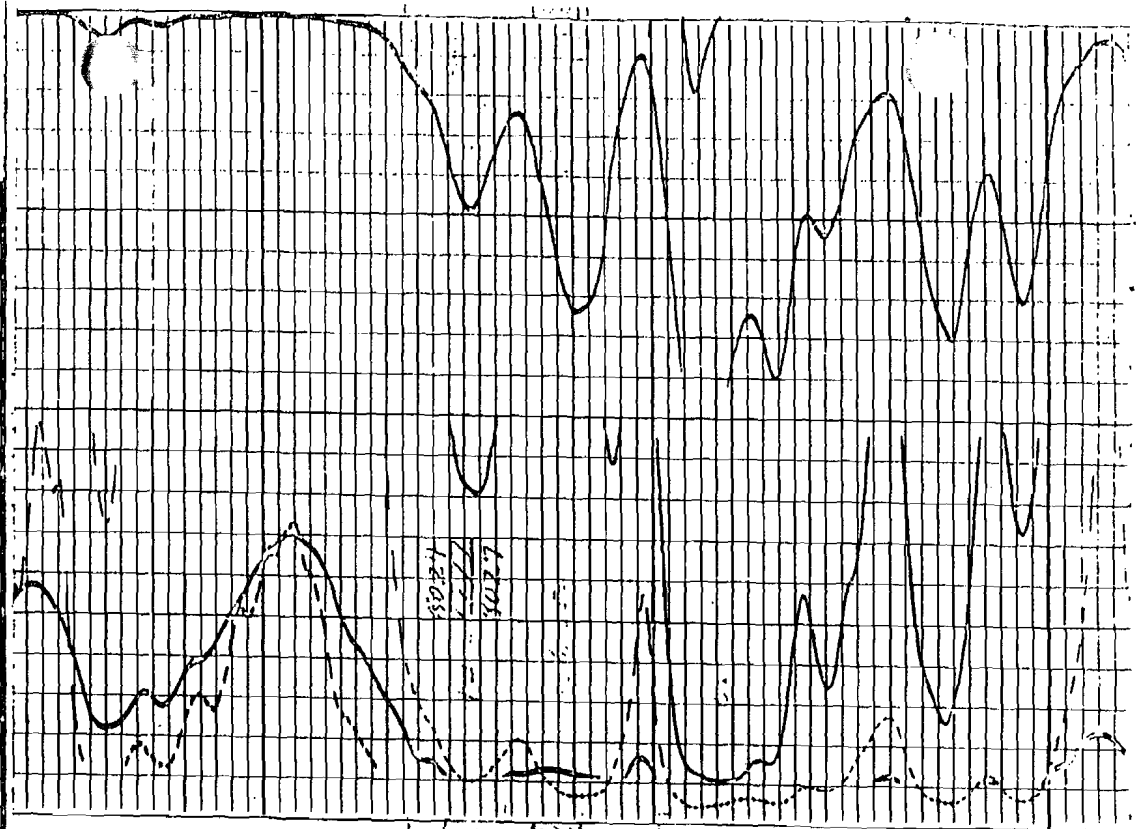
I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

SCHLUMBERGER INDUCTION ELECTRICAL LOG

COMPANY PETROFUNDS, INC.
 WELL SORRELS ETAL #1
 FIELD KILGORE LODGE
 COUNTY COLUMBIA STATE ARK.
 LOCATION: 510' FWL 660' FSL
W 1/2 NE 1/4
 Other Services:
BHC
 Sec. 8 Twp. 17S Rge. 21W
 Permanent Datum: GROUND LEVEL Elev. 273.8
 Log Measured From KB 10 Ft. Above Perm. Datum
 Logging Measured From _____ Elev.: K.B. 283.8
 D.F. _____
 G.L. 273.8

Date	7-26-69		
Run No.	ONE		
Depth—Driller	B114		
Depth—Logger	B121		
Depth Log Interval	B120		
Depth Log Interval	1042		
Logging—Driller	B38 @ 1039	@	@
Logging—Logger	1042	@	@
Log Size	7 7/8		
Type Fluid in Hole	GEL CAUS		
Sens.	Visc.	10.7 45	
OH	Fluid Loss	ml	ml
Source of Sample	PIT		
R _m @ Meas. Temp.	0.75 @ 92°F	@	°F
R _{ml} @ Meas. Temp.	0.25 @ 186°F	@	°F
R _{mc} @ Meas. Temp.	0.77 @ 186°F	@	°F
Source: R _{mf} R _{ms}	C C	@	°F
R _m @ BHT	0.37 @ 186°F	@	°F
Time Since Circ.	3 HR		
Max. Rec. Temp.	186 °F	@	°F
Log Location	13 BCT MING		



BELL CORE LABORATORIES

321 SPRING STREET
SHREVEPORT, LOUISIANA

Page. . . . of

Company PETRO FUND, INC. Date Report 7-19-69 File SA # 1910
 Well SORRELS ET AL #1 Cores DIAMOND Analysts
 Field KILGORE LODGE Formation SMACKOYER Reports to
 County COLUMBIA State ARKANSAS Elevation Coregraph
 Location Sec B-17S-21W Remarks DRILLER'S DEPTHS

CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION	REMARKS
				OIL	TOTAL WATER		
1	7997.5	<i>avg. 456</i> 3.4	<i>avg. 13.1%</i> 9.1	11.7	<i>avg. 29.4%</i> 22.1	OIL	
2	7998.5	0.0	6.8	9.2	24.3	NONE	
3	8003.5	5.3	9.4	9.4	20.0	OIL	
4	8004.5	0.0	7.1	10.1	25.1	NONE	
5	8005.5	18	9.7	11.2	26.4	OIL	
6	8008.5	15	9.5	11.9	26.8	OIL	
7	8009.5	0.0	3.8	7.3	46.4	NONE	
8	8010	0.0	4.2	0.0	41.3	NONE	
9	8011.5	0.0	4.9	0.0	40.7	NONE	
10	8013.5	45	14.5	9.7	19.2	OIL	
11	8014.5	155	15.8	11.2	20.2	OIL	
12	8015.5	0.8	8.9	13.6	21.9	OIL	
13	8016.5	1.6	9.6	12.8	22.2	OIL	
14	8017.5	1310	14.2	11.2	23.8	OIL	
15	8018.5	820	14.0	10.0	24.9	OIL	
16	8019.5	493	15.8	11.9	26.1	OIL	
17	8020.5	640	16.5	10.9	28.4	OIL	
18	8021.5	925	17.6	12.2	27.1	OIL	
19	8022.5	1650	18.5	11.2	28.8	OIL	
20	8023.5	1310	18.2	9.9	33.8	OIL	
21	8024.5	1650	17.1	10.2	26.9	OIL	
22	8025.5	84	16.2	11.1	24.3	OIL	
23	8026.5	1.1	14.1	13.5	22.1	OIL	
24	8027.5	14	13.2	11.9	32.1	OIL	
25	8028.5	25	14.8	12.2	35.8	OIL	
26	8029.5	114	16.3	10.5	32.4	OIL	
27	8030.5	209	17.2	12.8	31.2	OIL	
28	8031.5	1310	18.3	15.3	36.6	OIL	
29	8032.5	1170	15.8	16.8	37.1	OIL	
30	8033.5	3380	16.1	17.2	34.2	OIL	
31	8034.5	4620	14.9	19.4	32.8	OIL	
32	8035.5	2670	15.3	18.3	35.3	OIL	
33	8036.5	3372	16.2	16.9	30.1	OIL	
34	8037.5	4615	15.3	17.3	31.6	OIL	
35	8038.5	118	13.1	14.2	32.8	OIL	
36	8039.5	84	13.8	13.8	38.3	OIL	
37	8040.5	0.0	3.6	0.0	55.4	NONE	
38	8041.5	0.0	4.2	0.0	56.1	NONE	
39	8042.5	4610	15.3	5.2	60.2	WATER	
40	8043.5	5545	16.1	3.9	58.4	WATER	
41	8044.5	4630	13.4	6.7	59.3	WATER	
42	8045.5	3380	14.9	0.0	67.2	WATER	
43	8046.5	5560	15.3	0.0	69.3	WATER	
44	8047.5	1650	14.0	3.6	56.6	WATER	
45	8057.5	7.8	12.0	0.0	42.3	WATER	
46	8066.5	37	10.3	0.0	57.2	WATER	
47	8069.5	0.0	6.1	0.0	56.2	NONE	
48	8075.5	705	12.4	0.0	73.4	WATER	
49	8079.5	246	13.9	0.0	71.8	WATER	
50	8083.5	0.8	8.9	0.0	67.2	WATER	
51	8088.5	1.3	11.7	0.0	57.8	WATER	

28	8031.5	1310	18.3	15.3	36.6	OIL
29	8032.5	1170	15.8	16.8	37.1	OIL
30	8033.5	3380	16.1	17.2	34.2	OIL
31	8034.5	4620	14.9	19.4	32.8	OIL
32	8035.5	2670	15.3	18.3	35.3	OIL
33	8036.5	3372	16.2	16.9	30.1	OIL
34	8037.5	4615	15.3	17.3	31.6	OIL
35	8038.5	118	13.1	14.2	32.8	OIL
36	8039.5	84	13.8	13.8	38.3	OIL
37	8040.5	0.0	3.6	0.0	55.4	NONE
38	8041.5	0.0	4.2	0.0	56.1	NONE
39	8042.5	4610	15.3	5.2	60.2	WATER
40	8043.5	5545	16.1	3.9	58.4	WATER
41	8044.5	4630	13.4	6.7	59.3	WATER
42	8045.5	3380	14.9	0.0	67.2	WATER
43	8046.5	5560	15.3	0.0	69.3	WATER
44	8047.5	1650	14.0	3.6	56.6	WATER
45	8057.5	7.8	12.0	0.0	42.3	WATER
46	8066.5	37	10.3	0.0	57.2	WATER
47	8069.5	0.0	6.1	0.0	56.2	NONE
48	8075.5	705	12.4	0.0	73.4	WATER
49	8079.5	246	13.9	0.0	71.8	WATER
50	8083.5	0.8	8.9	0.0	67.2	WATER
51	8088.5	1.3	11.7	0.0	57.8	WATER
52	8091.5	0.0	5.3	0.0	36.9	NONE
53	8094.5	0.0	5.0	10.0	34.0	NONE
54	8095.5	0.0	3.4	0.0	39.2	NONE
55	8096.5	0.0	2.8	0.0	46.4	NONE

CORE #1 7982-7997 CUT 15' RECOVERED 15'

1' DOLOMITE-DENSE-NO SHOW

14' LIME-OLITIC-DENSE-NP P & P FEW PINPOINTS BLEEDING OIL @ 7785 1/2 & 7796

CORE #2 7997-8012 CUT 15' RECOVERED 16'

7' LIME-OLITIC-DENSE-FEW SPOTS BLEEDING OIL-LITTLE TO NO P&P

4' LIME-OLITIC-LOW P&P-BLEEDING TO EVEN OIL STAIN

1' LIME-PYSOLITIC-NO P&P-NO SHOW

2' LIME-OLITIC-LOW P&P-SPOTTED FAINT OIL STAIN & ODOR

1' LIME-OLITIC-DENSE-NO SHOW

1' LIME-OLITIC-LOW P&P-WET-NO SHOW

CORE #3 8012-8027 CUT 15' RECOVERED 15'

1' LIME-GREY-HARD-OLITIC-DENSE-FEW PINPOINTS BLEEDING OIL

2' LIME-OLITIC-GOOD P&P-EVEN TAN OIL STAIN-GOOD TASTE

1' LIME-PYSOLITIC-DENSE-FEW PINPOINTS BLEEDING OIL

10' LIME-OLITIC-GOOD P&P-EVEN TAN OIL STAIN-GOOD TASTE

1' LIME-OLITIC-LOW TO NO P&P-FEW SPOTS OF TAN OIL STAIN-FRACTURED-SLIGHT SALTY TASTE

CORE #4 8027-8047 CUT 20' RECOVERED 20'

3' LIME-GREY-OLITIC-SOLID GOLD FLO.-GOOD P&P-GOOD ODOR

2' LIME-AS ABOVE-FAIR P&P

2' LIME-GREY-OLITIC-GOOD P&P-GOOD ODOR

4' LIME-GREY-OLITIC-GOOD STAIN-GOOD P&P-GOOD ODOR

2' LIME-GREY-SLIGHTLY OLITIC-DENSE-SPOTTED STAIN

2' LIME-GREY-DENSE-PYSOLITIC-NO ODOR-NO STAIN

5' LIME-GREY-SUCROSA-CALCITE INCLUSIONS-GOOD P&P-NO STAIN-LIGHT ODOR-APPEARS WET

CORE #5 8047-8097 CUT 50' RECOVERED 51'

21' LIME-GREY-SUCROSA-APPARENT P&P-NO ODOR-APPEARS WET

4' LIME-GREY-PYSOLITIC-SLIGHT P&P-NO ODOR-APPEARS WET

9' LIME-GREY-SUCROSA-GOOD P&P-CALCITE INCLUSIONS-NO ODOR-APPEARS WET

9' LIME-GREY-FINELY OLITIC-SLIGHT P&P-APPEARS WET-NO ODOR

3' LIME-GREY-CRYSTALLINE-CALCITE INCLUSIONS-DENSE-TITE-NO ODOR

4' LIME-GREY-HORIZONTAL FRACTURES-DENSE-WITH PIN POINTS POROSITY-SPOTTED DULL YELLOW FLO.-VERY SLIGHT BLEEDING OIL & SALT WATER



OIL & GAS PRODUCING SERVICES, INC.

P. O. BOX 374 — SHREVEPORT, LOUISIANA 71102

February 5, 1970

Arkansas Oil & Gas Commission
314 E. Oak Street
El Dorado, Arkansas 71730

Attention: Mr. W.E. Wright

Re: Petrofunds, Inc.
Sorrels No. 1 well and
Volentine No. 1 well,
Columbia County, Arkansas

Dear Sir:

Please be advised that both of the above captioned wells are back on production, and the produced salt water from both wells is being disposed of down hole.

Yours very truly,

SUNNY SOUTH OIL & GAS, INC.

R.M. Scoggins

RMS/amh

RECEIVED

FEB 6 1970

ARKANSAS OIL & GAS COMMISSION

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease Sorrels et al #1 (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Producer Petrofunds, Inc. Field Kilgore Lodge

Address all correspondence concerning this form to: Same as above.

Street P. O. Box 419 City Shreveport State La.

The above named producer hereby authorizes Monsanto Company
(Name of Transporter)

Whose principal place of business is Lion Oil Bldg., Eldorado, Ark.
(Street) (City) (State)

And whose field address is _____

To transport 100 % of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____ % _____ %
(Name of Transporter) (Name of Transporter)

Remarks:

This is a new lease.

9

The undersigned certifies that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 18 day of September, 1969

APPROVED 9-18-69
ARKANSAS OIL & GAS COMMISSION

Petrofunds, Inc.

(Company or Operator)

By [Signature]

[Signature] Agent
(Affiant) (Title)

No. 2-1047

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]
David L. Billingsley, Agent

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 21244

Date July 6, 1971

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Petrofunds, Inc.

Field Kilgore Lodge

County Columbia

Operator's Address: Street Box 374

City Shreveport

State Louisiana

Lease Name Sorrels Well No. 1

Location 1100' N & 100' E C. Sec. 8

Section 8 Township 17-S Range 21-W

Character of well (Oil, Gas or Dry) OIL

Date you wish to plug 6-23-71

Total Depth of Well 8100'

Name of party plugging well M.W. Lay

Address: Street 1008 Lawton Circle

City Magnolia

State Arkansas

AOGC-2(56) filed by W. L. Billingsley Date filed May 26, 1969

RECEIVED

JUL 7 1971

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

W. L. Billingsley

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Petrofunds, Inc. Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover

form to: Petrofunds, Inc. County Columbia

Street P. O. Box 374 City Shreveport State Louisiana

Lease Sorrels Well No. 1 Sec. 8 Twp. 17-S Rge. 21-W

Date well was plugged 6-24-71 Total Depth of well 8100'

Was well filled with mud-laden fluid, according to regulations of the Commission? salt water

How much mud applied? filled hole Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock no casing cut or pulled

Was notice given before plugging, to all available adjoining lease and land owners as required? yes

cast iron bridge plug set at 3540' - cement from 3466' back up to 3425' - 3430'

cement plug in top of 5-1/2"

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

A. L. Richmond 3

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

FIELD Kilgore Lodge COMPANY & WELL Petro-Suave Inc. - Savvols # 1
8 3/8" @ 1027' w/ 410 sh

PRODUCING INTERVAL 3458-66 SIZE CASING 5 1/2" @ 8114'

Squeezed by Halliburton @ 3458-66 w/ 150 sh.
PLUGGED AT _____ feet, by bailer or pump, with _____ sacks of cement.

45' left in pipe above PWS.
LENGTH OF PLUG ~~45~~ feet.

DATE PLUGGED 4-22-71.

FRESH WATER PLUG AT _____ feet, by bailer or pump, with _____ sacks
of Cement. LENGTH OF PLUG _____ feet.

DATE PLUGGED _____.

PLUGGED AT TOP OF SURFACE CASING. YES _____ NO _____.

REMARKS:

ARKANSAS OIL & GAS COMMISSION
WITNESS

Not Witness

Columbia County

Arkansas

Petrofunds #1 Sorrels
Kilgore Lodge Fld., 8-17S-21W

Well: PETROFUNDS, INC. #1 Sorrels et al
Loc'n: Sec 8-17S-21W, 660' FSL. 510' FWL W½ NE

Result: OIL

Spud: 6-22-69; Comp: 8-23-69; Elev: 274' grd, 284' KB; TD: 8115'; C/Sawyer Drig. & Ser.
Casing: 8 5/8" 1027'/410 sx, 5 1/2" 8115'/600 sx
Prod Zone: (Smack) prod thru perf 8024-27'
IPF: 65 BOPD, 16/64" ch, 25% BS&W, grav 34 deg
Comp Info: Crd 7982-97' & 7997-8012', no details; Crd 8010-27', no details; DST
8012-27', no report; reamed down to 8027'; Crd 8027-47', no details; DST
8030-47', no report; Crd 8047-8097', rec 50', no report; TD 8115', ran IEL,
set csg. 2 7/8" 5498', perf 8024-8037'
Tops: (Elec Log) Nac 1790', Smack 8008'
API# 0302710013

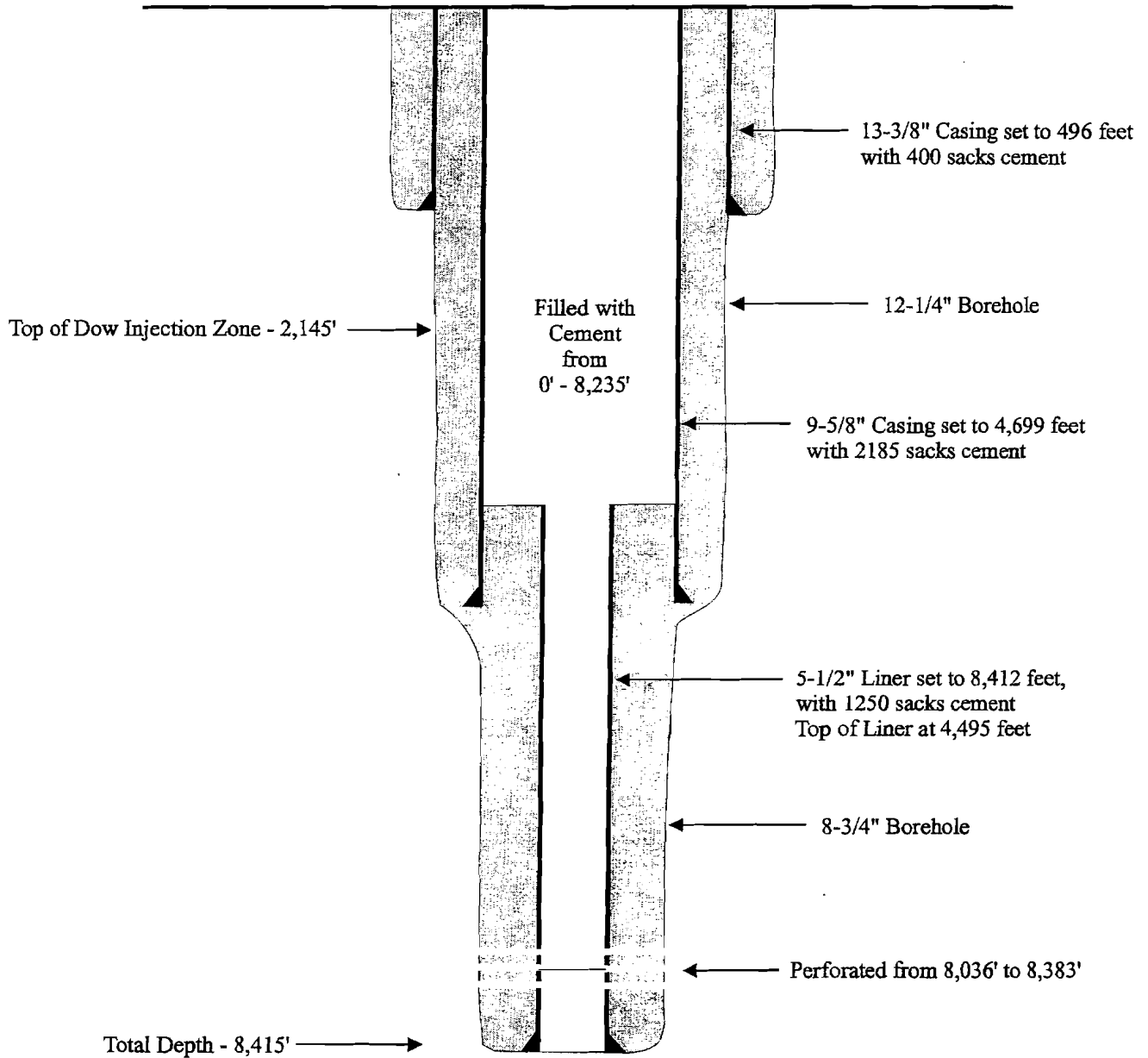
The Standard
OIL COMPANY

Date: 12-30-69 Card No.: 6 Ark

Map ID No. 30

Map ID No. - 30
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 1
Sec. 8, T-17-S, R-21-W
Completion Date - 12/26/74

API No. - 03-027-10330
Serial No. - 23,299
Lease - Weber BSW
Type - Brine Supply with Oil
Status - Plugged
County - Columbia
Date Plugged - 7/29/92



0302110, 332

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 23299

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date October 28, 1974

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name Weber No. 1 - Brine Supply Well Well No. 1

Acres in lease Not Applicable

Number of acres in and description of drilling unit Not Applicable

Location of proposed well (Must agree with Surveyor's Plat) 330' FNL and 330' FWL
of the SW/4 NE/4

Section 8 Township 17 South Range 21 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 3.71 miles Northwest of Magnolia, Ark.

Distance from proposed location to nearest drilling, completed or applied for well _____

1/2 mile Northeast of McAnulty No. 1 - Brine Supply Well

Rotary or cable tools Rotary Date work will start 11/7/74

Name of drilling or workover contractor Sawyer

Depth to be drilled 8500'

Formation you propose to complete in Smackover

Remarks: _____

RECEIVED

NOV 6 1974

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

James C. Lewis
James C. Lewis

R 21 W

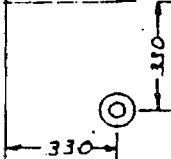
5 4

8 9

H. & S. TRUST

DR CL. WEBER

SMEAD McANULTY



SW 1/4 NE 1/4

V. S. PARHAM

SELWYN WHITEHEAD

T
17
S

WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO.

WELL NAME WEBER NO. 1 - BRINE SUPPLY WELL

LOCATION 330' FROM THE NORTH LINE, AND 330' FROM THE WEST LINE, OF THE SW 1/4 NE 1/4 SECT. 8, T-17S; R-21W COLUMBIA CO, ARK.

The location shown hereon was staked from a ground survey made OCT. 16 1974

Scale 1" = 600

H. F. Crisp

R.L.S. 454

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical USA
Pool Completed In Smackover Lime
Lease Name Weber No. #1 85W Address: Street P.O. Box 520
Exact Location 330' FNL 330' FWL
SW $\frac{1}{4}$ - NE $\frac{1}{4}$ City Magnolia,
Sec 8 Twp. 17S Rge. 21W
County Columbia State Arkansas 71753
Date Commenced 11 - 8 - 74
Date Completed 2 - 11 - 76
Elevation 275.49 GL
Total Depth Drilled 8415 *Turner 7.0*
Electric Log Run: Yes No
Electric Log Filed: Yes No

RECEIVED

FEB 20 1976

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft. w/ Ready Mix sks.
Surface: (Size & Wt.) 13-3/8" - 48# set at 496' ft. w/ 400 sks. cir
Intermediate: (Size & Wt.) 9-5/8" 40# set at 4699' ft. w/ 2185 sks. cir
Production: (Size & Wt.) 7", 29# liner top @ 4495 set at 8412 ft. w/ 1250 sks. cir
Tubing: (Size & Wt.) 5 $\frac{1}{2}$ set at 3500 ft.
Peforations: Size No. Per Foot
Peforated Intervals: 8036-8046, 8053-8075, 8083-8093, 8363 - 8383'
Acidized 8036 - 46 (5000) 8053-75 (10,000) 8083 - 93 (5000) 8363 - 8383 (5000)
Acidized: Yes No ; Interval 8036 - 8393 w/ 2500.0 gals.
Fractured: Yes No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well NA
2. Tank battery to which this well is connected: Existing _____ New _____
3. Liquid production from this well is sold to (_____
(Address _____
4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test _____ Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

71
15
26

ARKANSAS OIL AND GAS COMMISSION
314 EAST OAK STREET
EL DORADO, ARKANSAS 71730

AOGC - 43

AUTHORITY TO PRODUCE

TO: Dow Chemical USA
P.O. Box 520
Magnolia, Arkansas

SUPPLEMENT NO. X - 58 - SA

DATE February 22, 1984 *Should be 1985*

COMPLETION _____ RECOMPLETION _____

REWORK _____ CHANGE OR CORRECTION _____

WELL NAME Weber Brine Supply Well NO. 1 FIELD Kilgore Lodge

LOCATION 330' FNL & 330' FWL SW NE SEC. 8 TWP. 17S RGE. 21W

COUNTY Columbia

PRODUCING INTERVAL Smackover FROM 8036 FT., TO 8383 FT.

Gentlemen:

This will be your authority to produce the above well at the rate of _____* (BBLs.) and/or _____ (MCF) per day, effective 7 A.M., February 17, 1985

This is authority for TOSCO Corporation to connect to this well and run this assignment allowable upon receipt of approved Form 4 covering this lease.

REMARKS: This is a Brine Supply well producing some oil. TOSCO Corporation has the authority to purchase the oil produced from this well.

cc: TOSCO Corporation
1001 School Street
El Dorado, Arkansas 71730

Yours truly,

By: _____
SHIRLEY KNIGHT, STATISTICIAN II

ARKANSAS OIL AND GAS COMMISSION
314 East Oak
El Dorado, Arkansas 71730-5896

Producers Certificate of Compliance and Authorization to
Transport Oil or Gas from Lease

Lease Weber BSW No. 1 (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Operator Dow Chemical U.S.A. Field Kilgore Lodge

Address all correspondence concerning this form to: Dow Chemical U.S.A.

Street P. O. Box 520 City Magnolia State Arkansas Zip 71753

The above named operator hereby authorizes Tosco Corporation
(Name of First Purchaser)

Whose principal place of business is ElDorado Ar 71730
(Street) (City) (State) (ZIP)

And whose field address is _____

To transport 100 % of the Oil (x) produced from the lease designated above until further notice.
Gas ()

Other purchasers transporting oil or gas from this lease are:

N/A % _____ %
(Name of Purchasers) (Name of Purchasers)

Remarks:

RECEIVED
FEB 22 1985

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the purchaser (s) is (are) authorized to transport the percentage of oil or gas produced from the above described property and that this authorization will be valid until further notice of the purchaser named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 21st day of February, 1985.

APPROVED: Feb 22, 1985
ARKANSAS OIL & GAS COMMISSION

by Shirley Knight

No. 298

DOW CHEMICAL U.S.A.
(Company of Operator)

BY: Cecil R. Acker
(Affiant)

Cecil R. Acker, Land Administrator

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Weber No. BSW #1 (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes Lion Oil Company
(Name of First Purchaser)

Whose principal place of business is 1001 School Street El Dorado AR 71730
(Street) (City) (State)

And whose field address is _____

To transport 100 % of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

N/A _____
(Name of Transporter) (Name of Transporter)

Remarks:

Change of operators from Dow Chemical to Ethyl Corporation.



ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
Herley Knight
No. 3558

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
(Affiant)
L. C. Reynolds
Field Manager

ARKANSAS OIL AND GAS COMMISSION
314 East Oak
El Dorado, Arkansas 71730-5896

APPLICATION TO PLUG

Serial No 23,299

Date 7-27-92

File Original Five Full Days Prior To Beginning Plugging Operations

Operator Ethyl Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Magnolia

State Arkansas Zip 71753

Lease Name Weber Well No. 1

Location 330' ENL, 330' ENL

Section 8 Township 17S Range 21W

Type of well (Oil, Gas or Dry) Brine

Date you wish to plug 7-28-92

Total Depth of Well 8415'

Name of party plugging well Halliburton

Address - Street

City Bossier

State Louisiana Zip

AOGC 2(56) filed by Dow Chemical Date filed

RECEIVED

JUL 31 1992

CERTIFICATE

ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Brown

R.H.
M
M

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover Lime

form to: Ethyl Corporation County Columbia

Street P. O. Box 729 City Magnolia State AR

Lease Weber Well No. 1 Sec. 8 Twp. 17S Rge. 21W

Date well was plugged 7-29-92 Total Depth of well 8415'

Was well filled with mud-laden fluid, according to regulations of the Commission? Well filled with cement.

How much mud applied? - Were plugs used? - If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount cement and rock Filled with 11.0 lbs/gal cement 8235' to 0 (800 sacks)

Was notice given before plugging, to all available adjoining lease and land owners as required? Cut casing off and welded plate 2' below ground level.

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13-3/8"			496	
9-5/8"			4699	
7"			3917	

*MH
R.H*

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

[Signature]

Well: THE DOW CHEMICAL CO #1 Weber BSW
Loc'n: Sec 8-17S-21W, 330' FNL, 330' FWL SW NE

Result: BSW
U

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REPRODUCTION PROHIBITED

Spud: 11-30-74; Comp: 12-26-74; Elev: 286' KB; TD: 8418'; C Sawyer Drig & Serv
Casing: 9 5/8" 2200', 7" 8400'
Comp Info: drld to 8410', ran logs to TD 8418', comp as brine supply,
Tops: (Elec Log) Buckner 7800', Smack 8000'
API 03-027-10330



Petroleum Information.

CORPORATION

A Division of A.C. Smith Company

Date: 2-4-75

Card No.: 4 Ark.

PI/Dwights PLUS Online Summary Report

Well No. 30

Date: 5/1/2001
Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8410
Field          : KILGORE LODGE       Log Total Depth  : 8418
Operator Name   : DOW CHEMICAL CO THE
Lease Name      : WEBER BSW
Well Number     : 1                  Spud Date       : NOV 30, 1974
API Number      : 03027103300000     Comp Date       : DEC 26, 1974
Regulatory API  :
Init Lahee Class : U                  Hole Direction  :
Final Lahee Class : U                  Reference Elevation: 286   KB
Permit Number   : 23299              Ground Elevation :
Geologic Province : ARKLA BASIN              KB Elevation    : 286
Formation at TD : 553SMKV                SMACKOVER
Oldest Age Pen  : 553                UPPER JURASSIC
Township        : 17 S
Range           : 21 W
Base Meridian   : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 330 FNL 330 FWL CONGRESS QTR QTR
Latitude         : 33.2795900         Latitude (Bot)  :
Longitude        : -93.3010500       Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Formations -----
Form Code Form Name           Top Depth   Top TVD   Base Depth   Base TVD   Source
Lithology
553BCKR   BUCKNER             7800
553SMKV   SMACKOVER             8000
    
```

```

----- Log Data -----
Run No   Log Type   Top   Base   Log MD   Max Temp
01       EL        0     8418
    
```

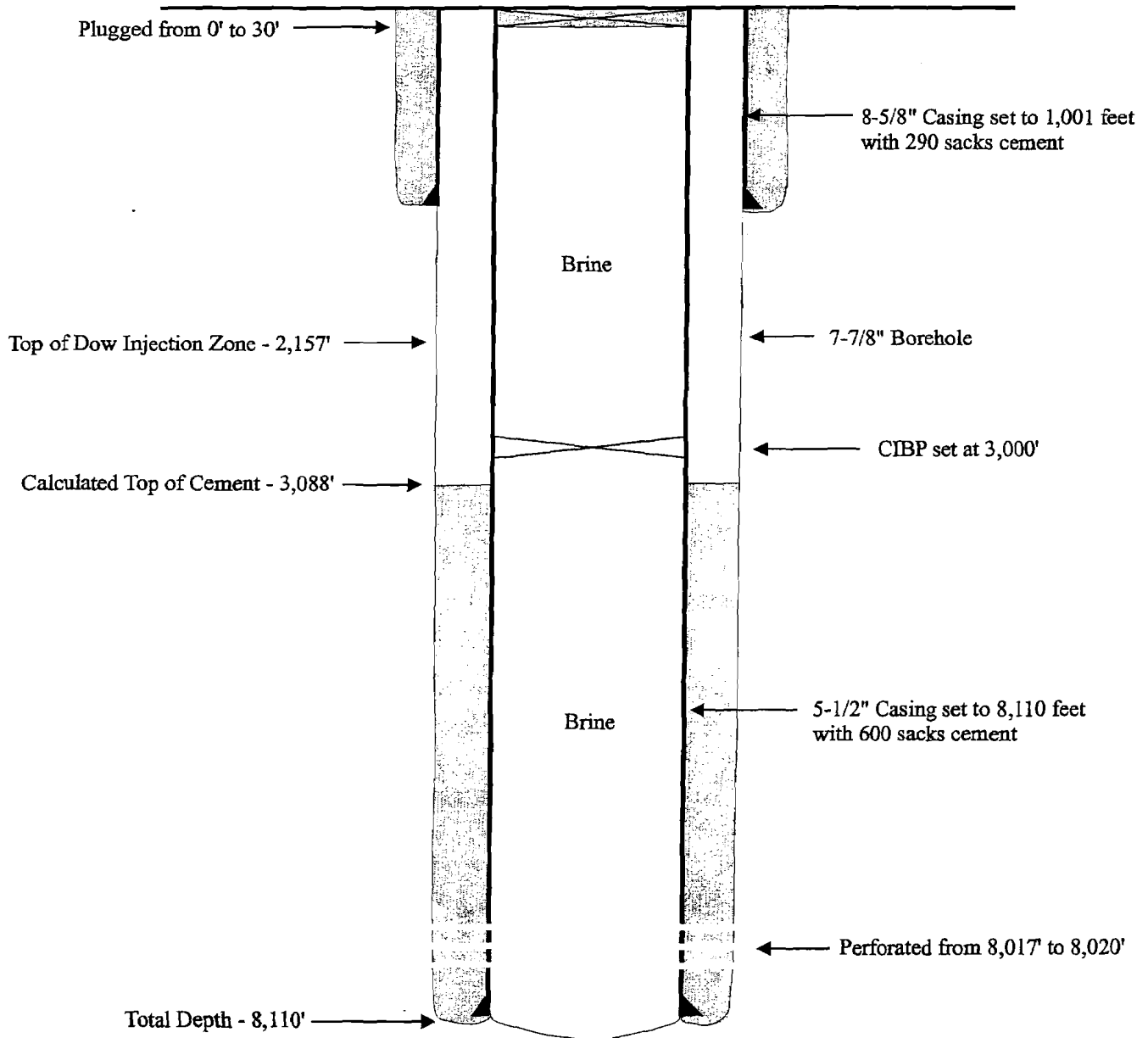
```

----- Casing Data -----
SizeBase Depth   Cement Unit
9 5/8 IN        2200
7 IN            8400
    
```

Map ID No. 31

Map ID No. - 31
Operator - Petrofunds, Inc. (Doran & Braddock)
Field - Wildcat
Well No. - 1
Sec. 8, R-17-S, T-21-W
Completion Date - 2/19/69

API No. -
Serial No. - 21,061
Lease - Volentine
Type - Oil
Status - Plugged
County - Columbia
Date Plugged - 6/23/71



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

152

SCHLUMBERGER

INDUCTION ELECTRICAL LOG

COUNTY COLUMBIA, ARKANSAS FIELD or WILDCAT LOCATION SEC. 8-175-21W WELL #1 VOLENTINE COMPANY DORAN & BRADDOCK	COMPANY	DORAN & BRADDOCK		
	WELL	#1 VOLENTINE		
	FIELD	WILDCAT		
	COUNTY	COLUMBIA	STATE	ARKANSAS
	LOCATION	330' N & 660' E OF SW/C NE NW		Other Services:
Sec. 8	Twp. 17S	Rge. 21W	BHC	
Permanent Datum: GROUND LEVEL		Elev. 288.3'		Elev.: K.B. 296.9'
Log Measured From KB		8.60 Ft. Above Perm. Datum		D.F.
Drilling Measured From KB				G.L. 288.3'

Date	1-25-69			
Run No.	ONE			
Depth—Driller	8115			
Depth—Logger	8109			
Btm. Log Interval	8108			
Top Log Interval	999			
Casing—Driller	8 5/8 @ 1000	@	@	@
Casing—Logger	999			
Bit Size	7 7/8"			
Type Fluid in Hole	GEL, CAUS; DRIS, QUER			
Dens. Visc.	10.5 49			
pH Fluid Loss	-- --- ml		ml	ml
Source of Sample	PIT			
R _{sp} @ Meas. Temp.	1.23 @ 58 °F	@ °F	@ °F	@ °F
R _{inf} @ Meas. Temp.	0.24 @ 186 °F	@ °F	@ °F	@ °F
R _{ms} @ Meas. Temp.	0.30 @ 186 °F	@ °F	@ °F	@ °F
Source: R _{inf} R _{ms}	C C			
R _{sp} @ BHT	0.38 @ 186 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	186 °F			
Equip. Location	.3857 MAG.			
Recorded By	MUSE			
Witnessed By	DORAN, KELLY	STAGGS		

COMPLETION RECORD

SPUD DATE _____ COMPLETION DATE _____

CASING RECORD _____

IP _____

GOR _____ GR _____

TP _____ CP _____

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21,061

11-26-68

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date November 25, 19 68

Name of Operator Doran & Braddock

RECEIVED

Send Permit to: Street 200 Oil & Gas Building

NOV 26 1968

City Shreveport

State Louisiana 71101

ARKANSAS OIL & GAS COMMISSION

Lease Name Volentine Well No. 1

Acres in lease 40 acres

Number of acres in and description of drilling unit 40 acres NE NW, Section 8,
Township 17 South, Range 21 West

Location of proposed well in drilling unit (give in feet) 330' North and 660' East
of the SW/c of the NE NW

Section 8 Township 17 South Range 21 West

County Columbia Field Wildcat

Distance and direction from the nearest town 3 miles East, Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
3/4 mile North of Whitaker #1 Dennis (Abandoned Smackover well)

Rotary or cable tools Rotary Date work will start On or before December 26, 1968

Name of drilling or workover contractor Shuler Drilling Company, Inc.

Depth to be drilled 8100'

Formation you propose to complete in Smackover Lime

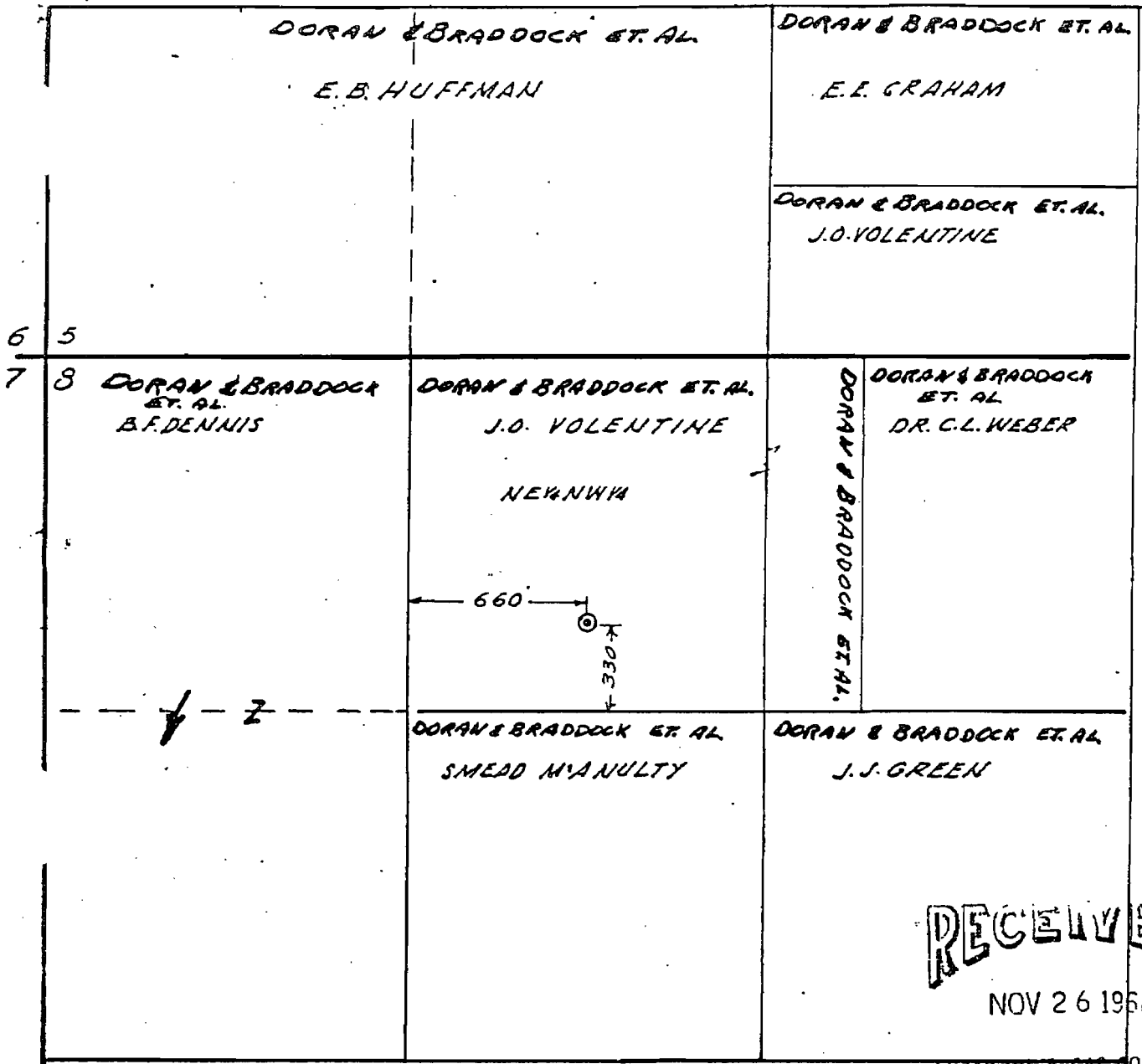
Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RD

Charles E. Doran
Charles E. Doran



ARKANSAS OIL & GAS COMMISSION

LOCATION PLAT

WELL NAME VOLENTINE NO. 1
 LOCATION 330' from the South line and 660' from the West line of the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sect. 8, T-17S; R-21W, Columbia County, Ark.
 OPERATOR DORAN & BRADDOCK.

The location shown hereon was staked from a ground survey made Nov. 18, 1968.

Bill F. Crisp
 Reg. Sur. No. 454

CRISP & GATES
 SECURITIES BLDG.
 MAGNOLIA, ARK.

CHANGE IN NAME OF
OPERATORARKANSAS OIL AND GAS COMMISSION
El Dorado, ArkansasSerial No. 21,061**Notice of Intention to Drill For Oil or Gas** ✓

(This application to drill must be accompanied by a remittance of \$50.00)

Date December 4, 1968Name of Operator DORAN & BRADDOCK & PETROFUND, INC.Send Permit to: Street 200 Oil & Gas BuildingCity Shreveport, La. 71101

State _____

Lease Name Volentine Well No. 1

Acres in lease _____

Number of acres in and description of drilling unit _____

Location of proposed well in drilling unit (give in feet) 330' N 660' E of SWc NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 7 8 Township 17 S Range 21 WCounty Columbia Field Wildcat

Distance and direction from the nearest town _____

Distance from proposed location to nearest drilling, completed or applied for well _____

Rotary or cable tools _____ Date work will start _____

Name of drilling or workover contractor _____

Depth to be drilled _____

Formation you propose to complete in _____

Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Edmund T. Doran

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Wildcat Hilgore Lodge Producer Petrofunds, Inc.
Pool Completed In Smackover
Lease Name Volentine No. 1 Address: Street P. O. Box 419
Exact Location 330' N & 660' E of SW/C
of NE/4 of NW/4 of Sec. 8 City Shreveport,
Sec. 8 Twp. 17-S Rge. 21-W State Louisiana
County Columbia
Date Commenced 12/22/68
Date Completed 2/19/69
Elevation 288.3'
Total Depth Drilled 8110'
Electric Log Run: Yes No
Electric Log Filed: Yes No

RECEIVED

FEB 24 1969

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) --- set at --- ft. w/ --- sks.
Surface: (Size & Wt.) 8-5/8" set at 1001' ft. w/ 290 sks.
Intermediate: (Size & Wt.) --- set at --- ft. w/ --- sks.
Production: (Size & Wt.) 5 1/2" set at 8110' ft. w/ 600 sks.
Tubing: (Size & Wt.) 2-7/8" set at 7968' ft.
Perforations: Size 1/2" No. Per Foot 4
Perforated Intervals: 8017' - 8020'
Acidized: Yes No ; Interval 8017' - 8020' w/ 500 gals.
Fractured: Yes No ; Interval --- w/ --- lbs.
of sand; --- bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
2. Tank battery to which this well is connected: Existing --- New
3. Liquid production from this well is sold to (Monsanto Company)
(Address Lion Oil Building, El Dorado, Ark.)
4. Disposition of gas from this well: Vented Fuel --- Sold ---
If sold, to whom ---
Address ---

PRODUCTION

Date of Test 2/19/69 Actual Length of Time Tested 4 hours
Type Well: Flowing Gas Lift --- Pump ---
Tubing Pressure 300 Casing Pressure --- Packer --- Choke Size 1 1/4/64"
Net Oil Produced 33.5 bbls. Gas Produced 13.4 MCF % BSW 2 GOR 400:1
Gravity Oil 34° BHP Recorded 2826 psi
Net Oil in 24 Hours 201 Open Flow Potential --- MCF
Purpose of this test: Original Completion Workover --- Recompletion ---
Allowable Requested 200 BOPD

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

David L. Billingsley
David L. Billingsley, Agent

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease Volentine (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia
Producer Petrofunds, Inc. Field Widdcat *K. L. Jones Lodge*

Address all correspondence concerning this form to: Same as above

Street P. O. Box 419 City Shreveport State Louisiana 71102

The above named producer hereby authorizes Monsanto Company
(Name of Transporter)

Whose principal place of business is Lion Oil Building, El Dorado, Arkansas
(Street) (City) (State)

And whose field address is _____

To transport 100 % of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

None %
(Name of Transporter) (Name of Transporter)

marks:

RECEIVED

FEB 24 1969

(AMENDED APPLICATION HAS BEEN FILED TO CHANGE OPERATOR. ARKANSAS OIL & GAS COMMISSION
FORMERLY: Doran & Braddock & Petrofund, Inc.)

The undersigned certifies that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 21st day of February, 1969

APPROVED 2-24-69
ARKANSAS OIL & GAS COMMISSION

PETROFUNDS, INC.

(Company or Operator)

By [Signature]

[Signature]
(Agent)

Agent
(Title)

No. L 734

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]
David L. Billingsley, Agent

April 25, 1969

Petrofunds, Inc.
P. O. Box 419
Shreveport, Louisiana 71101

Attention: Mr. R. M. Scoggins

Gentlemen:

The purpose of this letter is to acknowledge receipt on April 25, 1969, of your application for authority to dispose of salt water by injection down the annulus of the Valentine No. 1 well, Section 8, T. 17S, R. 21W, Kilgore Lodge Field, Columbia County, Arkansas.

The aforementioned application appears to be in order and if protests are not received prior to the time prescribed by the prevailing rules and regulations, the authority to conduct the operation as described shall be forthcoming.

I trust that this letter will serve your purpose and if I can be of any further assistance, please advise.

Yours very truly,

W. E. Wright
Geologist

WEW:vsg

cc: Arkansas Pollution Control Commission
Mr. J. W. Floyd
1602 East Main
El Dorado, Arkansas 71730

RECEIVED

APR 25 1969

ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

APPLICATION TO DISPOSE OF SALT WATER ARKANSAS OIL & GAS COMMISSION

OPERATOR Petrofunds, Inc. FIELD Kilgore Lodge
ADDRESS P. O. Box 419 Shreveport, STATE Louisiana
Street City

1. Application is hereby made to dispose of produced salt water in the Wilcox section 1000' (-703') to 1260' (-963) subsea by injecting said (Depth) (Depth)

water into the surface casing-production casing annulus - Volentine #1 (Name of Well)

Sec. 8, Twp. 17S, Rge. 21W, Wilcox pool. (Injection Formation)

Exact Location 330' N and 660' E of the SW/C of NE/4 of NW/4 Elevation 297'

Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.

4. Only water produced from Wells listed below will be injected into the disposal well:

<u>Well Names and Numbers</u>	<u>Location:</u>	<u>Sec.</u>	<u>T.</u>	<u>R.</u>
<u>Volentine #1</u>	<u>Same as above.</u>			

Monsanto Company El Dorado, Arkansas
Pipeline Purchaser/s by Leases Address

The proposed disposal well is cased and cemented as follows:

Size 8-5/8" Surface 1000' feet cemented with 290 Sacks.

Size 5 1/2" Production 8110' feet cemented with 600 Sacks.

6. The estimated minimum and maximum amounts of water to be injected are 100 to 300 barrels water per day. respectively.

7. Upon commencement of operation, I will notify the Commission of the same.

8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.

9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from Shreveport, Louisiana (Where) Arkansas, on 4/24/69 (Date).

NAME OF OPERATOR ADDRESS

Dow Chemical Company

Magnolia, Arkansas

I, R. M. Scoggins, an ^{agent}~~employee~~ of the Petrofunds, Inc. (Name of Company) Oil Company, do certify that the information

presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: R. M. Scoggins

If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.

May 5, 1969

Petrofunds, Inc.
P. O. Box 419
Shreveport, Louisiana 71101

Attention: Mr. R. M. Scoggins

Gentlemen:

Reference is made to your application of April 25, 1969, for permission to dispose of produced salt water from your #1 Valentine well into the annulus of the #1 Valentine well, Sec. 8, T. 17S., R. 21 W, Kilgore Lodge Field, Columbia County, Arkansas.

This letter will be your authority to conduct the operations covered by your application. Your attention is directed to the necessity of securing compliance with the provisions of Rule C-7, Section E, which is found on page 19 of the General Rules and Regulations.

It is requested that upon completion of this system, that this Department be notified for inspection purposes.

I trust that this letter will serve your purpose and if I can be of any further assistance, please advise.

Yours very truly,

W. E. Wright
Geologist

WEW:mb

cc: Arkansas Pollution Control Commission
Mr. J. W. Floyd
1602 East Main
El Dorado, Arkansas 71730

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 21061

Date July 6, 1971

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Petrofunds, Inc.

Field Kilgore lodge

County Columbia

Operator's Address: Street P. O. Box 374

City Shreveport

State Louisiana

Lease Name Volentine Well No. 1

Location 330' N 660' E of SW/C of NE/4 of NW/4 of Sec. 8

Section 8 Township 17-S Range 21-W

Character of well (Oil, Gas or Dry) Oil

Date you wish to plug 6-23-71

Total Depth of Well 8110'

Name of party plugging well M.W. Lay

Address: Street 1008 Lawton Circle

City Magnolia

State Arkansas

AOGC-2(56) filed by D. L. Billingsley Date filed 2-21-59 (amended)

III 7 1971

CERTIFICATE

ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

D. L. Billingsley

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator Petrofunds, Inc. Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover

form to: Petrofunds, Inc. County Columbia

Street Box 374 City Shreveport State Louisiana

Lease Volentine Well No. 1 Sec. 8 Twp. 17-S Rge. 21-W

Date well was plugged 6-23-71 Total Depth of well 8110'

Was well filled with mud-laden fluid, according to regulations of the Commission? salt water

How much mud applied? filled hole Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock no casing cut or pulled

Was notice given before plugging, to all available adjoining lease and land owners as required? yes
casing left intact - cast iron bridge plug set at 3000' - 30' cement plug placed in top of 5 1/2"

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches

Handwritten initials
 [Stamp: RECEIVED JUN 24 1971]

CERTIFICATE

ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

W. L. Richardson

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

FIELD Kilgar-Ledge COMPANY & WELL Petrobank Inc. Valentine #1-

PRODUCING INTERVAL 8017-20 SIZE CASING 8 5/8" @ 995'
5 1/2" @ 812.5'

PLUGGED AT 3000 feet, by Mustang Bridge Plug bailer or pump, with _____ sacks of cement.

LENGTH OF PLUG ~~_____~~ feet.

DATE PLUGGED 6-23-71.

J.P.H.

FRESH WATER PLUG AT _____ feet, by bailer or pump, with _____ sacks

of Cement. LENGTH OF PLUG _____ feet.

DATE PLUGGED _____.

PLUGGED AT TOP OF SURFACE CASING. YES NO _____.

REMARKS:

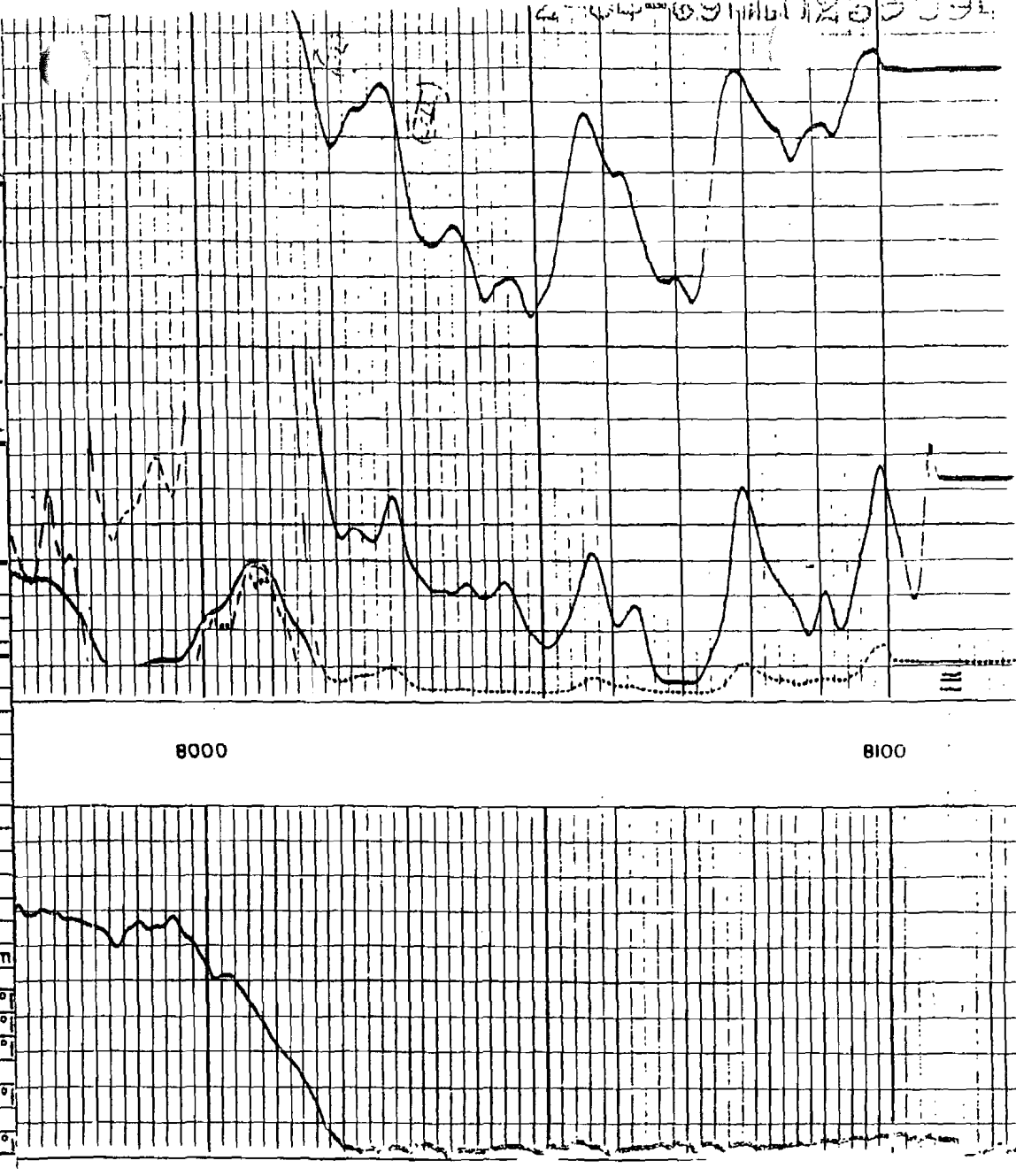
ARKANSAS OIL & GAS COMMISSION
WITNESS

Don Davis

SCHLUMBERGER INDUCTION-ELECTRICAL LOG

COUNTY COLUMBIA FIELD or LOCATION WILDCAT SEC. 8-17S-21W WELL VOLENTINE #1 COMPANY DORAN & BRADDOCK	COMPANY DORAN & BRADDOCK	
	WELL VOLENTINE #1	
	FIELD WILDCAT	
	COUNTY COLUMBIA	STATE ARKANSAS
LOCATION 330'N & 660'E OF SW/C NE NW	Other Services: BHC	
Sec. 8 Twp. 17S Rge. 21W		
Permanent Datum: GROUND LEVEL, Elev. 288.3	Elev.: K.B. 296.9	
Log Measured From K.B., 8.60 Ft. Above Perm. Datum	D.F.	
Drilling Measured From K.B.	G.L. 288.3	

Date	1-25-69			
Run No.	ONE			
Depth—Driller	8115			
Depth—Logger	8109			
Btm. Log Interval	8108			
Top Log Interval	999			
Casing—Driller	8-5/8" @ 1000	@	@	@
Casing—Logger	999			
Bit Size	7-7/8"			
Type Fluid in Hole	GEL, CAUS. DRIS., QUEB.			
Dens.	10.5			
Visc.	49			
pH				
Fluid Loss	---	ml	ml	ml
Source of Sample	PIT			
R _m @ Meas. Temp.	1.23 @ 58 °F	@ °F	@ °F	@ °F
R _{ml} @ Meas. Temp.	0.24 @ 186 °F	@ °F	@ °F	@ °F
R _{mc} @ Meas. Temp.	0.30 @ 186 °F	@ °F	@ °F	@ °F
Source: R _{ml} R _{mc}	C C			
R _m @ BHT	0.38 @ 186 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HOURS			
Max. Rec. Temp.	186 °F	°F	°F	°F
Equip. Location	38571 MAG.			



BELL CORE LABORATORIES

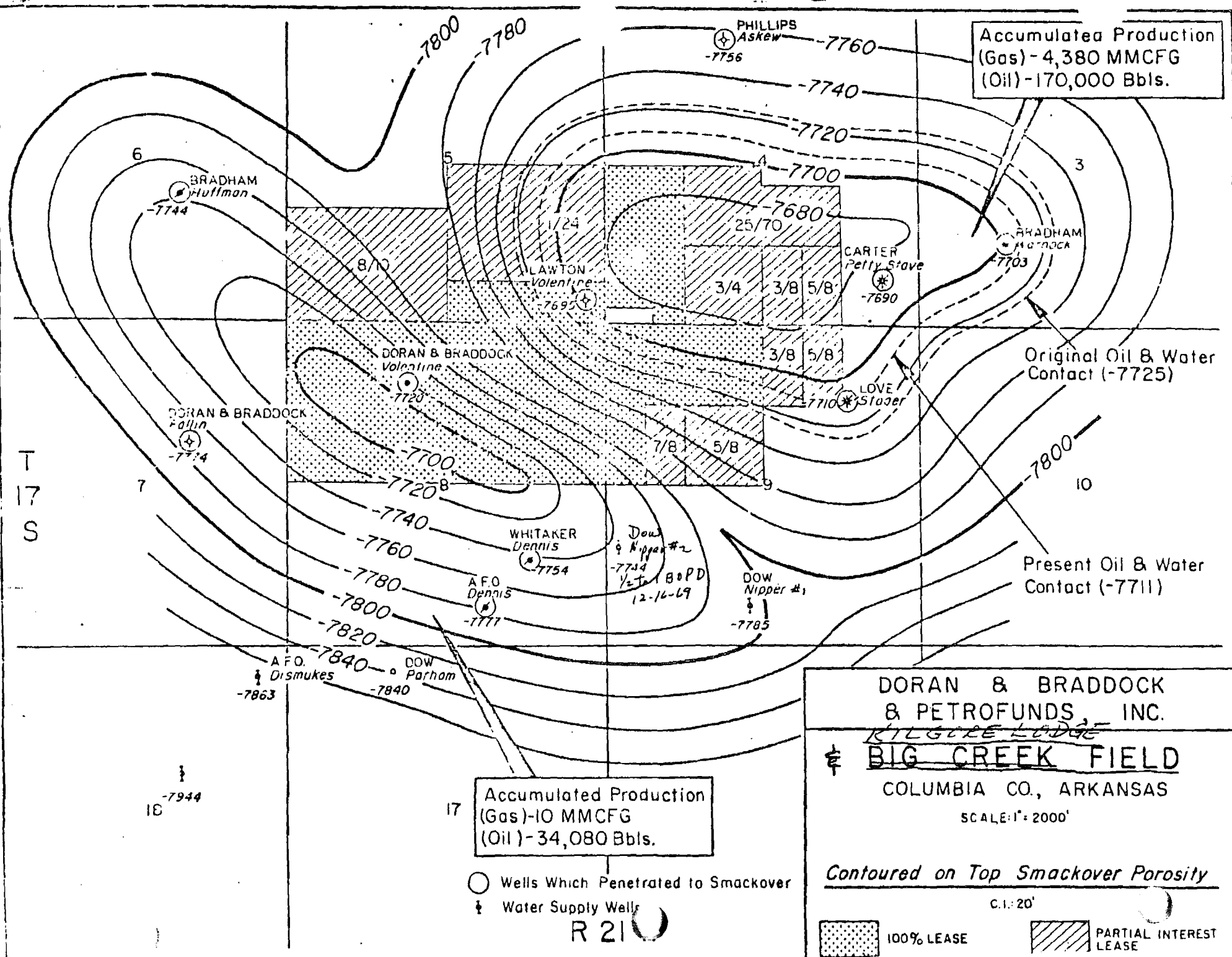
323 SPRING STREET
SHREVEPORT, LOUISIANA

Page _____ of _____

Company DORAN & BRADDOCK Date Report 1-24-69 File # 1871
 Well #1 VOLENTINE Cores DIAMOND Analysts _____
 Field WILDCAT Formation BLACKOVER Reports to _____
 County COLUMBIA State ARKANSAS Elevation _____ Coregraph _____
 Location SEC 8-17E-21W Remarks _____

CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PRODUCIBLE PRODUCTION	REMARKS
				OIL	TOTAL WATER		
		<i>avg 1319 md</i>	<i>avg. 19%</i>		<i>Avg. 37%</i>		
1	8525	0473	16.2	10.7	30.2	OIL	
2	8526	640	17.5	11.4	32.4	OIL	
3	8527	1895	17.1	11.8	31.3	OIL	
4	8528	1170	16.9	10.8	32.2	OIL	
5	8529	1080	16.3	12.2	35.6	OIL	
6	8530	752.	18.8	11.7	36.4	OIL	
7	8531	660	19.4	10.5	35.1	OIL	
8	8532	63	22.6	9.3	34.8	OIL	
9	8533	190	16.3	10.2	36.1	OIL	
10	8534	98	15.9	12.6	30.8	OIL	
11	8535	452	17.4	11.9	37.1	OIL	
12	8536	212	18.2	11.2	36.3	OIL	
13	8537	266	18.7	9.1	35.8	OIL	
14	8538	118	18.9	10.1	31.2	OIL	
15	8539	1650	19.1	10.4	43.5	OIL	
16	8540	190	20.2	10.9	37.4	OIL	
17	8541	125	20.7	11.1	40.2	OIL	
18	8542	202	21.2	8.6	43.8	OIL	
19	8543	925	22.6	9.2	41.2	OIL	
20	8544	515	21.9	10.2	43.1	OIL	
21	8545	404	18.2	10.1	38.2	OIL	
22	8546	1895	19.1	9.8	40.1	OIL	
23	8547	3380	17.4	10.4	39.1	OIL	
24	8548	2220	19.7	9.2	36.4	OIL	
25	8549	1895	19.3	10.3	38.8	OIL	
26	8550	1650	20.8	18.7	40.3	OIL	
27	8551	2670	19.4	10.2	37.8	OIL	
28	8552	1860	18.8	11.2	36.9	OIL	
29	8553	1670	18.5	11.4	36.1	OIL	
30	8554	1460	19.2	11.8	37.1	OIL	
31	8555	1310	19.8	10.8	38.2	OIL	
32	8556	2220	20.5	8.8	39.4	OIL	
33	8557	2670	21.3	10.2	36.4	OIL	
34	8558	1875	24.6	10.1	38.1	OIL	
35	8559	1670	23.2	11.3	35.2	OIL	
36	8560	1490	21.1	10.8	38.1	OIL	
37	8561	2620	19.0	11.1	32.6	OIL	
	8562	3390	18.2	9.9	34.8	OIL	
	8563	3370	18.9	10.2	31.4	OIL	



Accumulated Production
(Gas) - 4,380 MMCFG
(Oil) - 170,000 Bbls.

17
Accumulated Production
(Gas) - 10 MMCFG
(Oil) - 34,080 Bbls.

DORAN & BRADDOCK
& PETROFUNDS, INC.
~~KILGORE LODGE~~
BIG CREEK FIELD
COLUMBIA CO., ARKANSAS
SCALE: 1" = 2000'

Contoured on Top Smackover Porosity

C.I.: 20'

- Wells Which Penetrated to Smackover
- ‡ Water Supply Well

100% LEASE
 PARTIAL INTEREST LEASE

R 21

T
17
S

18
-7944

Columbia County

Arkansas

Petrofunds #1 Volentine

Re-disc., Kilgore Lodge Fld., 8-17S-21W

Well: PETROFUNDS, INC. #1 Volentine

Result: OIL

Loc'n: Sec 8-17S-21W, C S½ NE NW, 3 7/8 mi W-NW/Magnolia

Spud: 12-26-68; Comp: 2-20-69; Elev: 289' grd, 297' KB; TD: 8115'; C/Shuler Drig.

Casing: 8 5/8" 995'/290 sx, 5 1/2" 8113'/600 sx

Prod Zone: (Smack) prod thru perf 8017-20'

IPF: 201 BOPD, 2% BS&W, 14/64" ch, TP 300#, GOR 400:1, grav 34 deg

Comp info: Crd 8016-63', rec 47', 7' ll, ool, tite, sptd oil st & 40' ll, fair to gd

P&P. gd even brown oil st thruout, gd fluor & taste; DST 8020-63', 1/4" B &

3/8" T chs, 2000' WC, rec 2000' O&GCWC, 1786' gas cut oil & 2350' SW,

BHPF 2521-2685#, BHPSI 2866-2872#; drld to 8100', ran IEL; PB, drld out

to TD 8115', ran DST 8017-23' (dual pkrs), stuck tool, rev out WC, 4 1/2 BO

& 3 1/2 BSW, BHP's not recorded (Operated to csg point by Doran & Braddock);

set csg, perf 13/8017-20', F/46.5 BOPD, 2% BS&W, 14/64" ch, TP 75#.

GOR est 400:1, grav 30 deg; F/75 BOPD, 1% LW, 10/64" ch, TP 200#

Tops: (Elec Log) Mwy 1260', Nac sd 1827', B/An 2480', MA 3571-3690', Jas 4252',

Pet 4526', Hoss 4670', Buckner 7794', Smack Dense 8000'

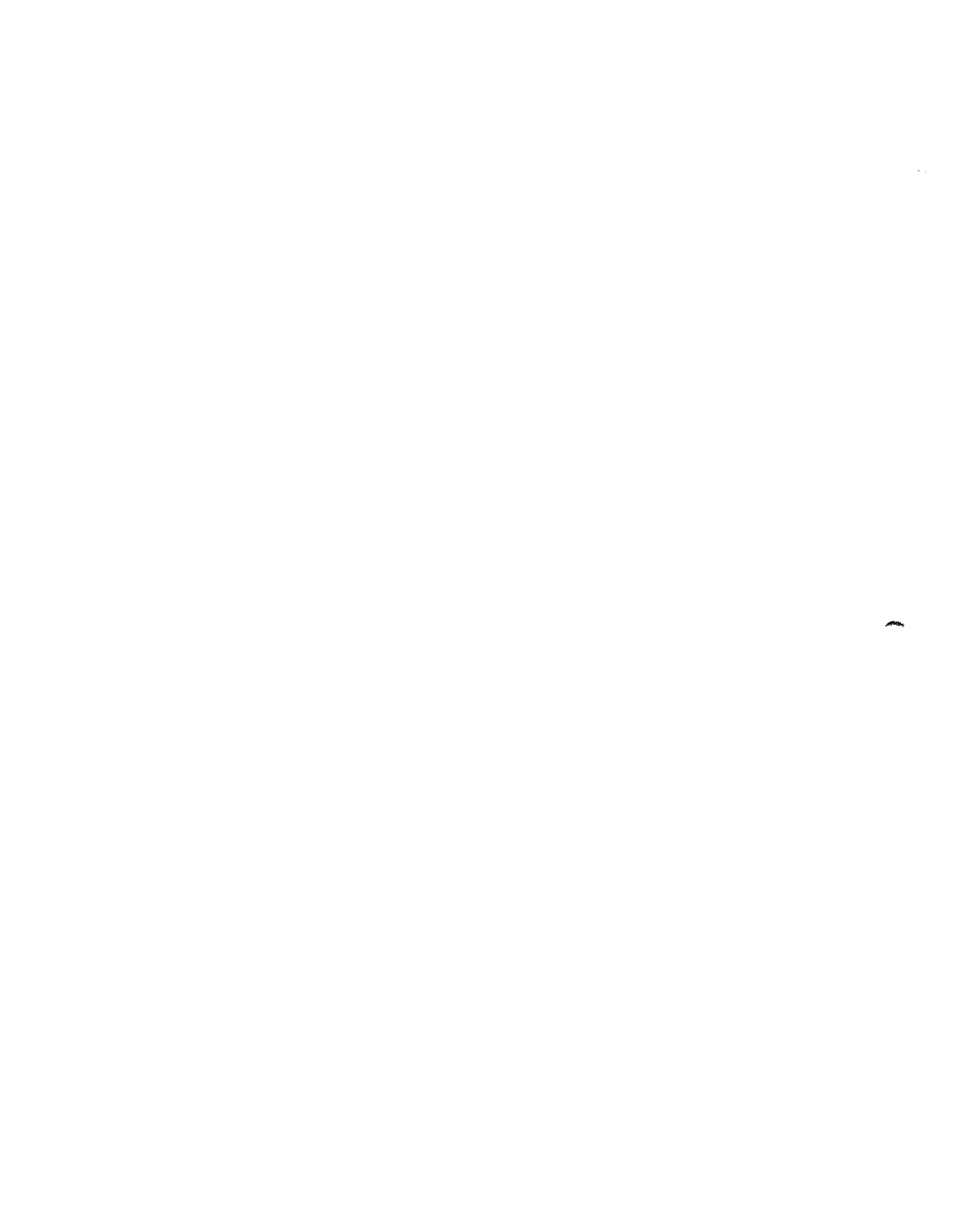
Note: Rerun to show Field Name

Date:

3-4-69

Card No.:

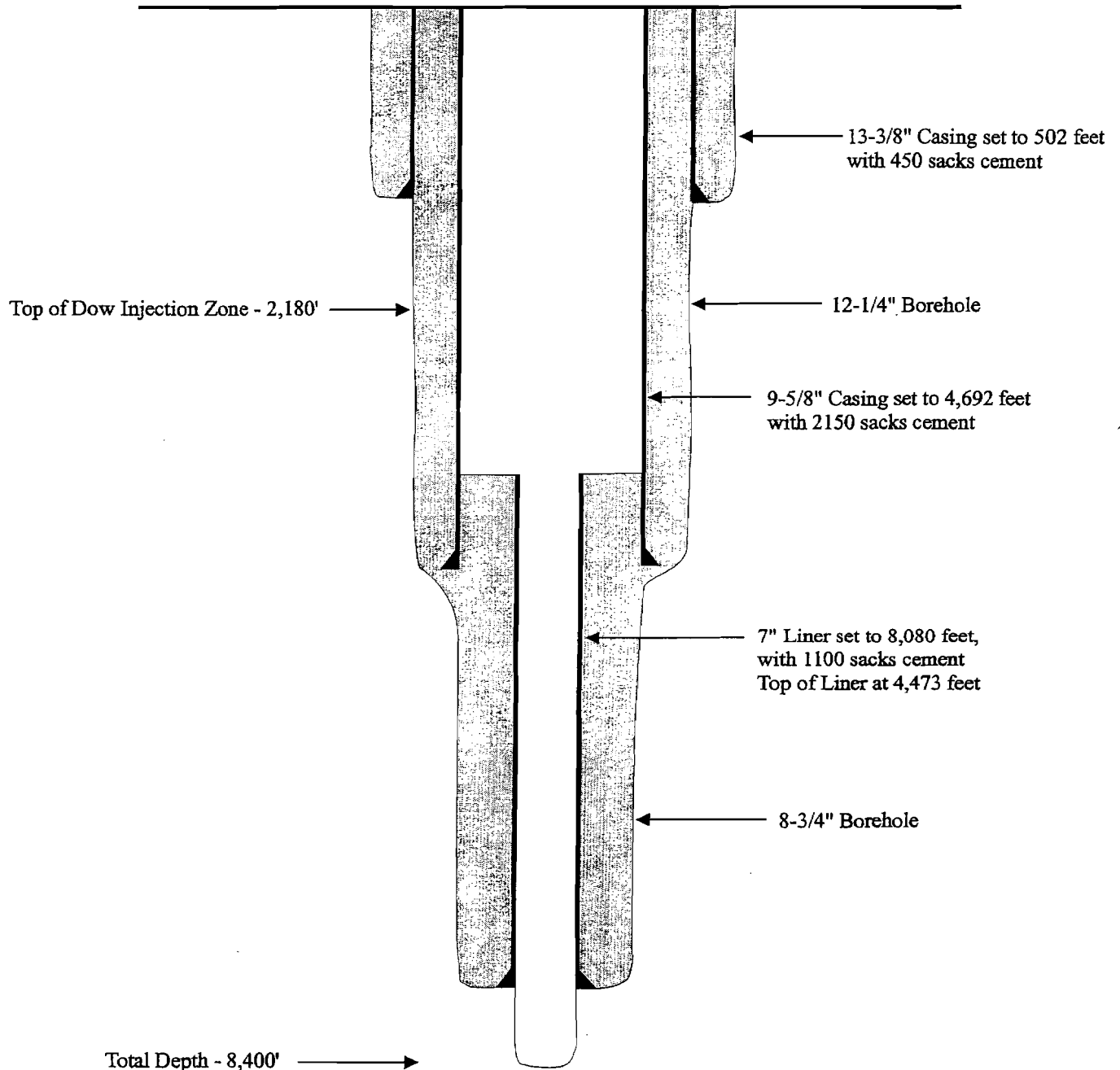
1 Ark



Map ID No. 32

Map ID No. - 32
Operator - Dow Chemical Company USA
Field - Kilgore Lodge
Well No. - 1
Sec. 8, T-17-S, R-22-W
Completion Date - 11/5/74

API No. - 03-027-10325
Serial No. - 23,262
Lease - McAnulty BSW
Type - Brine Supply
Status - Producing
County - Columbia
Date Plugged - N/A



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 23,262 County COLUMBIA
Permit Issued 10-8-74 Field Kilgore Lodge
Operator The Dow Chemical Co., Box 520, Magnolia, AR 71753
Lease Name McAnulty Brine Supply # 1
Location of Well 330'FSL 330'FWL SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 8-17S-21W
Depth to be Drilled 8500 Formation to be completed in Smackover
Sawyer

STATE OF ARKANSAS
314 EAST OAK STREET
OIL AND GAS COMMISSION
El Dorado, Arkansas 71720 - 5896

AOGC-3 (56)
Revised (83)

Well ~~Completed~~ and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Ethyl Corporation
 Pool Completed In Smackover Lime
 Lease Name McAnulty No. 1 Address: Street P. O. Box 729
 Exact Location 330' ESL - 330' FWL City Magnolia
SW/4 - NW/4 State Arkansas
 Sec. 8 Twp. 17S Rge. 21W
 County Columbia
 Date Commenced 4-29-91 Date Completed 5-8-91
 Elevation GL 309.96 - RT 321.76 Total Depth Drilled 8,400
 Electric Log Run: Yes No Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.)	<u>20"</u>	set at	<u>40</u>	ft. w/	<u> </u>	skts.
Surface: (Size & Wt.)	<u>13-3/8" 54#</u>	set at	<u>502</u>	ft. w/	<u>450</u>	skts.
Intermediate: (Size & Wt.)	<u>9-5/8" 40, 47#</u>	set at	<u>4,692</u>	ft. w/	<u>2,150</u>	skts.
Production: (Size & Wt.)	<u>7" liner - top 4,473</u>	set at	<u>8,080</u>	ft. w/	<u>1,100</u>	skts.
Tubing: (Size & Wt.)	<u>Fiberglass 6-5/8" 0 - 4,422</u>	set at	<u>8,024</u>	ft. w/	<u>1,240</u>	skts.
	<u>4-1/2" 4,422 - 8,024</u>					

Perforations: Size No. Per Foot
 Perforated Intervals: Open hole 8,080 - 8,400

Acidized: Yes No : Interval 8,080 - 8,400 w/ 10,000 gals.
 Fractured: Yes No : Interval w/ lbs.
 of sand: bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well
- Tank battery to which this well is connected: Existing New
- Liquid production from this well is sold to ()
(Address)
- Disposition of gas from this well: Vented Fuel Sold
If sold, to whom
Address

PRODUCTION

Date of Test Actual Length of Time Tested
 Type Well: Flowing Gas Lift Pump
 Tubing Pressure Casing Pressure Choke Size
 Net Oil Produced bbls. Gas Produced MCF % BSW GOR
 Gravity Oil BHP Recorded
 Net Oil in 24 Hours Open Flow Potential MCF
 Purpose of this test: Original Completion Workover Recompletion
 Allowable Requested

REMARKS: Circulated 6 barrels cement
 Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Goran
 Field Superintendent

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

*Boiler
m*

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical Company, U.S.A.
 Pool Completed In Smackover Lime
 Lease Name McAulity BSW No. 1 Address: Street P.O. Box 520
 Exact Location 330' FSL - 330' FWL
SW $\frac{1}{4}$ - NW $\frac{1}{4}$ City Magnolia, Arkansas 71753
 Sec. 8 Twp. 17 S Rge. 21 W State _____
 County Columbia
 Date Commenced 10/8/74
 Date Completed 11/5/74
 Elevation 309.96 G.L. 321.76 RT
 Total Depth Drilled 8400 *Tussard S.O.*
 Electric Log Run: Yes No _____
 Electric Log Filled: Yes No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft. w/ cir. sks.
 Surface: (Size & Wt.) 13 3/8" - 54# set at 502 ft. w/ 450 sks. cir.
 Intermediate: (Size & Wt.) 9 5/8" - 40 & 47 # set at 4692 ft. w/ 2150 sks. cir.
 Production: (Size & Wt.) 7" liner - top 4473 set at 8080 ft. w/ 1100 sks. cir.
 Tubing: (Size & Wt.) 5 1/2 - 15# set at 3500 ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: Open Hole 8080 - 8400
 Acidized: Yes No _____; Interval 8080 - 8400 w/ 20,000 gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing NA
 3. Liquid production from this well is sold to (_____) **RECEIVED**
 (Address _____)
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold NOV 15 1974
 If sold, to whom _____
 Address _____ **ARKANSAS OIL & GAS COMMISSION**

PRODUCTION

Date of Test NA Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. C. Goble
R. C. Goble

Date: 5/1/2001
 Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8400
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : MCANULTY BRINE
Well Number    : 1                   Spud Date       : OCT 08, 1974
API Number     : 03027103250000      Comp Date       : NOV 05, 1974
Regulatory API :
Init Lahee Class : U                   Hole Direction  :
Final Lahee Class : U                   Reference Elevation: 322   KB
Permit Number  : 23262                Ground Elevation : 310
Geologic Province : ARKLA BASIN             KB Elevation    : 322
Formation at TD : 553SMKV             SMACKOVER
Oldest Age Pen : 553                   UPPER JURASSIC
Township      : 17 S
Range         : 21 W
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 330 FSL 330 FWL CONGRESS QTR
Latitude         : 33.2779000         Latitude (Bot)  :
Longitude        : -93.3088400        Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Choke      Oil Prod      Test
      Form      Form      Depth   Depth
001   8080     8400     8080    8400
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
      Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count      Density Per
001   8080     8400
    
```

```

----- Log Data -----
Run No  Log Type  Top      Base      Log      Max
      01     EL        0        8400     MD       Temp
    
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 502 450 SACK
9 5/8 IN 4692 2150 SACK
7 IN 8080 1100 SACK
    
```

Dwights Energydata Narrative
 Accumulated through 1997

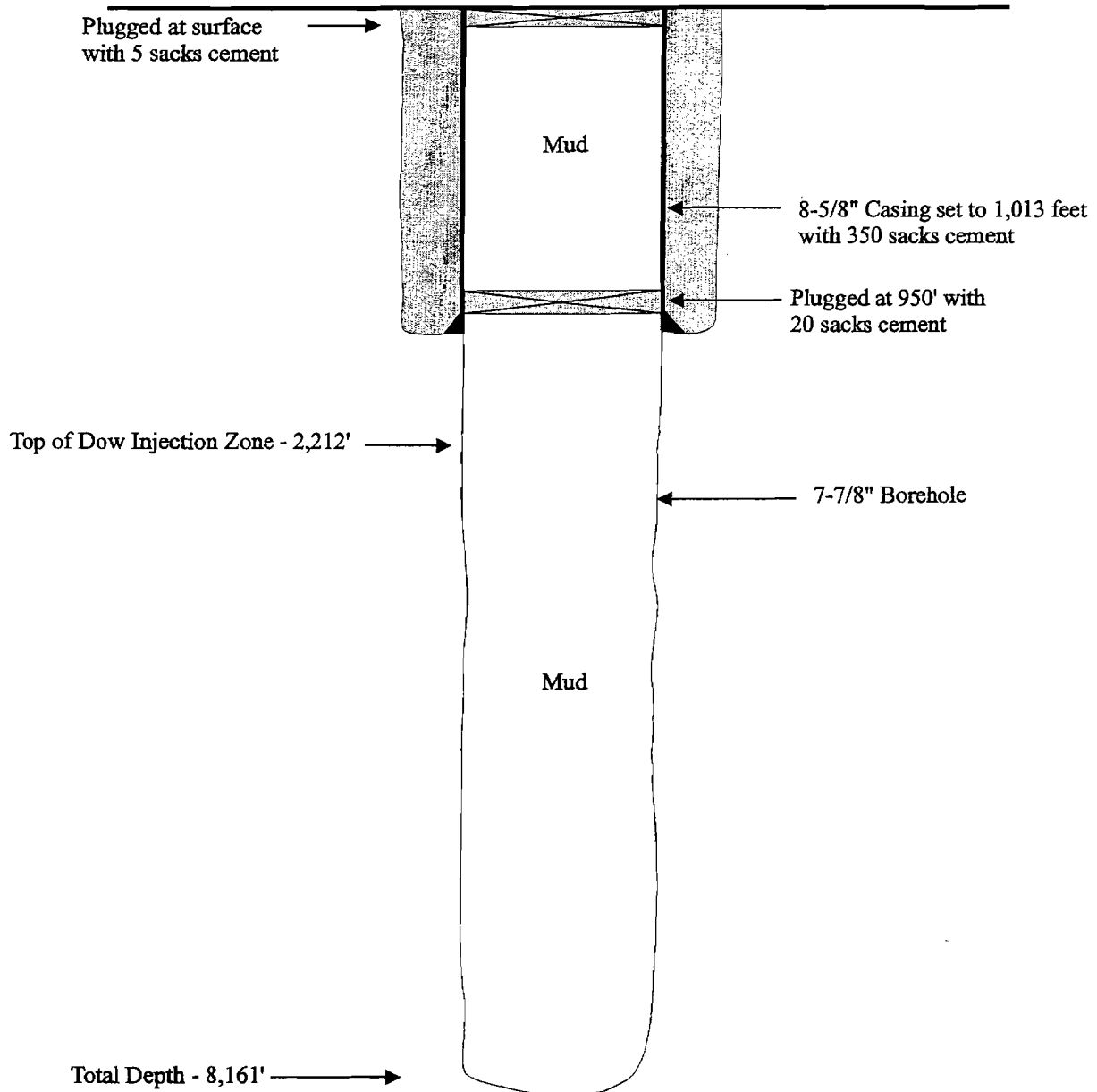
```

Perfs: 8080-8400 (Smackover ls )
Perfs: open hole - acid w/20000 gal
Dwights number: G4623230
    
```

Map ID No. 33

Map ID No. - 33
Operator - Doran & Braddock
Field - Wildcat
Well No. - 1
Sec. 7, R-17-S, T-21-W
Completion Date - 12/8/67

API No. -
Serial No. - 20,647
Lease - Fallin
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 12/8/67



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

MILLERBERGER AND COMPANY

COUNTY FIELD or LOCATION WELL	WILDCAT FALLIN #1 FALLIN #1	COMPANY DORAN & BRADDOCK	COMPANY <u>DORAN & BRADDOCK</u> WELL <u>FALLIN #1</u> FIELD <u>WILDCAT</u> COUNTY <u>COLUMBIA</u> STATE <u>ARKANSAS</u>
			RECEIVED
			DEC 19 1967
LOCATION <u>280' W & 660' N OF SE/4 SW NE</u> Sec. <u>7</u> Twp. <u>17S</u> Rge. <u>21W</u>		Other Services CST CDM	
Permanent Datum: <u>GROUND LEVEL</u> , Elev: <u>327.32</u> Log Measured From <u>KB</u> , <u>11.0</u> Ft. Above Perm. Datum Drilling Measured From <u>KB</u>		Elev.: RT <u>336.72</u> D.F. <u>334.00</u> G.L. <u>327.32</u>	

Date	12-6-67			
Run No.	ONE			
Depth—Driller	8161			
Depth—Logger	8154			
3tm. Log Interval	8153			
Top Log Interval	1013			
Casing—Driller	8-5/8 @ 1013	@	@	@
Casing—Logger	1013			
Bit Size	7-7/8" TO 8 1/4"; 6-1/8" TO TD			
Type Fluid in Hole	GEL-CAUS- SPERSENE			
Dens.	10.0	56		
pH	Fluid Loss	-	ml	ml
Source of Sample	MUD PIT			
mf @ Meas. Temp.	0.78 @ 82 °F	@	°F	@ °F
mf @ Meas. Temp.	0.21 @ 180 °F	@	°F	@ °F
mf @ Meas. Temp.	0.73 @ 180 °F	@	°F	@ °F
Source: R _{mf} R _{mc}	C C			
@ BHT	0.35 @ 180 °F	@	°F	@ °F
Time Since Circ.	5 HRS			
Core Rec. Temp.	180 °F		°F	°F
Core Location	3863 MAG			
Recorded By	BROWN			
Checked By	DORAN-STAGGS-GAITHER			

The well name, location and borehole reference data were furnished by the customer. FOLD HERE

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 20647

11-1-67

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date October 31 19 67

RECEIVED

Name of Operator DORAN & BRADDOCK

Send Permit to: Street 200 Oil & Gas Building

NOV 1 1967

City Shreveport

ARKANSAS OIL & GAS COMMISSION

State Louisiana

Lease Name FALLIN

Well No. 1

Acres in lease 264.96

Number of acres in and description of drilling unit 40 (SW of NE of Section 7, Township 17 South, Range 21 West, Columbia County, Arkansas)

Location of proposed well in drilling unit (give in feet) (280' West and 660' North of the Southeast corner of the Southwest of the Northeast)

Section 7 Township 17 South Range 21 West

County COLUMBIA Field WILDCAT

Distance and direction from the nearest town 4 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well 1 1/2 mile SSE (Abandoned Producers)

Rotary or cable tools Rotary Date work will start On or before December 1, 1967

Name of drilling or workover contractor Coulston Drilling Co. Kern Daley Co

Depth to be drilled 8300'

Formation you propose to complete in SMACKOVER

Remarks:

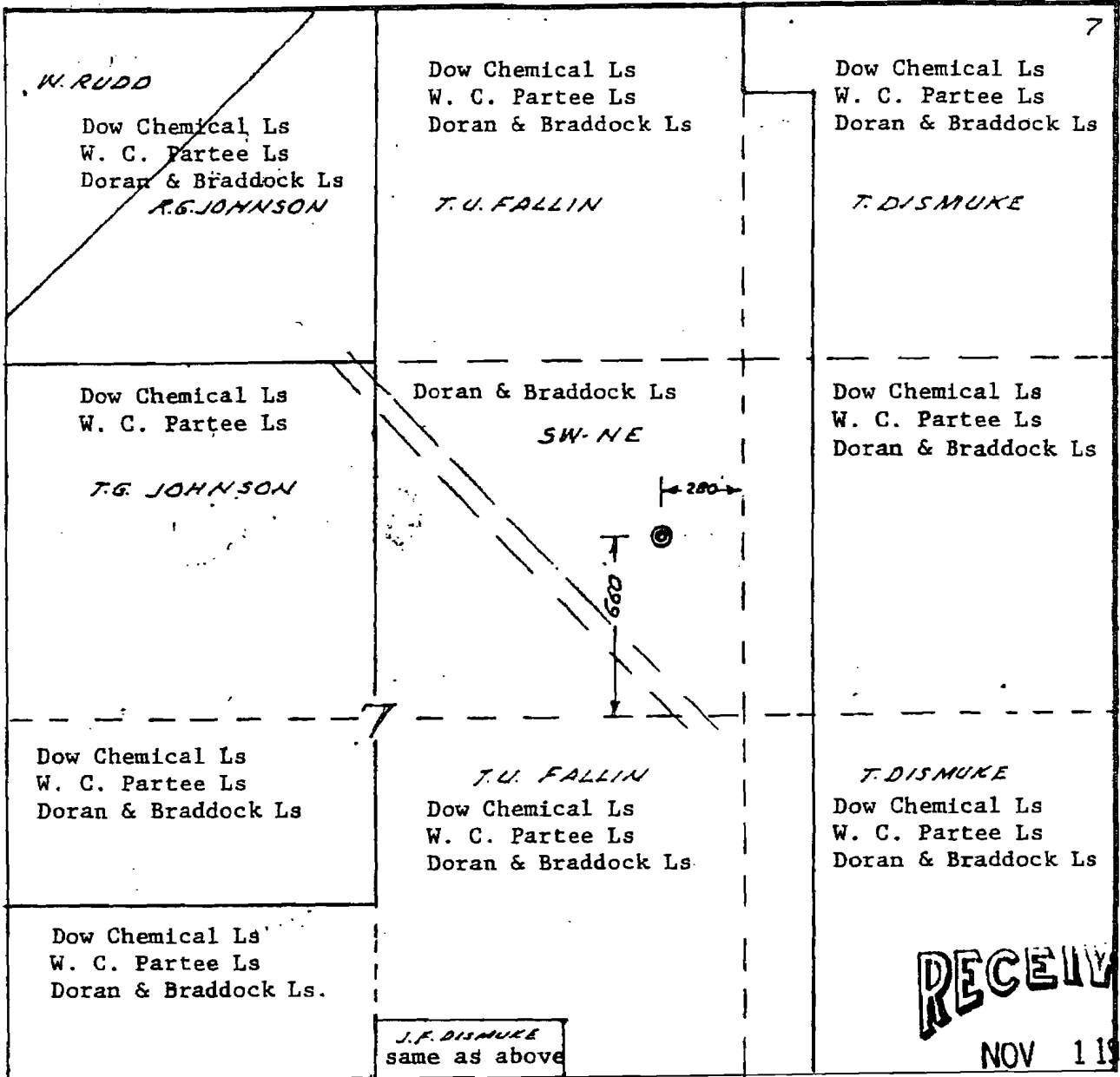
CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Charles E. Doran
Charles E. Doran

RD

6 5
7 8



LOCATION PLAT

ARKANSAS OIL & GAS COMMISSION

WELL NAME No. 1 Fallin

LOCATION 50' East of Center of the E¹SW¹NE¹ Sect. 7, T-17S;R-21W, Columbia Co., Ark.

FOR DORAN & BRADDOCK

The location shown hereon was staked from a ground survey made Oct. 28, 1967.

Bill Fallin

CRISP & GATES
Magnolia, Ark.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Wildcat Producer Doran & Braddock
 Pool Completed In Dry
 Lease Name Fallin No. 1 Address: Street 200 Oil & Gas Building
 Exact Location 280' W & 660' N of SE/c of
SW NE City Shreveport
 Sec. 7 Twp. 17S Rge. 21 W State Louisiana
 County Columbia
 Date Commenced 8-16-67
 Date Completed 12-8-67
 Elevation 336.72 R. T.
 Total Depth Drilled 8161 *Smackwater 7.0.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No (By Schlumberger)

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) None set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 8 5/8" 24# set at 1013 ft. w/ 350 sks.
 Intermediate: (Size & Wt.) None set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) None set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) None set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: _____
 Acidized: Yes No ; Interval _____ w/ _____ gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well _____
 2. Tank battery to which this well is connected: Existing New
 3. Liquid production from this well is sold to (_____)
 (Address DEC 12 1967)
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom ARKANSAS OIL & GAS COMMISSION
 Address _____

PRODUCTION

Date of Test _____ Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Charles E. Doran
 Charles E. Doran

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

12-12-67

Serial No. 20647

Date December 11, 1967

**File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders**

Operator Doran & Braddock

Field W. C.

County Columbia

Operator's Address: Street 200 Oil & Gas Building

City Shreveport, Louisiana

Lease Name Fallin Well No. 1

Location 280' W of 660' N of SE Corner of SW NE

Section 17S Township 21W

Character of well (Oil, Gas or Dry) Dry

Date you wish to plug December 8, 1967

Total Depth of Well 8161'

Name of party plugging well Kern Drilling Company, Inc.

Address: Street P. O. Box 688

City Magnolia

State Arkansas

AOGC-2(56) filed by Doran & Braddock Date filed 11/1/67

RECEIVED

DEC 12 1967

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

L. B. Tucker

**Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS**

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Doran & Braddock Field W. C.

Address all correspondence concerning this Pool Smackover

form to: Doran & Braddock County Columbia

Street 200 Oil & Gas Building City Shreveport State Louisiana

Lease Fallin Well No. 1 Sec. 7 Twp. 17S Rge. 21W

Date well was plugged December 8, 1967 Total Depth of well 8161'

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Surface Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of

cement and rock 20 sx. plug @ 950' - 5 sx. at top by hand

Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

RECEIVED

DEC 12 1967

ARKANSAS OIL & GAS COMMISSION

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
			1002'	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

L.B. Fisher

Columbia County Arkansas Doran & Braddock #1 Fallin
Wildcat 7-17S-21W

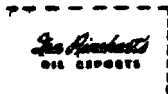
Well: DORAN & BRADDOCK #1 Fallin Result: D&A
Loc'n: Sec 7-17S-21W, 660' FSL, 280' FEL SW NE, 4 mi W/Magnolia

Spud: 11-16-67; Comp: 12-8-67; Elev: 337' DF; TD: 8161'; C/Coulston Drig. Co.
Casing: 8 5/8" 1002'/350 sx

Comp Info: T/Smk 8098'; Crd 8111-61', rec 50', 2' li, ool, fair P&P, spnd bldg
oil, 11' li, ool, fair-gd P&P, even strkd tan oil str, even fluor, 1' li, ool, tite,
36' li, ool, gd P&P, NS; DST 8110-23' (straddle pirs), 3/8"B & 1/2"T chs, op 10
mins, SI 30 mins, re-op 35 mins, SI 30 mins, 2000' WC, fair blow, rec 360'
GCM, 180' HGC muddy SW, 3500' HGCSW, BHPF 1446-2929#, BHPSI 3030-
3030#, HP 4293-4293#; TD 8161', ran IEL 8154', ran dipmeter, 28 SWS 1970-
7465', all NS

Tops: (Elec Log) Nac 1876', B/Ch 2528', Tokio 2920', Tus 3188', L/Cret 3215', U/AS
3573', Anhy 3670', B/Anhy-T/Klp 3825', Jas 4329', Hogg Mkr 4556', Pet 4665',
TP 4725', CV 5899', Buckner 7890', Smk 8094'

Note: Rerun for Elec Log Tops



Date: 12-19-67

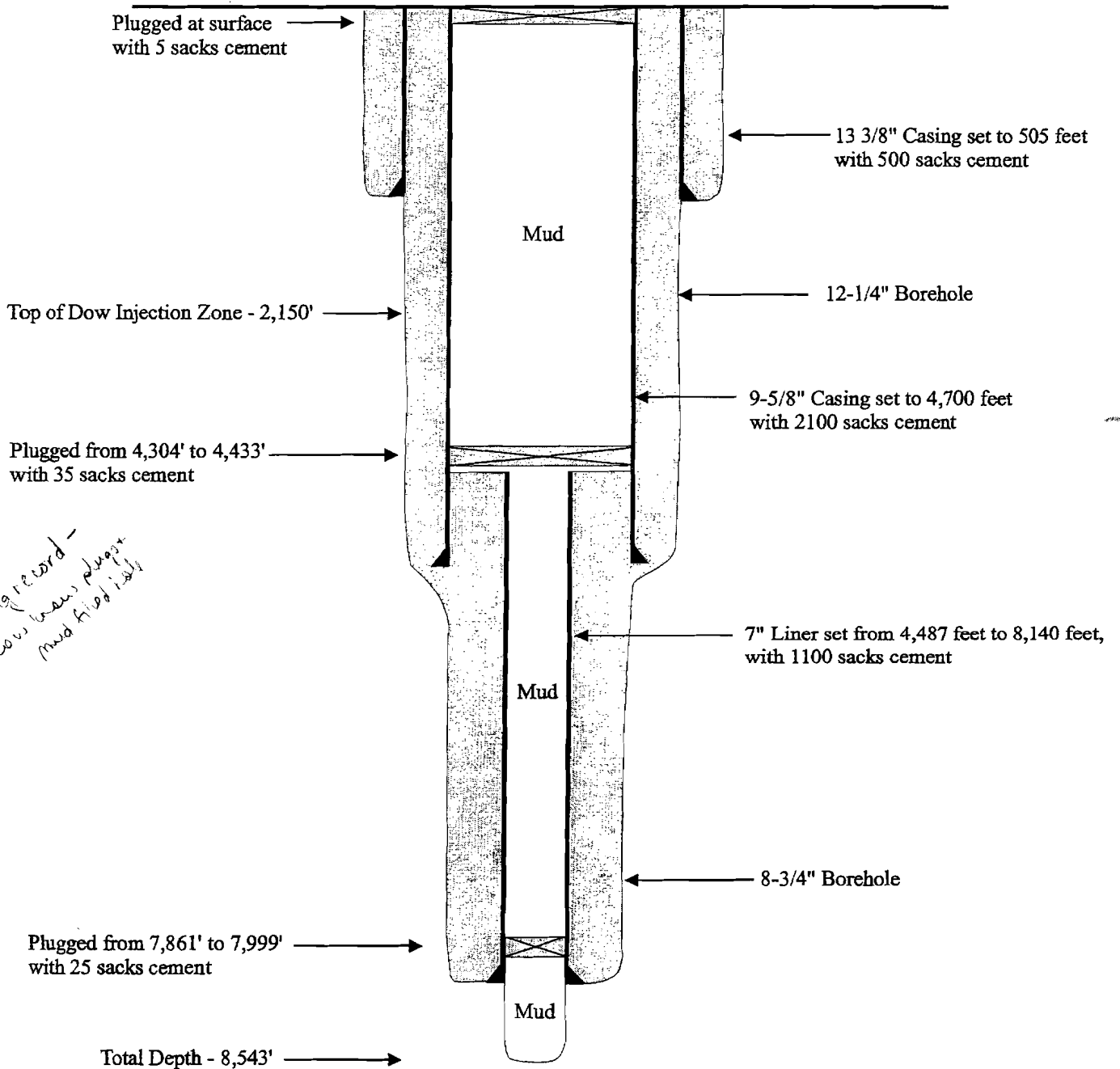
Card No.: 1 Ark



Map ID No. 34

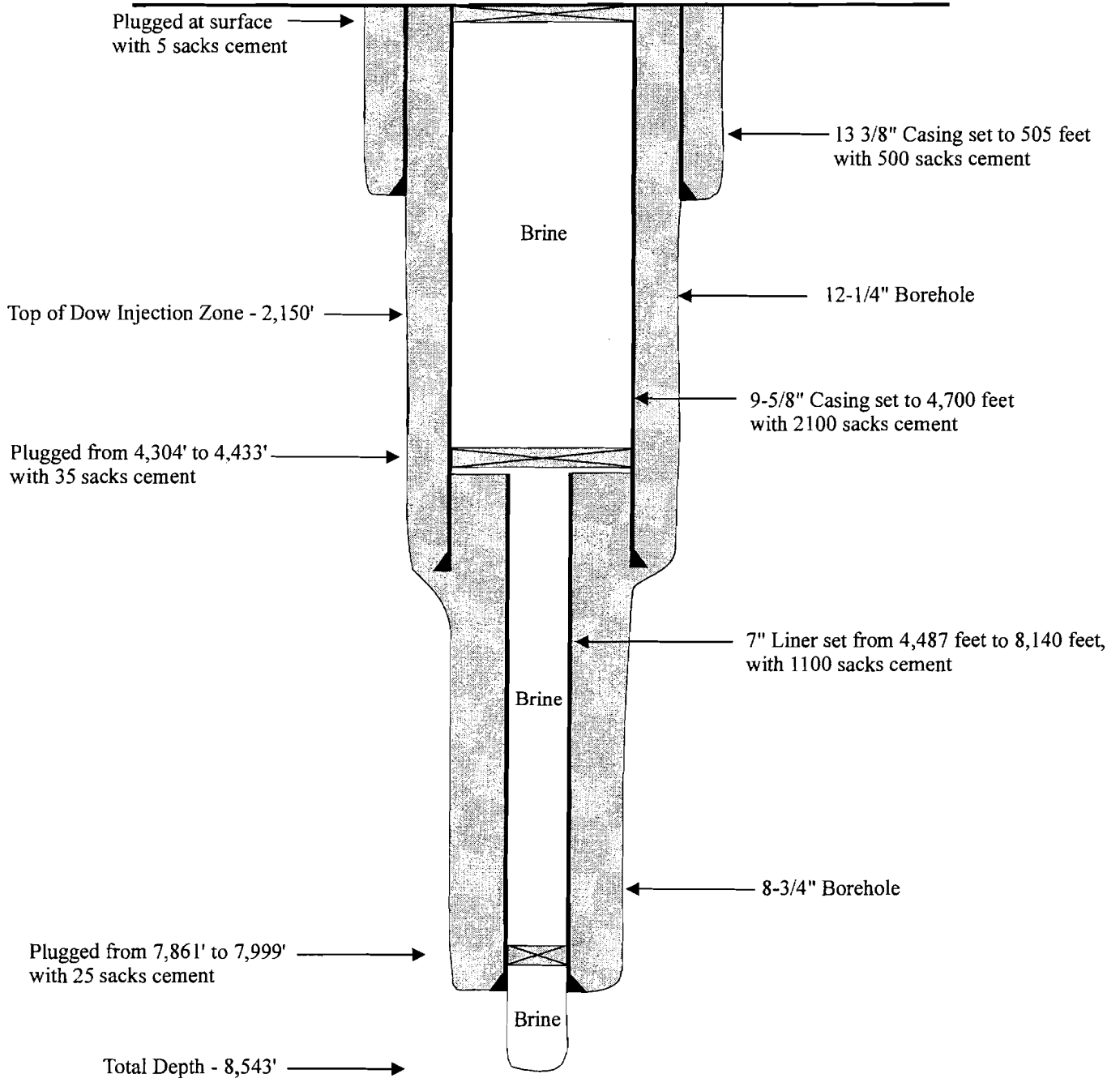
Map ID No. - 34
Operator - Ethyl Corporation
Field - Kilgore Lodge
Well No. - 2
Sec. 7, T-17-S, R-21-W
Completion Date - 1/26/67

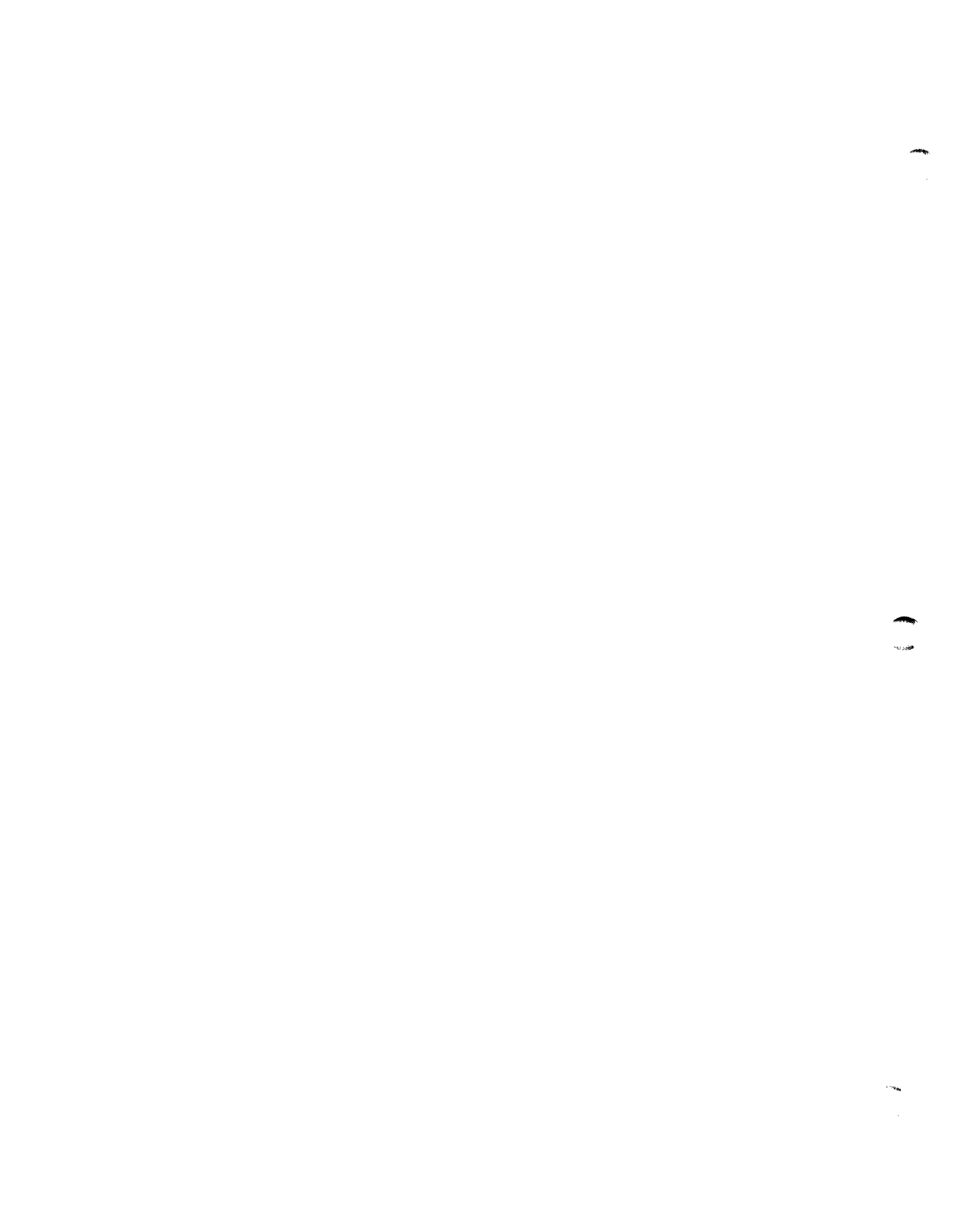
API No. - 03-027-10319
Serial No. - 23,224
Lease - Parham BSW
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 4/19/88



Map ID No. - 34
Operator - Ethyl Corporation
Field - Kilgore Lodge
Well No. - 2
Sec. 7, T-17-S, R-21-W
Completion Date - 1/26/67

API No. - 03-027-10319
Serial No. - 23,224
Lease - Parham BSW
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 4/19/88





Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

RECEIVED
MAY 02 1988

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover Lime

form to: Ethyl Corporation County Columbia

Street P. O. Box 729 City Magnolia State AR

Lease Parham BSW Well No. 2 Sec. 7 Twp. 17-S Rge. 21-W

Date well was plugged 4/19/88 Total Depth of well 8543

Was well filled with mud-laden fluid, according to regulations of the Commission? used water only

How much mud applied? full hole Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock 25 sacks 7861' to 7999', 35 sacks 4304' to 4433', 5 sacks plug in top of 9-5/8"

as notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13-3/8"			505	
9-5/8"			4700	
7"			4487	

Handwritten initials and signatures:
JH
SUS
DK

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green



PLUGGING REPORT FOR ABANDONED PRODUCING WELL

COMPANY Ethyl Corporation WELL NAME & NO. Parham #2

LOCATION NW, SE, SE SEC. 7 TWP 17 RGE 21

COUNTY Columbia FIELD Kilgore Lodge CONTRACTOR _____

CASING PROGRAM _____ PERFORATIONS open hole 8140'-8543'

SURFACE 13 3/8" - 54# - 505', 9 5/8" - 40# - 4200'

PRODUCTION 7" liner 4487'-8140, 5 1/2" - 3500'

PRODUCTION PLUG SET AT 8000' - 7262 FEET, WITH 130' 2 1/2" x WORK DONE BY _____

H+N

DATE 4-19-38

WITNESSED BY I unity

FRESH WATER PLUG SET AT _____ FEET, WITH _____ WORK DONE BY _____

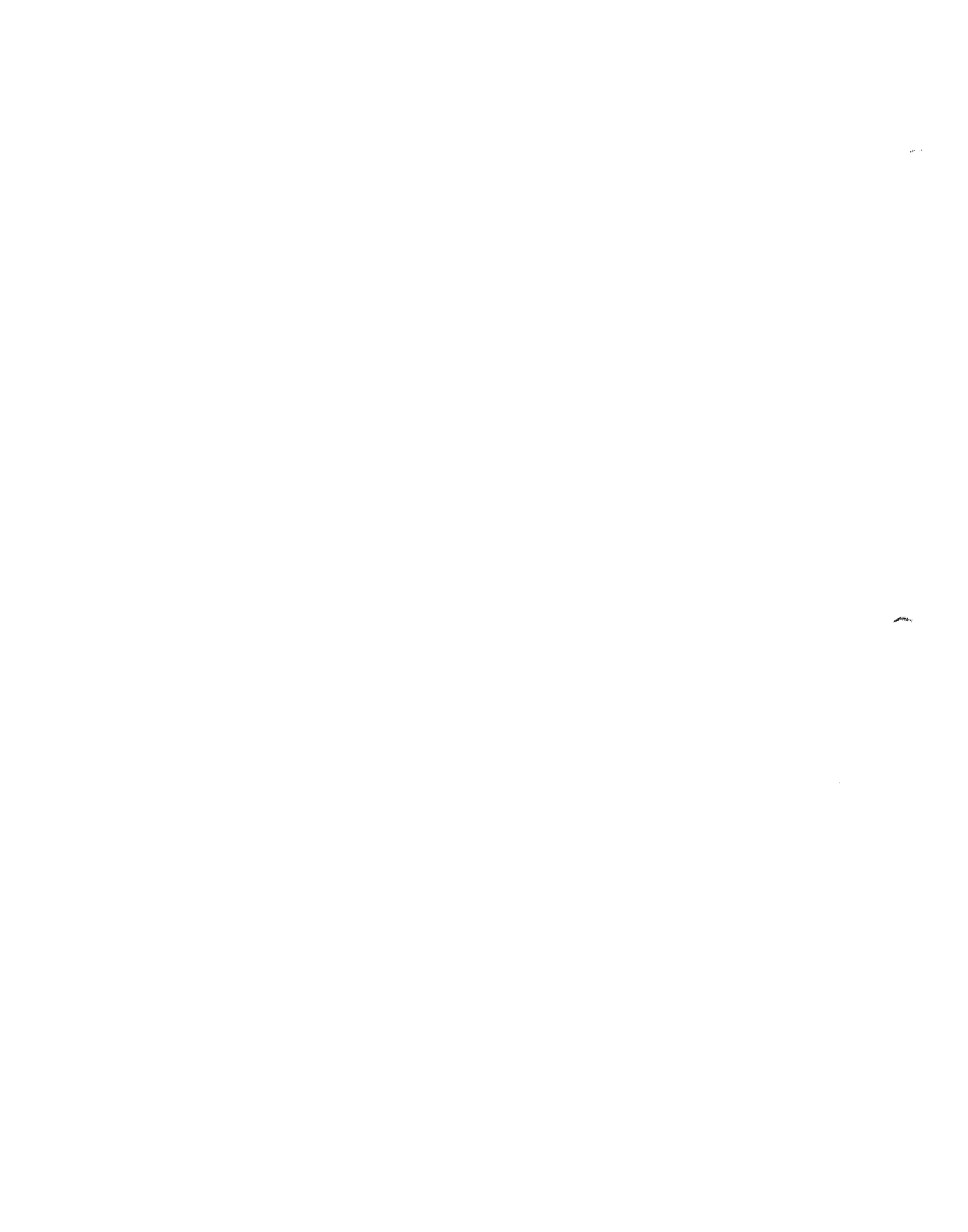
DATE _____

PLUGGED IN TOP OF SURFACE CASING WITH 5" x H+N

WITNESSED BY I unity

REMARKS: Set 130' cmt plug from 4487' - 4247' inside liner.

No production pipe recovered



ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 23224

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date September 6, 1974

Name of Operator Dow Chemical U. S. A.

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name PARHAM BRINE SUPPLY WELL Well No. 2

Acres in lease N/A

Number of acres in and description of drilling unit N/A

Location of proposed well (Must agree with Surveyor's Plat) 280' south of the north line and 280' east of the west line of the SE-1/4 of the SE-1/4 of

Section 7 Township 17S Range 21W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 5 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well 7/10's of a mile northwest of the V. S. Parham # 1

Rotary or cable tools Rotary Date work will start 9/7/74

Name of drilling or workover contractor Sawyer

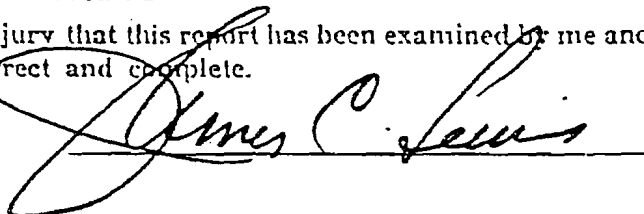
Depth to be drilled 8500

Formation you propose to complete in Smackover

Remarks: _____

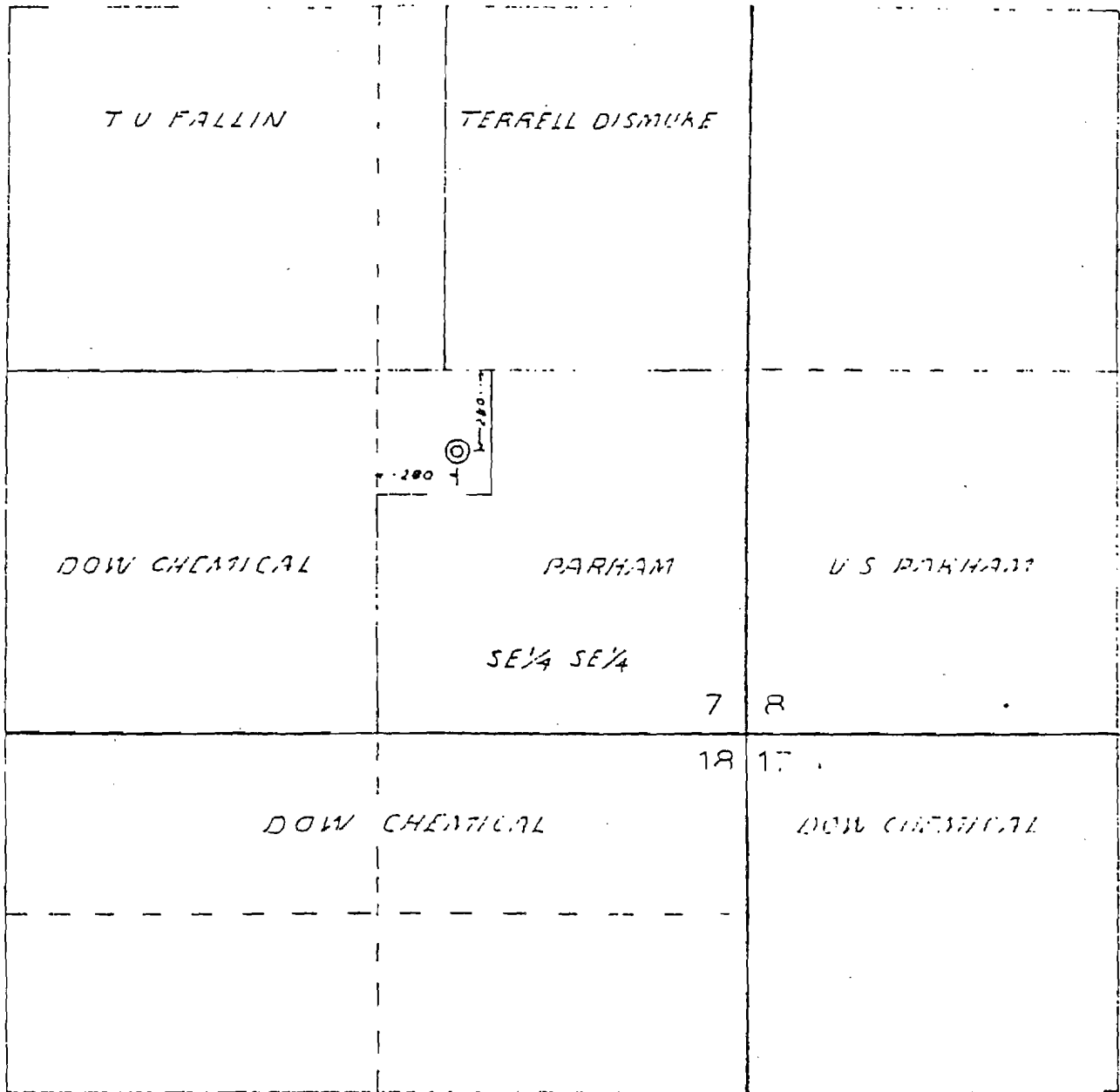
CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.



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WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO. U.S.A
 WELL NAME PARHAM GRAVE SUPPLY WELL NO. 2
 LOCATION 280 FT FROM THE NORTH LINE AND 280 FT FROM THE WEST LINE OF THE SE 1/4 SE 1/4 SEC. 7, T. 17 S., R. 21 W., CO. 25 N.

The location shown hereon was staked from a ground survey made June 6, 1974

Scale 1" = 600'

R.L.S. 454

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical Company, USA
Pool Completed In Smackover Lime
Lease Name Parham BSW No. 2 Address: Street P.O. Box 520
Exact Location 280' FNL - 280' FWL
SE $\frac{1}{4}$ - SE $\frac{1}{4}$ City Magnolia,
Sec. 7 Twp. 17 S Rge. 21 W
County Darton Co State Arkansas 71753
Date Commenced 9/5/74
Date Completed 10/7/74
Elevation 296.48 G.L. 207.78 RT
Total Depth Drilled 8543 Trunc T.A.
Electric Log Run: Yes X No
Electric Log Filed: Yes X No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft. w/ cir. sks.
Surface: (Size & Wt.) 13 3/8" - 54# set at 505 ft. w/ 500 sks. Cir.
Intermediate: (Size & Wt.) 9 5/8" - 40# set at 4700 ft. w/ 2100 sks. cir.
Production: (Size & Wt.) 7" liner - cop 4487 set at 8140 ft. w/ 1100 sks. cir.
Tubing: (Size & Wt.) 5 1/2 set at 3500 ft.
Perforations: Size No. Per Foot
Perforated Intervals: Open hole 8140 - 8543
Acidized: Yes X No ; Interval 8140 - 8543 w/ 20,000 gals.
Fractured: Yes No ; Interval w/ lbs.
of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
2. Tank battery to which this well is connected: Existing New
3. Liquid production from this well is sold to (NOV 15 1974
(Address
4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom ARKANSAS OIL & GAS COMMISSION
Address

PRODUCTION

Date of Test NA Actual Length of Time Tested
Type Well: Flowing Gas Lift Pump
Tubing Pressure Casing Pressure Choke Size
Net Oil Produced bbls. Gas Produced MCF % BSW GOR
Gravity Oil BHP Recorded
Net Oil in 24 Hours Open Flow Potential MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. E. Gobie
R. E. Gobie

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Parham No. 2 (Sec.) 7 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) (Name of Transporter)

Remarks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3,557

ETHYL CORPORATION
(Company or Operator)

L. C. Reynolds
(Affiant)
L. C. Reynolds
Field Manager

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 23224

Date April 18, 1988

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Ethyl Corporation
Field Kilgore Lodge
County Columbia
Operator's Address: Street P. O. Box 729
City Magnolia
State Arkansas

RECEIVED
APR 20 1988

ARKANSAS OIL & GAS COMMISSION

Lease Name Parham Brine Supply Well No. 2
Location 280' ENL - 280' FWL SE 1/4 - SE 1/4

Section 7 Township 17S Range 21W

Character of well (Oil, Gas or Dry) Brine Well

Date you wish to plug 4/19/88

Total Depth of Well 8,543'

Name of party plugging well H&N Oil Well Cementing Co./ Gillespie Well Service

Address: Street P. O. Box 251 P. O. Box 847
City El Dorado Magnolia
State Arkansas 71730 Arkansas 71753

AOGC-2(56) filed by Dow Chemical U.S.A. Date filed 9/6/74

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green
Field Superintendent

no plug record
[Signature]
[Signature]
[Signature]

1

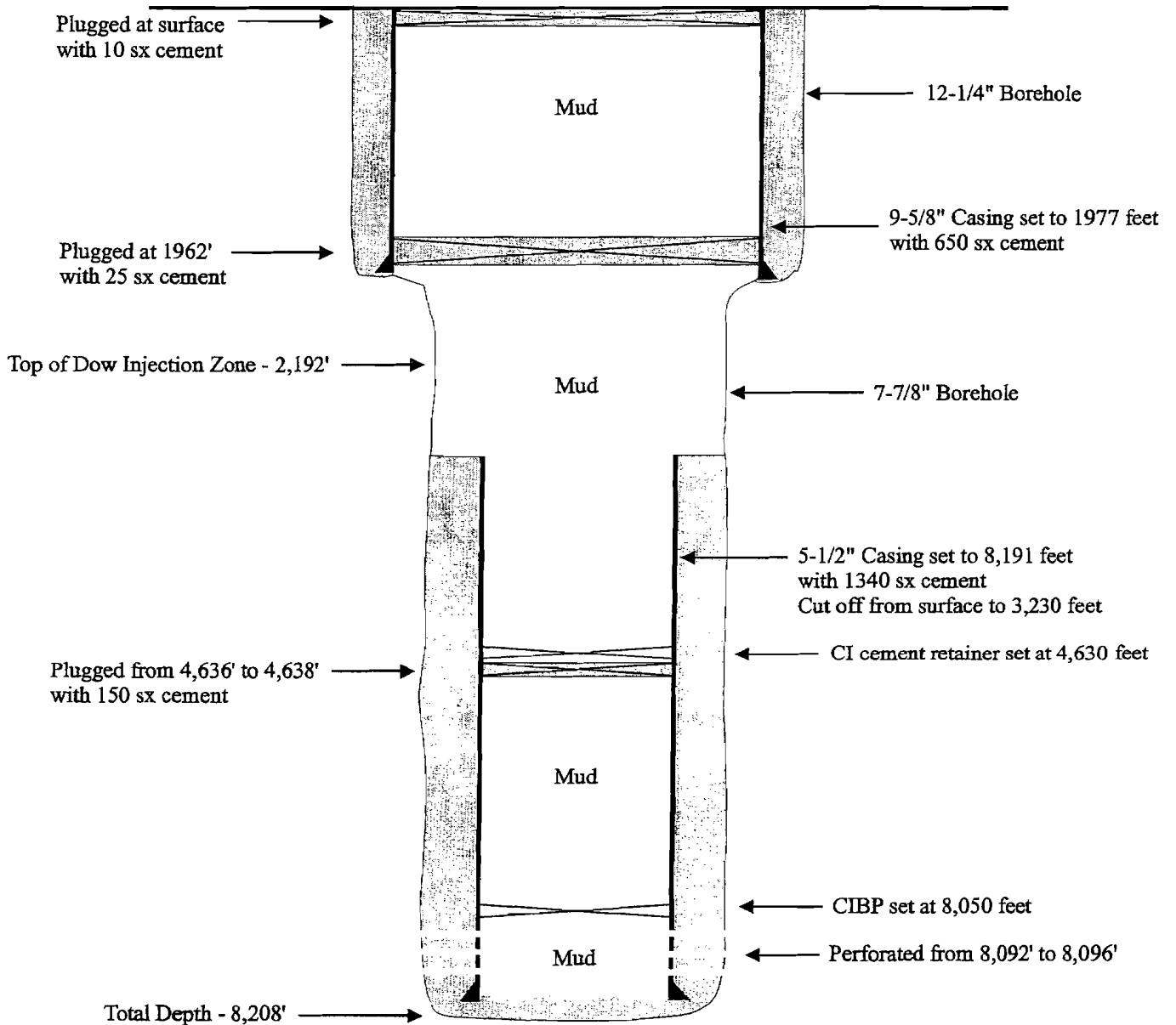
2

3

Map ID No. 35

Map ID No. - 35
Operator - Arkansas Fuel Oil Corp.
Field - Kilgore Lodge
Well No. - 1
Sec. 8, R-17-S, T-21-W
Completion Date - 5/3/58

API No. -
Serial No. - 15,093
Lease - B. F. Dennis
Type - Oil
Status - Plugged
County - Columbia
Date Plugged - 12/11/59



STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

MAY 5 1958

100 BHP
Discretionary Well
KILGORE LODGE FIELD

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

RECEIVED

Notice: This form must be completed and filed prior to allowable being granted

WELL DESCRIPTION

Field _____ Producer Arkansas Fuel Oil Corporation
 Pool Completed In SMACKOVER LIME
 Lease Name B. F. Dennis No. 1 Address: Street Box 698
 Exact Location 660 N 670' N of S. W. Corner
 City Smackover
 Sec. 8 Twp. 17S Rge. 21W
 County Columbia State Arkansas
 Date Commenced 3-28-1958
 Date Completed 5-3-1958
 Elevation 298.4 gr.
 Total Depth Drilled 8208'
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) None set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 9-5/8" 40 lb J 55 set at 1977.07 ft. w/ 650 sks.
 Intermediate: (Size & Wt.) None set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) 5 1/2" O D 15.5 & 17 lb set at 8191 ft. w/ 1200 sks.
 Tubing: (Size & Wt.) 2-3/8" OD 4.708 lb set at 8045.47 ft.
 Perforations: Size jet No. Per Foot 4
 Perforated Intervals: 8092 to 8096
 Acidized: Yes No ; Interval _____ w/ _____ gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbis. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well one
 2. Tank battery to which this well is connected: Existing _____ New new
 3. Liquid production from this well is sold to (Arkansas Pipeline Corporation)
 (Address Box 1117 Shreveport, La.)
 4. Disposition of gas from this well: Vented Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION DATA

Date of Test 5-3-1958 Actual Length of Time Tested 8 hrs
 Type Well: Flowing yes Gas Lift _____ Pump _____
 Tubing Pressure 750 Casing Pressure 0 packer set Choke Size 12/64
 Net Oil Produced 64.56 bbls. Gas Produced 70 MCF % BSW 0 GOR 1084:1 ✓
 Gravity Oil 46 BHP Recorded not taken
 Net Oil in 24 Hours 193.68 Open Flow Potential unknown MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested 125 bbl

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease B. F. Dennis (Sec.) 8 (Twp.) 17 (Rge.) 21 County Columbia

Producer Arkansas Fuel Oil Corporation Organization No. 7 Field _____

Address all correspondence concerning this form to: Arkansas Fuel Oil Corporation

Street Box 698 City Smackover State Arkansas

The above named producer hereby authorizes Arkansas Pipeline Corporation
(Name of Transporter)

Whose principal place of business is Box 1117 Shreveport Louisiana
(Street) (City) (State)

And whose field address is Box 629 Haynesville Louisiana

To transport 100 % of the oil produced from the lease designated above until further notice.

Other transporters transporting oil from this lease are:

none % _____ %
(Name of Transporter) (Name of Transporter)

marks:

The undersigned certifies that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 5th day of May, 1958

APPROVED 5-5-58
ARKANSAS OIL & GAS COMMISSION

By E. H. [Signature]

Arkansas Fuel Oil Corporation
(Company or Operator)

[Signature] Dist. Supt.
(Affiant) (Title)

No. 1774

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease B. F. Dennis (Sec.) 8 (Twp.) 17 (Rge.) 21 County Columbia

Producer Arkansas Fuel Oil Corp Organization No. 7 Field Kilgore Lodge

Address all correspondence concerning this form to: Arkansas Fuel Oil Corporation

Street Box 698 City Smackover State Arkansas

The above named producer hereby authorizes Arkansas Fuel Oil Corporation -via truck-
(Name of Transporter)

Whose principal place of business is Box 1117 Shreveport, La.
(Street) (City) (State)

And whose field address is Box 629 Haynesville La.

To transport 100 % of the oil produced from the lease designated above until further notice.

Other transporters transporting oil from this lease are:

none %
(Name of Transporter) (Name of Transporter)

marks:

The undersigned certifies that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 5th day of May, 1958

APPROVED 5-15-58
ARKANSAS OIL & GAS COMMISSION

Arkansas Fuel Oil Corporation
(Company or Operator)

By E. M. ...

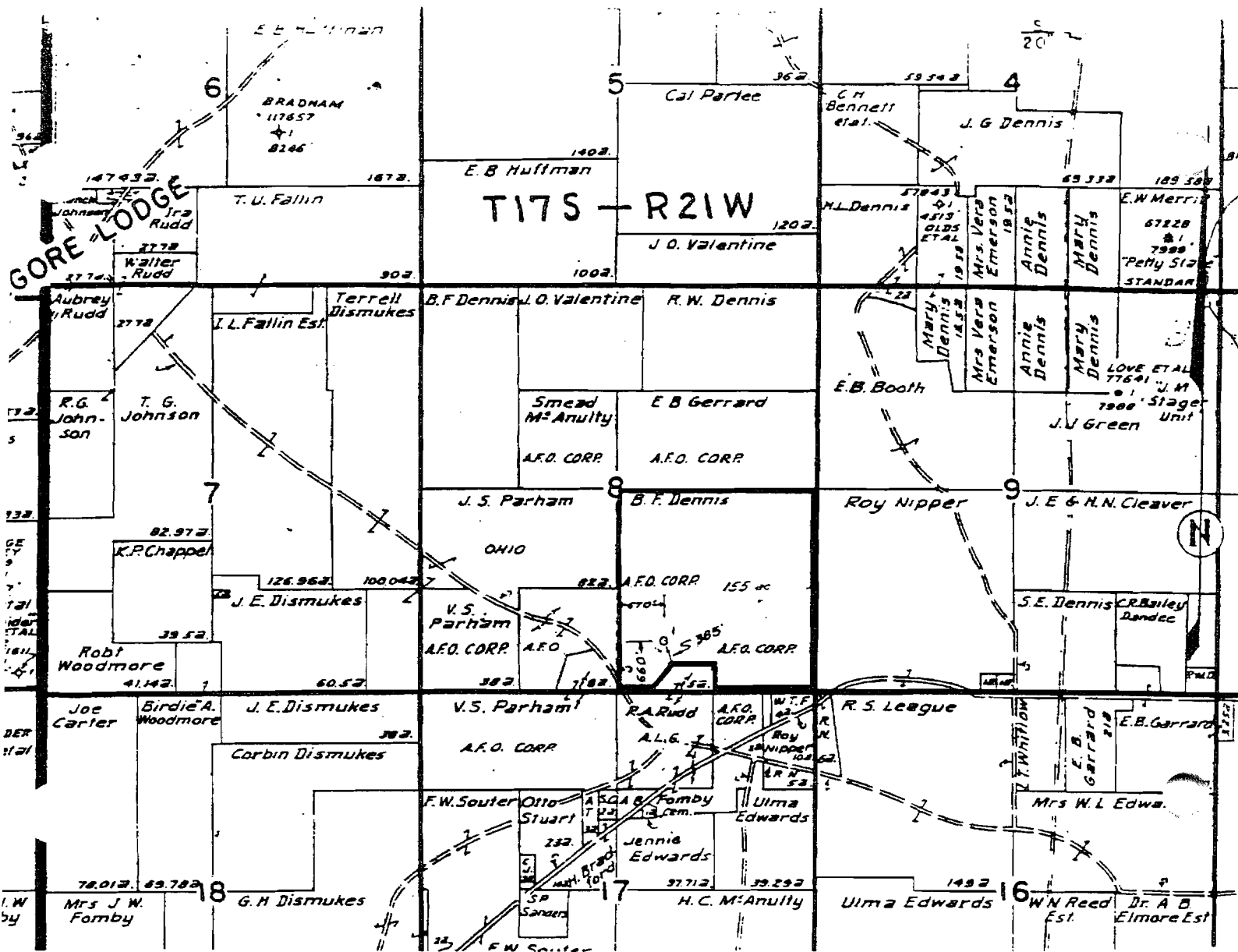
B. B. Wallbarn Dist. Supt.
(Affiant) (Title)

No. 1281

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

B. B. Wallbarn



PLAT SHOWING LOCATION OF THE ARKANSAS FUEL OIL CORPORATION,
WELL NO. 1 B. F. DENNIS LOCATED IN SECTION 8, T. 17S - R. 21W
COLUMBIA CO., ARKANSAS SCALE: 1" = 2000'

STATE OF LOUISIANA
PARISH OF CADDO

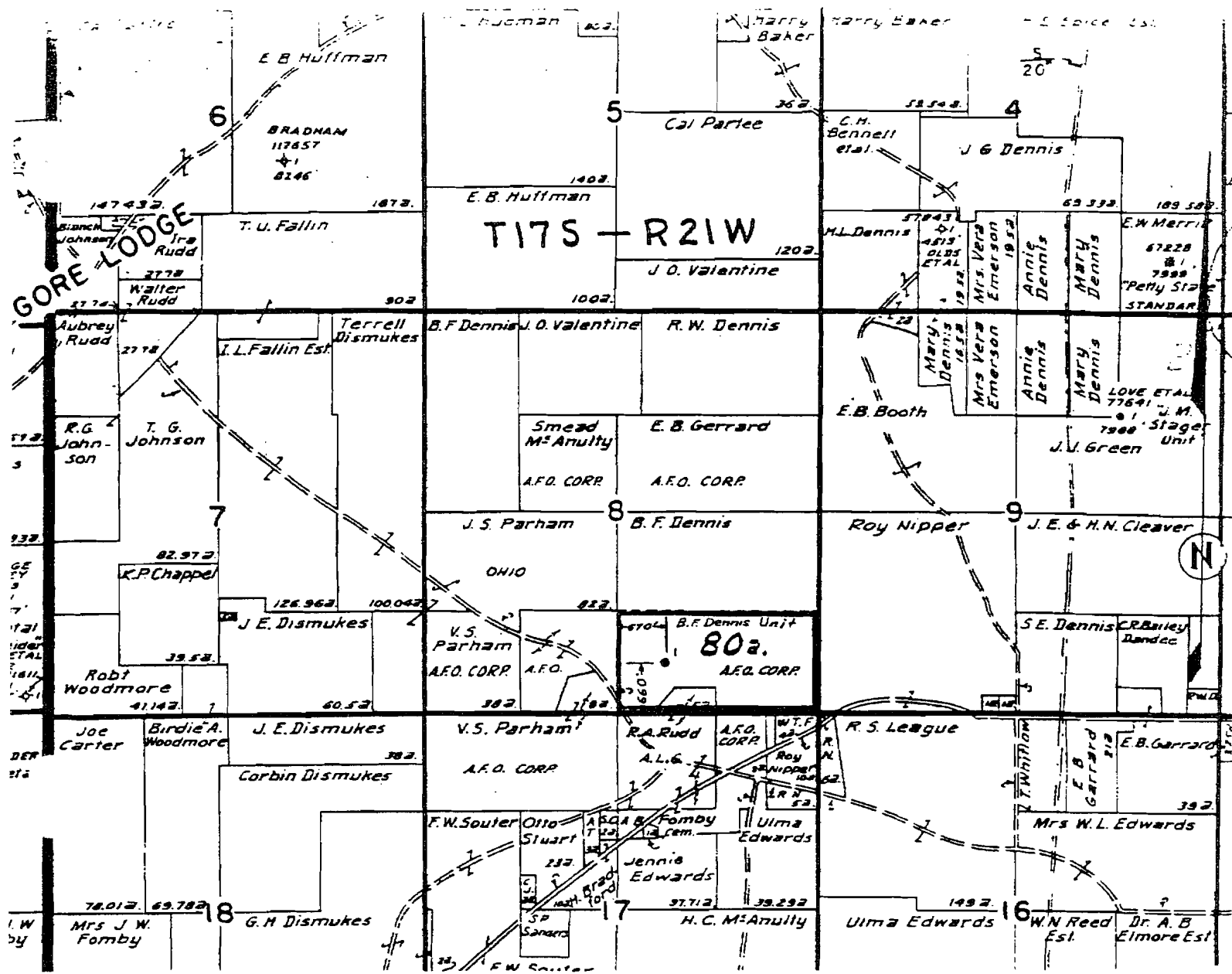
I hereby certify that the above location is correctly shown with
reference to recognized property lines on the ground.

S. D. Armstrong
S. D. Armstrong, Chief Civil Engineer
Arkansas Fuel Oil Corporation

SUBSCRIBED AND SWORN to before me
this the 19th day of March, 1958

Clifton Stanton Winston
Rotary Public in and for
Caddo Parish, Louisiana

Clifton Stanton Winston



PLAT SHOWING LOCATION OF THE ARKANSAS FUEL OIL CORPORATION,
 WELL NO. 1 B. F. DENNIS LOCATED IN SECTION 8, T. 17S - R. 21W
 COLUMBIA CO., ARKANSAS SCALE: 1" = 2000'
 B.F. DENNIS UNIT, WELL NO. 1

STATE OF LOUISIANA
 PARISH OF CADDO

I hereby certify that the above location is correctly shown with
 reference to recognized property lines on the ground.

S.D. Armstrong
 S. D. Armstrong, Chief Civil Engineer
 Arkansas Fuel Oil Corporation

SUBSCRIBED AND SWORN to before me
 this the 19th day of Aug., 1958

J. J. White
 Notary Public in and for
 Caddo Parish, Louisiana
 JAMES FELIX WHITE

COMMISSIONERS:

LOLLYFIELD
EL DORADO

S. WARNOCK, JR.
MAGNOLIA

JAMES D. REYNOLDS
CAMDEN



COMMISSIONERS:

BASIL HOAG
TEXARKANA

J. C. LANDES
LEWISVILLE

O. G. MURPHY
EL DORADO

ARKANSAS OIL AND GAS COMMISSION

TRIMBLE BUILDING

EL DORADO, ARKANSAS

May 6, 1958

Arkansas Fuel Oil Corporation
Box 698
Snackover, Arkansas

Re: B. F. Dennis No. 1

Gentlemen:

On May 3, 1958 the successful completion of Arkansas Fuel Oil Corporation - B. F. Dennis Well No. 1, located in Sec. 8, Twp. 17 S, Range 21 W, Columbia County, Arkansas, marked the opening of a separate source of supply, which for administrative purposes is being designated as the Kilgore Lodge Field, Snackover Line Formation.

All correspondence, reports, etc., concerning the above described area or formation should be appropriately designated in keeping with the above description.

A representative of the Oil and Gas Commission will make appropriate arrangements to visit your well in the near future.

At your earliest convenience, it is suggested that your interpretation of an orderly development program for the above described area be made known to the office of the Oil and Gas Commission in El Dorado.

If this office can be of any assistance to you, please advise.

Yours truly,

George Holden
George Holden, Director
Arkansas Oil & Gas Commission

ARKANSAS FUEL OIL CORPORATION



SHREVEPORT, LOUISIANA

August 19, 1958

*please file
in well file*

Arkansas Oil and Gas Commission
El Dorado, Arkansas

Attention: Mr. George Holden,
Director of Conservation and Production

Gentlemen:

In accordance with the Arkansas Oil and Gas Commission Order, Ref. #19-58, adopting field rules for the Kilgore Lodge Field, Smackover Lime Formation, Columbia County, Arkansas, attached is a revised plat showing Arkansas Fuel Oil Corporation's E. F. Jennis Unit Well No. 1.

Yours very truly,

ARKANSAS FUEL OIL CORPORATION
Petroleum Engineering Department

Charles R. Mitchell

Charles R. Mitchell
Assistant Chief Petroleum Engineer

CRM:cm

Att.

CC: Mr. J. E. Embry w/Att.

Mr. G. G. Wellborn w/Att.

ARKANSAS OIL AND GAS COMMISSION

Oil Reserve Data Questionnaire

The Staff of the Arkansas Oil and Gas Commission is in the process of calculating the annual reserves of oil and gas in the State. We need information from productive wells completed in 1958. We would appreciate your filling out the attached form(s) as complete as your files permit and returning to this office as soon as possible.

DATE: 12-23-58

OPERATOR: Arkansas Fuel Oil Corporation

FIELD: Kilgore Lodge

	<u>WELL & NO.</u>
NAME:	B. F. Dennis No. 1
ELEVATION:	307'
TOP OF PAY:	8088
WATER OIL CONTACT	8104 (Est.)
GAS OIL CONTACT	Gas in Solution
GRAVITY OF OIL	46° @ 60° F.
TOTAL PAY THICKNESS	16'
NET EFFECTIVE PAY THICKNESS	5'
AVERAGE POROSITY	20%
AVERAGE PERMEABILITY	1500 Md.
CONNATE WATER	30%
SOLUTION GAS-OIL RATIO CU. FT./BBL.	Original - 1084 Present - 896
RESERVOIR VOLUME FACTOR	1.4
RECOVERABLE OIL BY GAS EXPANSION BBL./AC. FT.	233
TOTAL RECOVERY AFTER COMPLETE WATER DRIVE BBL./AC. FT.	388

ARKANSAS OIL & GAS COMMISSION

BY: Engineering Department

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas
APPLICATION TO PLUG

Serial No. 15,093 (WITH WELL RECORD IF DRY HOLE)
(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)
File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Producer Arkansas Fuel Oil Corporation Field Kilgore - Lodge
Address All Correspondence Concerning This Form to: County Columbia
Street P. O. Box 1117 City Shreveport State Louisiana
Lease Name B. F. Dennis Well No. 1
Sec. 8 Twp. 17S Range 21W Character of Well (Oil, Gas or Dry) Oil
Date You Wish to Plug December 11 1959
Name of Party Plugging Well Halliburton Oil Well Cementing Co. Address Magnolia, Ark.
Form No. 2 Filed by Ark. Fuel Oil Corp. Date March 19, 1958
If Producing Well, Form No. 3 Was Filed by Arkansas Fuel Oil Corporation
Date 6-6-59 27676'E 75ac SE'4

(If Well Record Form No. 3 has not been filed, in case of old well being plugged, fill out the formation record on reverse side; if no log available, so state and give all information that can be obtained as to total depth, producing formation, water sands, and as near as possible date well was drilled, on reverse side.)

CASING RECORD

PUT IN WELL			PULLED OUT		LEFT IN WELL		Sacks Cement Used	Packers Or Shoes
Size	Ft.	In.	Ft.	In.	Ft.	In.		
9-5/8"	1962		None		1962		650	1 Cement Float Shoe
5-1/2"	8178		3230		4948		1340	1 " "

If Dry Holes, Show Kind of Fuel Used to Drill Well _____, and
Amount Used _____, and Where Secured _____

Remarks: _____

AFFIDAVIT

I hereby swear (or affirm) that the statements herein made are a full and correct report.

Signed [Signature]

Subscribed and sworn to before me this 14th day of December, 1959

My commission expires Permanent

[Signature]
Notary Public
Clinton Stanton Winston

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

PLUGGING METHODS AND PROCEDURE—The methods and procedure for plugging a well shall be as follows: (a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

(b) A cement plug not less than 15 feet in length shall be placed at approximately 50 feet below all fresh water-bearing strata.

(c) A plug shall be placed at the surface of the ground in each hole plugged in such manner as not to interfere with soil cultivation.

(d) The interval between plugs shall be filled with an approved heavy mud-laden fluid.

(e) An uncased rotary drilled hole shall be plugged with approved heavy mud up to the base of the surface string at which point a plug of not less than 15 feet of cement shall be placed. The hole shall also be capped similar to other abandoned holes.

(f) The operator shall have the option as to the method of placing cement in the hole by (1) dump bailer (2) pumping through tubing (3) pump and plug, or (4) other method approved by the Commission.

Producer Arkansas Fuel Oil Corporation Field Kilgore-Lodge
Pool Smackover Line
County Columbia

Address all correspondence concerning this form to: Arkansas Fuel Oil Corp. c/o C. J. Russell

Street P. O. Box 1117 City Shreveport State Louisiana

Lease Name B. F. Dennis Well No. 1 Sec. 8 Twp. 17S Rge. 21W

Date Well was plugged December 11, 1959

Was the well filled with mud-laden fluid, according to regulations of the Commission? Yes
in hole

How was mud applied? circulated with tubing/ Were plugs used Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock Cast iron bridge plug at 8050'. Two sack cement plug on top of of bridge plug in 5-1/2" casing. Cast iron cement retainer at 4,630' and 150 sacks cement squeezed through perforations 4,636-38'. 25 sx. cement plug in bottom of surface casing set at 1962'. 10 sx. cement plug at surface and steel plate welded over top of surface.

Was notice given before plugging, to all available adjoining lease and land owners as required? _____

(AFFIDAVIT)

State of Louisiana
Caddo Parish of Caddo

signed Ottis G. Byrd
Operator

Before me, the undersigned authority, on this day personally appeared Ottis G. Byrd known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is authorized to make this report and has knowledge of the facts stated in and that said report is true and correct.

Subscribed and sworn to before me this the 14th day of December, 1959

Notary Public in and for Caddo Parish, Louisiana

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

PLUGGING RECORD

ITEM # 3

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

PLUGGING METHODS AND PROCEDURE—The methods and procedure for plugging a well shall be as follows: (a) The bottom of the hole shall be filled to the top of each producing formation, or a bridge shall be placed at the top of each producing formation, and in either event a cement plug not less than 15 feet in length shall be placed immediately above each producing formation whenever possible.

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(e) An uncased rotary drilled hole shall be plugged with approved heavy mud up to the base of the surface string at which point a plug of not less than 15 feet of cement shall be placed. The hole shall also be capped similar to other abandoned holes.

(f) The operator shall have the option as to the method of placing cement in the hole by (1) dump bailer (2) pumping through tubing (3) pump and plug, or (4) other method approved by the Commission.

Producer Arkansas Fuel Oil Corporation Field Kilgore-Lodge

Pool Smackover Lime

County Columbia

Address all correspondence concerning this form to: Arkansas Fuel Oil Corp. c/o C. J. Russell

Street P. O. Box 1117 City Shreveport State Louisiana

Lease Name B. F. Dennis Well No. 1 Sec. 8 Twp. 17S Rge. 21W

Date Well was plugged December 11, 1959

Was the well filled with mud-laden fluid, according to regulations of the Commission? Yes
in hole

How was mud applied? circulated with tubing/ Were plugs used Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock Cast iron bridge plug at 8050', Two sack cement plug on top of of bridge plug in 5-1/2" casing. Cast iron cement retainer at 4,630' and 150 sacks cement squeezed through perforations 4,636-38', 25 sx. cement plug in bottom of surface casing set at 1962'. 10 sx. cement plug at surface and steel plate welded over top of surface.

Was notice given before plugging, to all available adjoining lense and land owners as required? _____

(AFFIDAVIT)

State of Louisiana
~~XXXXXX~~ Parish of Caddo

Signed Ottis G. Byrd
Clerk

Before me, the undersigned authority, on this day personally appeared Ottis G. Byrd known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is authorized to make this report and has knowledge of the facts stated herein and that said report is true and correct.

Subscribed and sworn to before me this the 14th day of December, 1959.

[Signature]
Notary Public in and for Caddo Parish, Louisiana

Well: Arkansas Fuel Oil Corp. #1 B.F.Dennis Result: Oil
 Loc'n: Sec 8-17S-21W, 660' FSL, 670' FWL SE $\frac{1}{4}$, 2 5/8 mi W/Magnolia, 1 $\frac{1}{2}$ mi SW/abnd
 Big Crk Fld

Spud: 3-28-58 Comp: 5-3-58 Elev: 307' TD: 8209' C/Janlyn Oil Co.

Casing: 9 5/8" 1975', 5 $\frac{1}{2}$ " 8191'

Prod Zone: (Smk) prod thru perf 8092-96'

IPF: 194 BOPD/8 hrs, 3/10% BS&W, 12/64" ch, TP 750#, GOR 1084-1, Grav 46°

Comp Info: S/T: MA 3615-3735', TP 4685#; Drld to 6914', ran EL & took 35
 SWS 2730-6597', rec 11 w/s11 fluor 4270-80 (Analysis shows gas or SW), 11
 w/SO 4604'-10' & sd w/gd SO 4612-21' (analysis shows poss oil prod), took
 WLFS 4272' (James) rec salt water; 4613' (Pet) failed; 4614' (Pet) dry;
 4616' (Pet) rec water w/scum oil; (all Pet tests considered inconclusive)
 S/T: Smk 8075'; Crd 8133-37', rec 4' P&P, ool, 11, NS, salty; Crd 8141-
 67', rec 13' 11, P&P, ool, NS, 6" 11, sly por, ool, NS, 6' 11, ool, P&P,
 NS, 1' 11, ool, dse, NS, 1' 11, por, ool, NS & 7' 11, ool, P&P, NS, Drld
 to 8200', ran EL to TD 8209', took 20 SWS 7012-8111', rec SO 7120', 8090-
 93'-94-95-96-97-98-8103-05-11', straddle pkr; DST 8092-98', 3/8" B & 1/4"
 T chs, op 15 mins, GTS 6 mins, OTS 23 mins, MTP 153#, rec 2160' of 41.8°
 grav oil & 90' OCM, no SW, BHPP 1098-1315#, BHPSI 3003#/15 mins, set csg
 perf 16/8092-96'.

Geo. H. Marshall
 OIL REPORTS

Cont'd - Date: 5-8-58

Card No.: 1 Ark

3

Columbia County Arkansas Disc Kilgore Lodge Fld 8-17S-21W

Well: Arkansas Fuel Oil Corp #1 B.F. Dennis Result: Oil

Loc'n: Sec 8-17S-21W, 660' FSL, 670' FWL SE $\frac{1}{4}$, 2 5/8 mi W/Magnolia, 1 $\frac{1}{2}$ mi SW/
aband Big Crk Fld

Cont'd -

Tops: (Elec Log) Sara 2195', B/An 2513', MA 3610-3755', Jas 4275', Pet 4603-
21'(2-6'net) TP 4660', CV 5930', Sd 7115-40'(G-W-C 7125'), Buckner 7885
Smk 8080', Por w/o sat 8092-98'

See Handbook
OIL REPORTS

Date: 5-8-58

Card No.: 1-A Ark.

4



Map ID No. 36

DOW CHEMICAL PARHAM, V.S.

1

17-17S-21W
IE

36

COUNTY COLUMBIA FIELD or LOCATION KILGORE LODGE WELL V. S. PARHAM #1		SOLINGER INDUCTION ELECTRICAL LOG
COMPANY DOW CHEMICAL CO. LOCATION 2301 S. & 300 E. OF HWY 211 COUNTY COLUMBIA STATE MISSISSIPPI		
Well No. 03-027-0144 V. S. PARHAM #1 KILGORE LODGE 98464A		
Permittent District: ... Log Measured From: ... Drilling Measured From: ...	Sec. 17 Twp. 17S R. 21E Other Services: ...	

REMARKS ... 16.50'

Changes in Mud Type or Additional Samples		Scale Changes	
Date	Sample No.	Type Log	Depth
Depth	Driller	Scale Up Hole	Scale Down Hole
Type Fluid in Hole			
Dens.	Visc.	Run No.	Test Type
Fluid Loss		Equipment Date	Test Location
Source of Sample		Other	
Sp. of Atmos. Temp.			
Sp. of Mud Temp.			
Sp. of Mud			
Sp. of Mud			
Sp. of Mud			

C.D. USER S.O. 1-1/2"
 Equip. Used CAP. No. F-200
 PANEL No. F-322
 SCALE No. 123
 LAP No. 8-25
 SER 1-8

SPONTANEOUS-POTENTIAL millivolts	DEPTH	CONDUCTIVITY millimhos/m
		RESISTIVITY -ohms. m ² /m
15		INDUCTION 1000 2000 3000
		A-10" - A SHORT NORMAL 20 200

TON ELECTRICAL CO.

7-11-54

98464A

STATE

AMARILLO

DATE

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

NO. 200

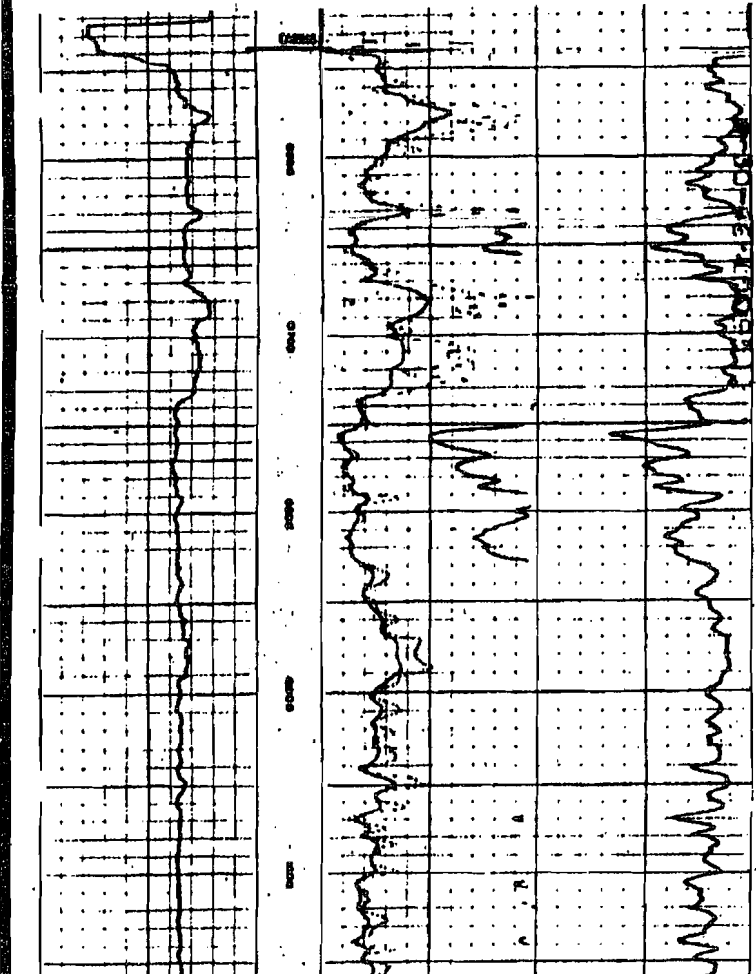
NO. 200

REMARKS - NO TO BHP 14 50'

Changes in Mud Type or Additional Samples	Type Log	Depth	Scale Changes Scale Up Hole	Scale Down Hole
Core Sample No. Drill No. Type Fluid in Hole				
Depth Fluid Loss Source of Sample No. of Spec. Temp. No. of Spec. Temp. No. of Spec. Temp. No. of Spec. Temp. No. of Spec. Temp. No. of Spec. Temp.				
Equipment Date Tool Position Other				

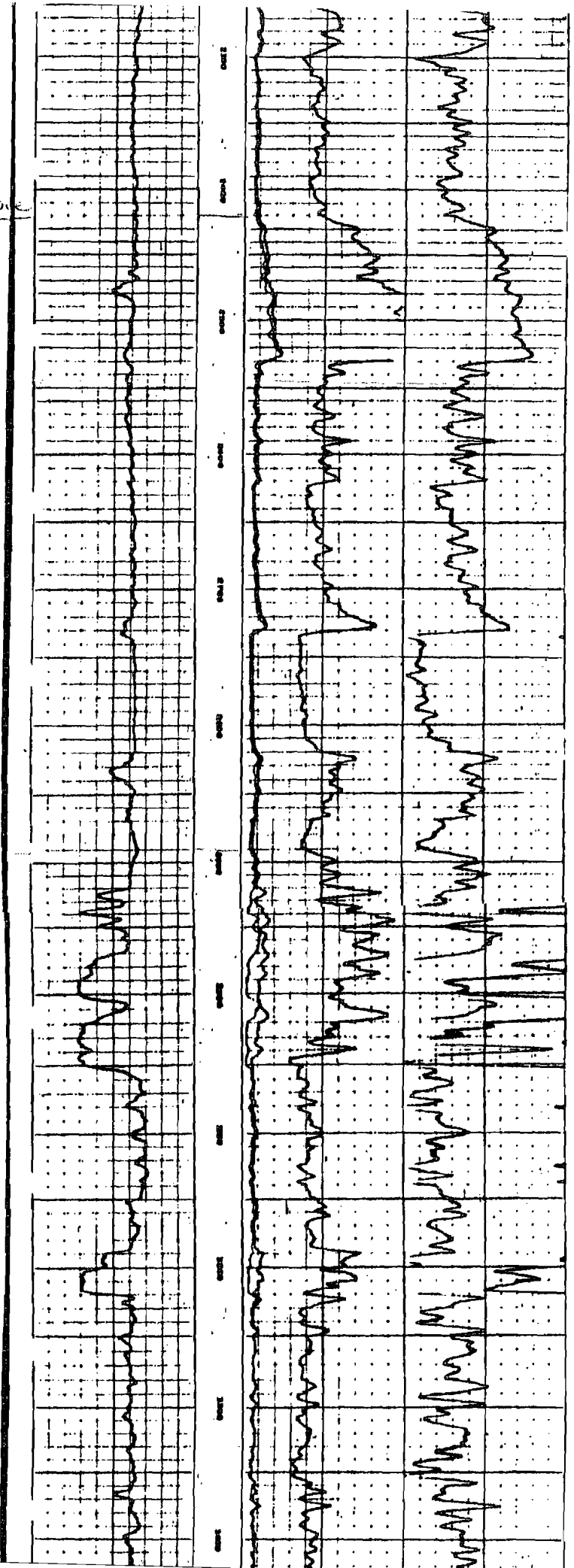
WOB NO. 1000	S.O. 1-1/2"	NO. 200	S.O. 1-1/2"
C.P. 1000	PANEL No. 1-1/2"	NO. 200	S.O. 1-1/2"
Equip. Used	SCHEM No. 1-1/2"	NO. 200	S.O. 1-1/2"
	LAP No. 1-1/2"	NO. 200	S.O. 1-1/2"
	S&P 1-1/2"	NO. 200	S.O. 1-1/2"

SPONTANEOUS-POTENTIAL millivolts	DEPTH	CONDUCTIVITY millimhos/m	
		INDUCTION	RESISTIVITY
15		1000	1000
		2000	1000
		RESISTIVITY -ohms. m ² /m	
		A-10" - M SHORT NORMAL	
		10	200
		INDUCTION	
		10	200

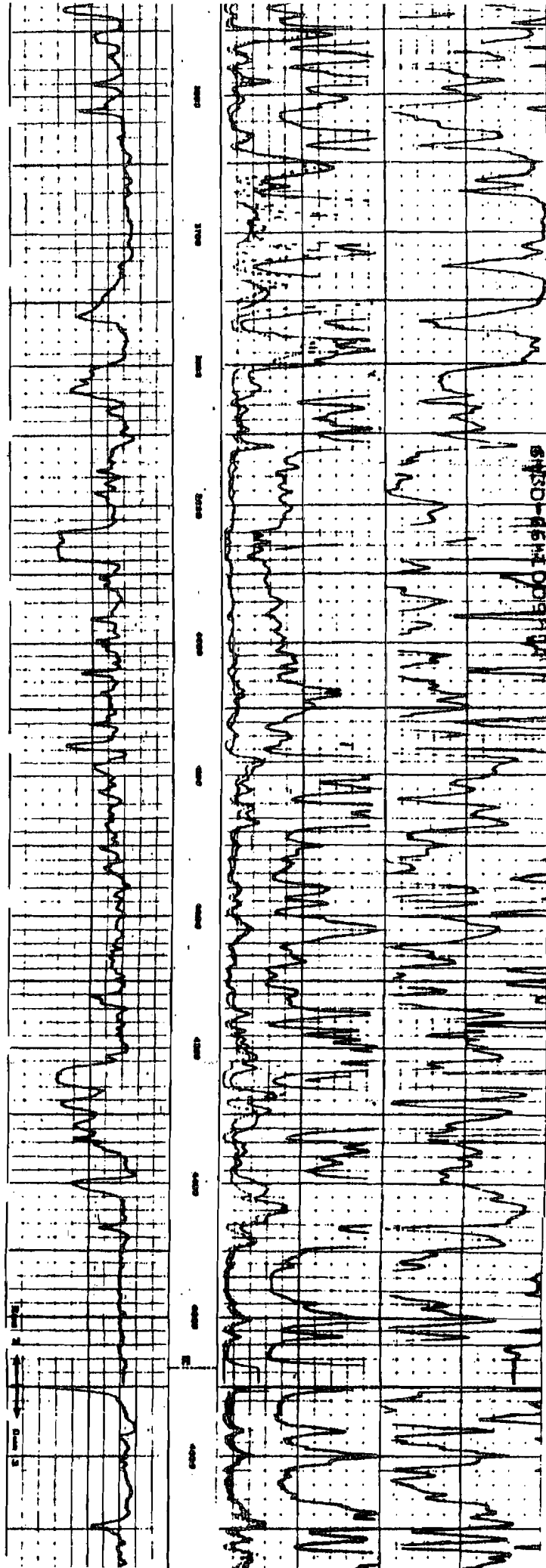


Top of
Injection Zone

Tokio



James



11/11/50 1459-C3414

DOW CHEMICAL PARHAM, V.S.

1

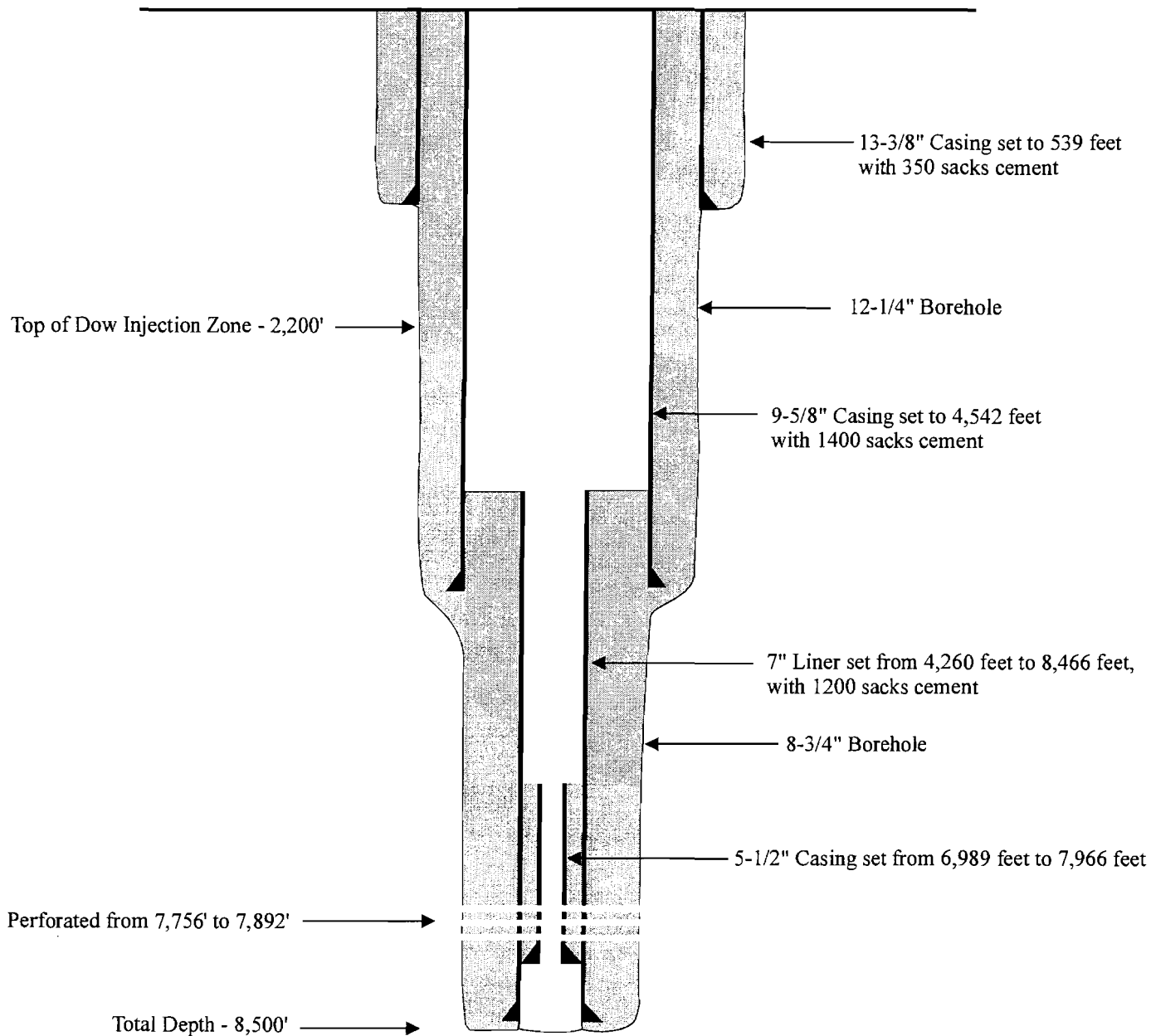
17-17S-21W IE

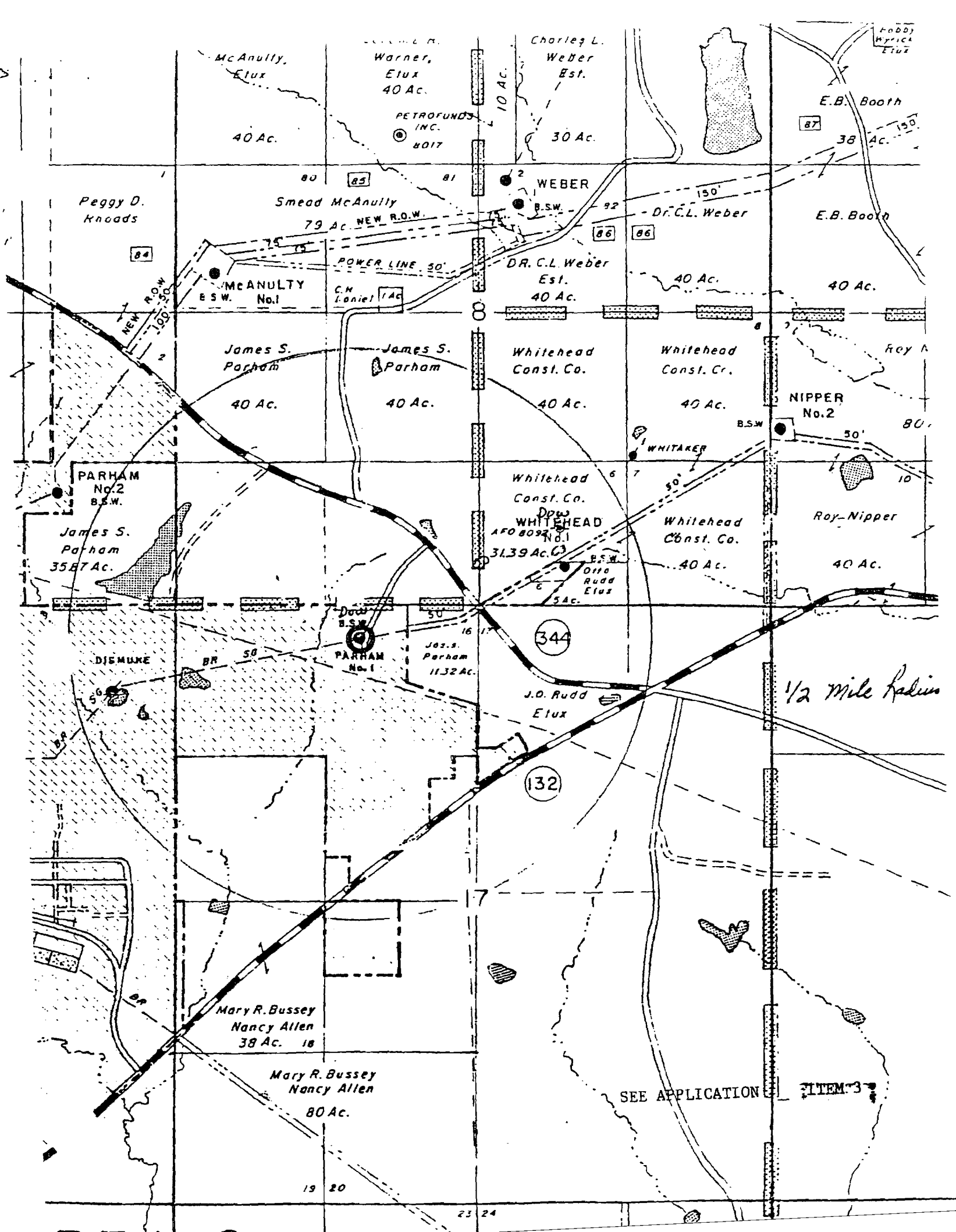
COUNTY: COLUMBIA FIELD: PARHAM, V.S. LOCATION: 17-17S-21W WELL: IE		COMPANY: THE DOW CHEMICAL COMPANY WELL: 03-027-01009 COUNTY: COLUMBIA STATE: MISSISSIPPI	
LOCATION: 17-17S-21W WELL: IE		COMPANY: THE DOW CHEMICAL COMPANY WELL: 03-027-01009 COUNTY: COLUMBIA STATE: MISSISSIPPI	
REMARKS: IN TO SHUT IN			
Changes in fluid type or Additional Samples Date / Sample No. Depth - Dishes Type Fluid in Hole		Scale Changes Scale Up Hole Scale Down Hole	
Run No. Tool Type Equipment Size Tool Position		Other	
SPONTANEOUS-POTENTIAL millivolts		CONDUCTIVITY millimhos/m	

cannot read

Map ID No. - 36
Operator - Dow Chemical Corporation
Field - Kilgore Lodge
Well No. - 1
Sec. 17, T-17-S, R-21-W
Completion Date - 7/1/66

API No. - 03-027-01494
Serial No. -
Lease - V. S. Parham
Type - Class V Injection
Status - Active
County - Columbia
Date Plugged - na





McAnully, Elux
40 Ac.

Warner, Elux
40 Ac.
PETROFUNDS INC.
4017

Charley L. Weber Est.
30 Ac.

E.B. Booth
38 Ac.

Peggy D. Knoods

Smead McAnully
79 Ac. NEW R.O.W.

WEBER

Dr. C.L. Weber

E.B. Booth

McANULTY B.S.W. No.1

DR. C.L. Weber Est.
40 Ac.

40 Ac.

40 Ac.

James S. Parham
40 Ac.

James S. Parham
40 Ac.

Whitehead Const. Co.
40 Ac.

Whitehead Const. Co.
40 Ac.

Roy A

PARHAM No.2 B.S.W.

James S. Parham
3587 Ac.

Whitehead Const. Co.

WHITEHEAD No.1
31.39 Ac.

Whitehead Const. Co.
40 Ac.

Roy-Nipper
40 Ac.

DIEMUXE

PARHAM No.1

Jos. S. Parham
1132 Ac.

344

J.D. Rudd Elux

132

1/2 Mile Radius

Mary R. Bussey Nancy Allen
38 Ac. 18

Mary R. Bussey Nancy Allen
80 Ac.

SEE APPLICATION FILEM-3

19 20

23 24

OPERATOR: DOW CHEMICAL U.S.A.
ADDRESS: P. O. Box 520
CITY: Magnolia STATE Arkansas ZIP 71753

BRINE SUPPLY WELLS

<u>FIELD</u>	<u>LEASE</u>	<u>WELL NO.</u>
KILGORE LODGE	ABBOTT	1
KILGORE LODGE	CARTER	1
KILGORE LODGE	DOW FEE	2
KILGORE LODGE	ELLISON	1
KILGORE LODGE	FORD	1
KILGORE LODGE	HOLMES	1
KILGORE LODGE	JAMESON	1
KILGORE LODGE	KITCHENS	1
KILGORE LODGE	McANULTY	1
KILGORE LODGE	NIPPER	1
KILGORE LODGE	NIPPER	2
KILGORE LODGE	PARHAM	2
KILGORE LODGE	WEBER	1
KILGORE LODGE	WOODWARD	1
KILGORE LODGE	* MCCOWN	1
KILGORE LODGE	* SMITH	1
KILGORE LODGE	* WEBER	2

*DRILLED - NOT YET COMPLETED

7-30-85

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Name of Operator Dow Chemical Co. Brine
 Pool Completed In Cotton Valley Supply
 Lease Name V. S. Parham No. 1 Address: Street P.O. Box 520
 Exact Location 300' South and 300' East
of NW corner NE/4 NW/4 City Magnolia
 Sec 17 Twp. 17S Rge. 21W State Arkansas
 County Columbia
 Date Commenced 1-5-79
 Date Completed 5-17-79
 Elevation 290.2' Ground
 Total Depth Drilled _____
 Electric Log Run: Yes _____ No _____
 Electric Log Filed: Yes _____ No _____

RECEIVED
AUG 29 1985

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 13-3/8" - 48# set at 539 ft. w/ 350 sks.
 Intermediate: (Size & Wt.) 9-5/8" - 40# set at 4542 ft. w/ 1400 sks.
 Production: (Size & Wt.) 7" - 26# set at 4260-8466 ft. w/ 1200 sks.
 Tubing: (Size & Wt.) 5-1/2" - 17# set at 6989-7966 ft.
 Perforations: Size 3/8" 7" & 4-1/2" & 3-1/2" No. Per Foot _____ set at 7966 ft. w/packer set at 7986 ft.
 Perforated Intervals: 7756'-7796' ; 7808'-7836' ; 7841'-7859' ; 7865'-7875' ;
7878'-7892'
 Acidized: Yes _____ No _____ ; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____ ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well 1
- Tank battery to which this well is connected: Existing _____ New _____
- Liquid production from this well is sold to (_____)
(Address _____)
- Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test N/A Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion X
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

(Over) **RECEIVED**
SEP 18 1985

CERTIFICATE

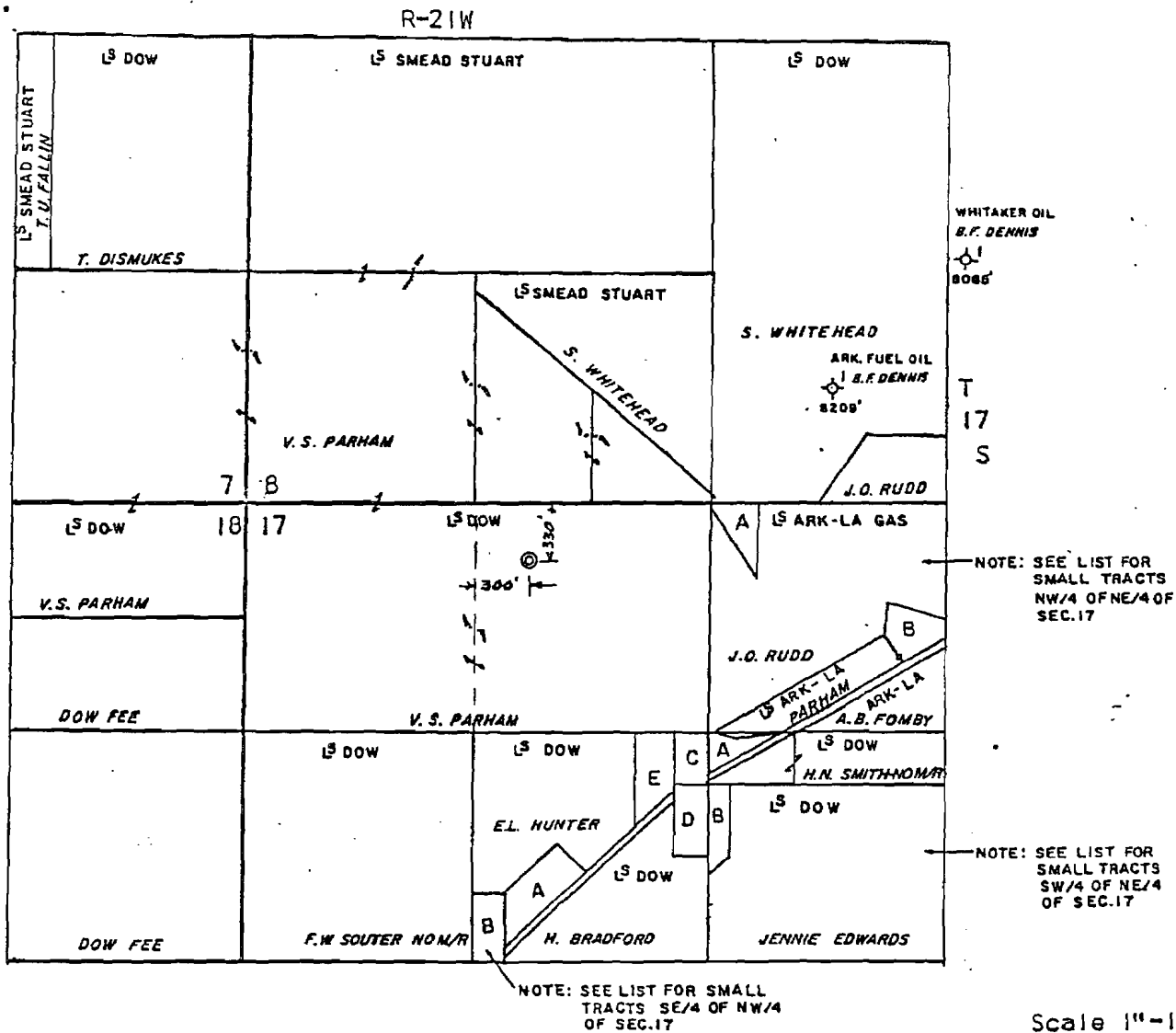
ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

September 17, 1985

Cecil R. Acker
Cecil R. Acker
Land Administrator

Eloy Baca, Jr.
Eloy Baca, Jr.
Process Supervisor



LOCATION SURVEY

WELL V.S. PARHAM WELL NO. 1

LOCATION 330' from the North line and 300' from the West line of the NE 1/4 NW 1/4 Sect. 17, T-17S; R-21W, Columbia Co., Ark.

FOR THE DOW CHEMICAL COMPANY

The location shown hereon was staked from a ground survey made April 6, 1966.

BARNES & CRISP
Magnolia, Ark.

Bill F. Crisp

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report
(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical Co. Brine
Pool Completed In Cotton Valley Supply
Lease Name V. S. Parham No. 1 Address: Street P.O. Box 520
Exact Location 300' South and 300' East
of NW corner NE/4 NW/4 City Magnolia
Sec. 17 Twp. 17S Rge. 21W
County Columbia State Arkansas
Date Commenced 1-5-79
Date Completed 5-17-79
Elevation 290.2' Ground
Total Depth Drilled 8500' P.B.T.D 7916'
Electric Log Run: Yes No
Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 35 ft. w/ 5 yds. sks.
Surface: (Size & Wt.) 13 7/8" set at 539 ft. w/ 528 sks. cu. ft.
Intermediate: (Size & Wt.) 7 7/8" set at 4542 ft. w/ 2338 sks. cu. ft.
Production: (Size & Wt.) 1" liner set at 8466 ft. w/ 1724 sks. cu. ft.
Tubing: (Size & Wt.) 5 1/2" set at 115 ft.
Perforations: Size 3/8" No. Per Foot 4
Perforated Intervals: 7756'-7796' ; 7808'-7836' ; 7841'-7859' ; 7865'-7875' ;
7878'-7892'
Acidized: Yes No ; Interval _____ w/ _____ gals.
Fractured: Yes No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
2. Tank battery to which this well is connected: Existing _____ New _____
3. Liquid production from this well is sold to (_____)
(Address _____)
4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test N/A Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
Purpose of this test: Original Completion _____ Workover _____ Recompletion
Allowable Requested _____

REMARKS: Brine Supply
Please use reverse side of this page for all pertinent remarks. (Over)

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

JUL 13 1979

Eloy Baca, Jr.
Process Supervisor

ARKANSAS OIL & GAS COMMISSION

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Producer Brine Dow Chemical U.S.A.
 Pool Completed In Smackover Limestone
 Lease Name V. S. Farham No. 1 Address: Street P. O. Box 500
 Exact Location 330' South and 300' East of
NW Corner NE/4; NW/4 City Magnolia
 Sec. 17 Twp. 17-S Rge. 21-W State Arkansas
 County Columbia
 Date Commenced 5/31/66
 Date Completed 1/26/67 June, 1985
 Elevation 290.2' Ground CONVERTED TO SALTWATER INJECTION WELL
 Total Depth Drilled 8500'
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20", 5/16" Wall set at 35 ft. w/ 5 yds concrete
 Surface: (Size & Wt.) 13-3/8", 48# set at 539 ft. w/ 528 cu ft
 Intermediate: (Size & Wt.) 9-5/8", 40# set at 4542 ft. w/ 2338 cu ft
 Production: (Size & Wt.) 7", 26# liner set at 8466 ft. w/ 1724 cu ft
 Tubing: (Size & Wt.) 5-1/2", 17# set at 3115 ft.
 Perforations: Size 3/8" No. Per Foot One hole every 2'
 Perforated Intervals: 8160' to 8226' and 8240' to 8274'

Acidized: Yes No ; Interval 8160' to 8226'; 8240' to 8274' w/ 7500 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well 1
- Tank battery to which this well is connected: Existing Not applicable New --
- Liquid production from this well is sold to (Not applicable)
 (Address --)
- Disposition of gas from this well: Vented Fuel Sold
 If sold, to whom Not applicable
 Address Not applicable

PRODUCTION

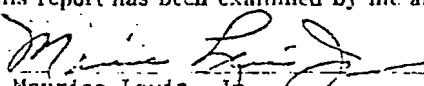
Date of Test 1/28/67 Actual Length of Time Tested 20 Hours
 Type Well: Flowing _____ Gas Lift _____ Pump Reda
 Tubing Pressure 60 psi Casing Pressure 0 Choke Size Open
 Net Oil Produced None bbls. Gas Produced Negligible MCF % BSW. 100 GOR Infinite
 Gravity Oil Not Appl. BHP Recorded None
 Net Oil in 24 Hours Not applicable Open Flow Potential Not applicable MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested None

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.


 Maurice Lewis, Jr.
 Superintendent, Drilling & Production



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street ■ El Dorado, Arkansas 71730

William E. Wright
Director

Ph. 501 862-4965

September 5, 1985

Dow Chemical U.S.A.
P.O. Box 520
Magnolia, Arkansas 71753

RE: Parham #1
NE/4 NW/4 Section 17-17S-21W
Kilgore Lodge Field
Columbia County, Arkansas

Gentlemen:

Your application filed for authority to dispose of produced salt water into the referenced well has been reviewed and appears to meet the necessary requirements of the state. Please consider this letter as your authority to use the referenced well for disposal of produced water only, and in accordance with the provisions of the application as filed. Disposal shall be down the tubing string with a packer set immediately above the disposal zone as approved. Provisions to monitor the annulus between the tubing and casing strings shall also be required.

Only water from the applied for and approved wells shall be authorized for disposal into the Parham #1 SWD well and pressures and volumes shall comply with the application as filed.

It is requested that upon completion of the referenced salt water disposal that this office be notified for inspection and running of a mechanical integrity test on the referenced well. Additionally, monthly disposal reports (AOGC-14) shall be required; whereas, both annulus pressure and injection pressure are shown. Further, a completion report shall be filed indicating the perforated interval and tubing and packer settings.

Yours very truly,

A handwritten signature in cursive script that reads "Martin T. Perdue".

Martin T. Perdue
Petroleum Engineer

MTP:tml

cc: Department of Pollution Control & Ecology
Well File

COMMISSION MEMBERS ■ E. Boyd Alderson, Chairman, El Dorado
C. G. Davis, Vice-Chairman, Magnolia ■ Ned R. Price, Smackover ■ James O. Staggs, Magnolia
Hayes C. McClerkin, Texarkana ■ Spence A. Leamons, Fort Smith ■ James D. Reynolds III, Camden



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street ■ El Dorado, Arkansas 71730

William E. Wright
Director

Ph. 501 862-4965

July 25, 1985

Dow Chemical U.S.A.
P.O. Box 520
Magnolia, Arkansas 71753

RE: Parham #1
Section 17-17S-21W NE/4 NW/4
Kilgore Lodge Field
Columbia County, AR

Dear Sir:

Your application for authority to use the referenced well for injection of produced water has been reviewed and found to be reasonable. If the above referenced well is a well to be drilled or a re-entry, then a "Notice of Intention to Drill for Oil or Gas" (AOGC-2-56) form, a permit fee (\$150), an Affidavit of Financial Responsibility or letter of credit and a surveyors plat showing the location of the proposed drilling site must be filed with this office before drilling may begin. After this system has been completed and the completion reports and well logs (electrical log and/or cement bond log (if run) have been filed with this office, you will receive an authority letter which will allow you to begin disposal of the produced water in the above referenced well.

Sincerely,

Martin T. Perdue

Martin T. Perdue
Petroleum Engineer

MTP:tml

COMMISSION MEMBERS ■ E. Boyd Alderson, Chairman, El Dorado
C. G. Davis, Vice-Chairman, Magnolia ■ Ned R. Price, Smackover ■ James O. Slaggs, Magnolia
Hayes C. McClerkin, Texarkana ■ Spence A. Learnons, Fort Smith ■ James D. Reynolds III, Camden

An Agency of the Arkansas Department of Commerce
An equal opportunity employer

INJECTION WELL INSPECTION

Date 6-12 19 86

OPERATOR Dow Chemical
FIELD _____ COUNTY Columbia
LEASE Parham WELL NUMBER 1
LOCATION _____ SEC. _____ T _____ R _____
DIRECTIONS TO WELL _____

WELL PRESSURE TEST

SHUT IN () NUMBER OF HOURS _____
OPERATING (X) TUBING PRESSURE _____ PSIG/VACUUM _____ INCHES
ANNULUS PRESSURE _____ PSIG/VACUUM _____ INCHES

PRESSURE TEST:

TIME		CASING ANNULUS	REMARKS
Hour	Minutes	psig	
<u>10</u>	<u>04</u>	<u>600</u>	
<u>10</u>	<u>35</u>	<u>600</u>	

ANNULUS MONITOR INSPECTION

STATUS: Shut In () Tubing Pressure _____ psig/vacuum _____ inches.
Operating () Annulus Pressure _____ psig/vacuum _____ inches.
Time Observed _____ A.M./P.M.

RESULTS OF TEST (Indicate with X)

- well mechanical integrity satisfactory
- well mechanical integrity not verified
- casing annulus not holding pressure for test period
- annulus pressure monitored not in agreement with monitored pressures reported by operator
- reschedule test for date of _____
- well should be repaired and retested
- well should be shut in

WITNESS [Signature] INSPECTOR Frank Brown
for Dow Chemical for AOGE

Date: 5/1/2001
Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8500
Field          : KILGORE LODGE       Log Total Depth  : 8513
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : V S PARHAM
Well Number    : 1                   Spud Date       : JUN 01, 1966
API Number     : 03027014940000      Comp Date       : JUL 01, 1966
Regulatory API :
Init Lahee Class : U                   Hole Direction   :
Final Lahee Class : U                   Reference Elevation:
Permit Number   :
Geologic Province : ARKLA BASIN          KB Elevation     :
Formation at TD : 553SMKV             SMACKOVER
Oldest Age Pen  : 553             UPPER JURASSIC
Township       : 17 S
Range          : 21 W
Base Meridian   : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 330 FNL 300 FWL CONGRESS QTR QTR
Latitude         : 33.2684300        Latitude (Bot)  :
Longitude        : -93.3052100      Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top   Base   Top   Base   Choke   Oil   Prod   Test
Form   Form   Depth  Depth  Method  GORGrav Method Method
001   553SMKV 553SMKV 8159  8273          PERF
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil   Cond   Gas   Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top   Base   Type   Method   Top Form   Base Form   Status Count   Density   Per
001   8159  8179          PERF   553SMKV  553SMKV
001   8173  8185          PERF   553SMKV  553SMKV
001   8187  8201          PERF   553SMKV  553SMKV
001   8203  8213          PERF   553SMKV  553SMKV
001   8215  8225          PERF   553SMKV  553SMKV
001   8239  8249          PERF   553SMKV  553SMKV
001   8251  8261          PERF   553SMKV  553SMKV
001   8263  8273          PERF   553SMKV  553SMKV
    
```

```

----- Log Data -----
Run No   Log Type   Top   Base   Log   Max
         01     EL       0    8513   MD    Temp
    
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN    551    446 SACK
9 5/8 IN    4567   1541 SACK
    
```

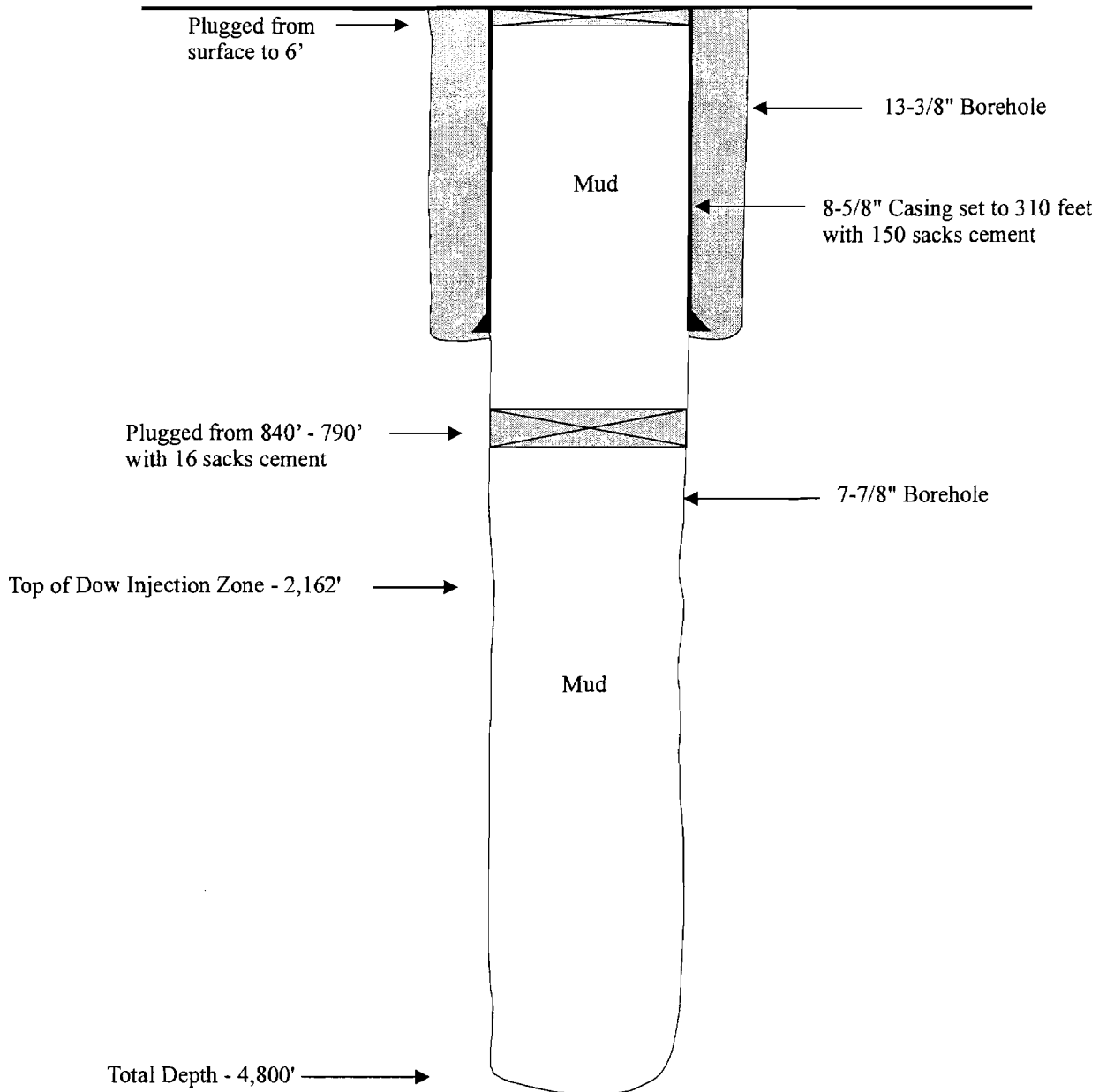
```

----- Liner Data -----
Size   Type   Cement Unit Top Depth Base Depth
7 IN           950 SACK    4318    8513
    
```

Map ID No. 39

Map ID No. - 39
Operator - Kilroy Co. Of Texas
Field - Wildcat
Well No. - 1
Sec. 16, T-17-S, R-21-W
Completion Date - 11/21/79

API No. - 03-027-10768
Serial No. - 25858
Lease - Edwards
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 11/21/79



ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 25858

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date October 19, 1979

Name of Operator Kilroy Co. of Texas

Send Permit to: Street 1908 First City National Bank Bldg

City Houston

State Texas 77002

Lease Name Edwards Well No. 1

Acres in lease _____

Number of acres in and description of drilling unit _____

Location of proposed well (Must agree with Surveyor's Plat) 330' FSL & 1040'

FWL of Sec. 16

Section 16 Township 17 S Range 21 W

County Columbia Field Wildcat

Distance and direction from the nearest town 5 miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well _____

Rotary or cable tools rotary Date work will start 10-26-79

Name of drilling or workover contractor Shuler Drilling Co., Inc.

Depth to be drilled 4800'

Formation you expect to complete in Pettet

RECEIVED
OCT 24 1979

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

ARKANSAS OIL & GAS COMMISSION

Dave Sewell

LF
RG

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Wildcat Name of Operator Kilroy Co. of Texas
Pool Completed In None
Lease Name Edwards No 1 Address: Street 1908 First National Bk. B1
Exact Location 330' from South Line and
1040' from West Line City Houston
Sec 16 Twp 17^S Rge 21^W State Texas 77002
County Columbia
Date Commenced 11-10-79
Date Completed 11-21-79
Elevation _____
Total Depth Drilled 4800'
Electric Log Run: Yes No _____
Electric Log Filed: Yes No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Surface: (Size & Wt.) 8 5/8 set at 310' ft. w/ 150 sks.
Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Production: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Tubing: (Size & Wt.) _____ set at _____ ft.
Perforations: Size _____ No. Per Foot _____
Perforated Intervals: _____
Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil

LEASE DATA

- Number of wells located on this lease, including this well _____
- Tank battery to which this well is connected: Existing _____ New _____
- Liquid production from this well is sold to (_____
(Address _____
- Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test D & A 11-21-79 Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
Purpose of Well Original Completion Workover Recompletion
Allowable _____

REMARKS:

8 1000
Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Arkansas Oil and Gas Commission EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.

Operator Kilroy Co. of Texas Field Wildcat

Address all correspondence concerning this form to: Kilroy Co. of Texas Pool None

County Columbia

Street 1908 First National Bk City Bldg. City Houston State Texas 77002

Lease Edwards Well No. 1 Sec. 16 Twp. 17^S Rge. 21^W

Date well was plugged 11-21-79 Total Depth of well 4800'

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Hole full Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock 840'-790' with 16 sks. or 50' plug or 6' plug top of surface

Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
8 5/8			303'	

RECEIVED

JAN 3 1980

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

Well: KILROY CO OF TEXAS
1 Edwards API 03-027-10768

Result: D&A

Loc'n: Sec 16-17S-21W 330 FSL, 1040 FWL, 2½ mi SW/Magnolia townsite, 1¼ mi
SE/Kilgore Lodge Fld

Spud: 11-10-79; Comp: 11-22-79; Elev: 251 KB; TD: 4810; C/Shuler Drig Co

Casing: 8 5/8 @ 300

Comp Info: DTD 4810 (Pitt), LTD 4800

Tops: (Elec Log) Mwy 1210, Nac sd 1836, B/An 2488, Tokio 2867, MA 3570-60,
Jms 4273, TP 4730, BHT 120 deg

Note: Rerun to corr API #; Replaces card #6, dated 7-15-80

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**Petroleum Information.**

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 2-3-81

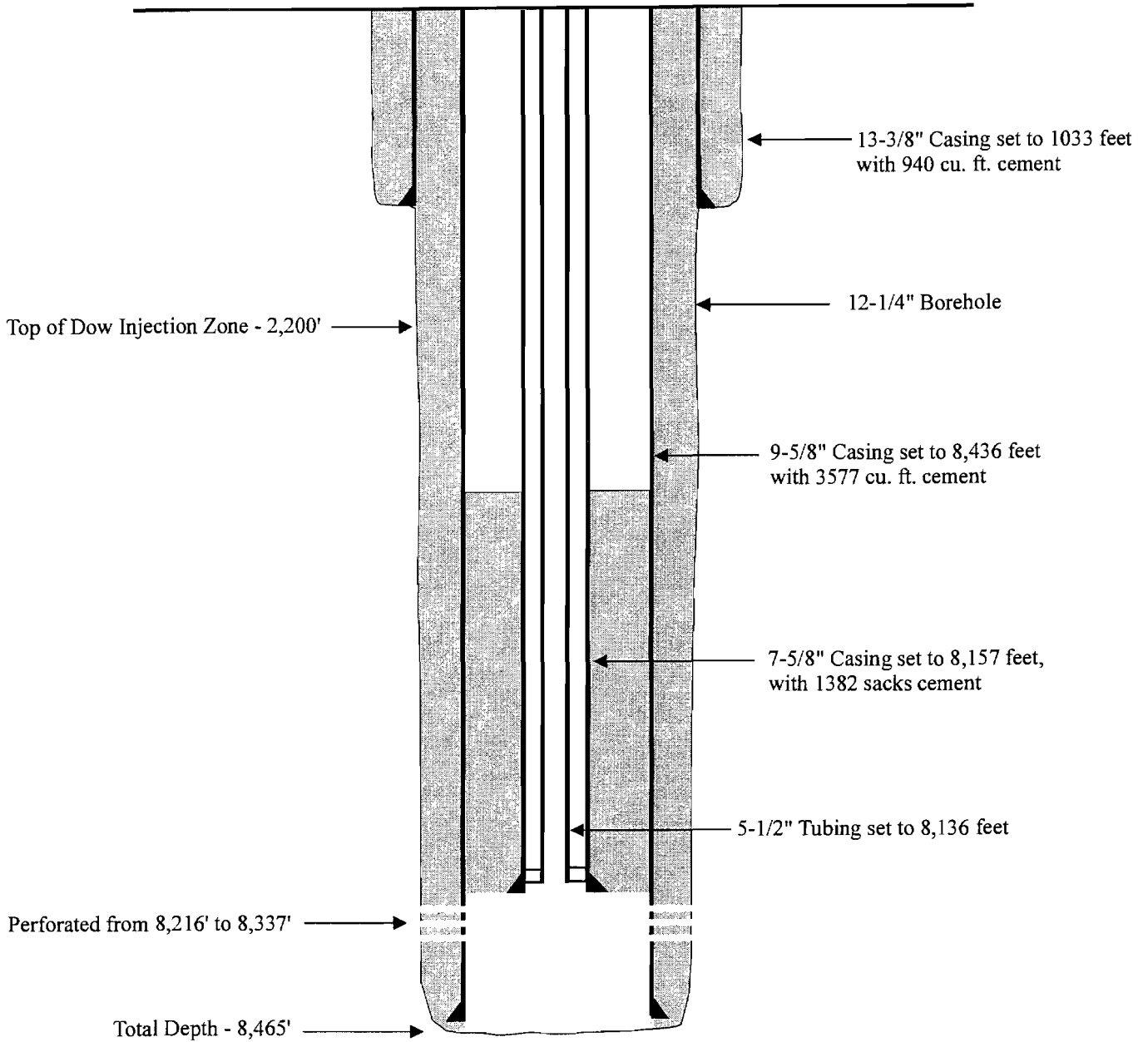
Card No.

15 Ark.

Map ID No. 40

Map ID No. - 40
Operator - Dow Chemical Company
Field - Kilgore Lodge
Well No. - 1 SWD
Sec. 20, T-17-S, R-21-W
Completion Date - 1/28/67

API No. - 03-027-01496
Serial No. -
Lease - F. W. Souter etal
Type - Class V Injection
Status - Active
County - Columbia
Date Plugged - na



STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

(SWD)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Producer ~~Smith-Desha~~ Dow Chemical Co.
 Pool Completed In Smackover Limestone
 Lease Name F. W. Souter, et al No. 1 SWD Address: Street P. O. Box 500
 Exact Location 330' FWL and 330' FNL,
SE/4, NE/4 City Magnolia
 Sec. 20 Twp. 17-S Rge. 21-W State Arkansas
 County Columbia
 Date Commenced 4/5/66
 Date Completed 1/28/67
 Elevation 244' Ground
 Total Depth Drilled 8465' *Amochose T.D.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

RECEIVED

MAR 15 1967

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20", 5/16" Wall set at 30' Grd. w/ 5-1/2 yds concrete
 Surface: (Size & Wt.) 13-3/8", 48# set at 1033' ft. w/ 940 cu ft.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____
 Production: (Size & Wt.) 9-5/8", 40#, 43.5# & 47# set at 8436' ft. w/ 3577 cu. ft.
 Tubing: (Size & Wt.) 7", 26# set at 2560' ft.
 Perforations: Size 3/8" No. Per Foot 1 hole every 2'.
 Perforated Intervals: 8216' to 8266'; 8276' to 8310'; 8320' to 8337'.

Acidized: Yes No ; Interval Above perforated interval w/ 6500 gals.
 Fractured: Yes No ; Interval -- w/ -- lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well 1
- Tank battery to which this well is connected: Existing Not applicable New --
- Liquid production from this well is sold to (---)
(Address _____)
- Disposition of gas from this well: Vented -- Fuel -- Sold --
If sold, to whom --
Address --

PRODUCTION

Date of Test Not applicable Actual Length of Time Tested --
 Type Well: Flowing -- Gas Lift -- Pump --
 Tubing Pressure -- Casing Pressure -- Choke Size --
 Net Oil Produced -- bbls. Gas Produced -- MCF % BSW -- GOR --
 Gravity Oil -- BHP Recorded --
 Net Oil in 24 Hours -- Open Flow Potential -- MCF
 Purpose of this test: Original Completion Workover -- Recompletion --
 Allowable Requested None

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Maurice Lewis, Jr.
 Maurice Lewis, Jr.
 Superintendent, Drilling & Production



DOW CHEMICAL U.S.A.

POST OFFICE BOX 520
MAGNOLIA, ARKANSAS 71753

501 - 234-8100

July 29, 1978

Re: Souter No. 1 Disposal
SE/4 of NE/4 Sec. 20-T17S-R21W
Columbia County, Arkansas

Arkansas Oil & Gas Commission
314 East Oak St.
Eldorado, Ar 71730

Approved

Dear Sir:


The Dow Chemical Co., Magnolia Plant, would like to apply for a one-time permit to dispose of a quantity of wash water containing a small amount of the chemical Dibromochloropropane (DBCP) into the Smackover formation using one of our existing disposal wells.

Dow has ceased manufacture of the chemical DBCP and at the present time six (6) tanks still contain the tank bottoms, or heels, that was left when the tanks were pumped out. Less than 300 pounds total of the residue is left in the tanks.

We propose to fill these tanks with water (45,000 gal. each time) at least three times to wash out this residue; haul, by escorted tank truck, from our plant to the Souter No. 1 disposal and inject this contaminated wash water at a slow rate along with at least 600 gpm of brine being injected into the Smackover formation. It would be desirable to start this operation as soon as the permit is issued.

If you need more information, please contact us. No surface discharge or air emissions will be created from this operation.

Yours truly,


B. G. Cozart
Supervisor
Safety & Environmental Services

RECEIVED

JUN 29 1978

cra

ARKANSAS OIL & GAS COMMISSION



ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

APPLICATION TO DISPOSE OF SALT WATER (Corrected Copy)

OPERATOR The Dow Chemical Company FIELD Kilgore Lodge Area
ADDRESS P. O. Box 500 Magnolia STATE Arkansas
Street City

1. Application is hereby made to dispose of produced salt water in the section 8160 feet to 8465 feet by injection said (Depth) (Depth)

water into the F. W. Souter, et al, No. 1 - SWD
(Name of Well)

Sec. 20, Twp. 17-S, Rge. 21-W, Smackover pool.
(Injection Formation)

Exact Location 330' FWL & 330' FNL, SE/4 NE/4 Elevation 244' Ground.

Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.
4. Only water produced from Wells listed below will be injected into the disposal well:

<u>Well Name and Number</u>	<u>Location:</u>	<u>Sec.</u>	<u>T.</u>	<u>R.</u>
Dow Fee No. 1	SW/4, NE/4	18	17-S	21-W
Dow Fee No. 2	NW/4, NW/4	15	17-S	21-W
V. W. Nipper, et al, No. 1	SE/4, SW/4	9	17-S	21-W
V. W. Nipper, et al, No. 2	NW/4, SW/4	9	17-S	21-W
V. S. Parham, No. 1	NE/4, NW/4	17	17-S	21-W

The Dow Chemical Company
Pipeline Purchaser's by Leases

P. O. Box 500, Magnolia, Arkansas
Address



BRAZOS OIL AND GAS COMPANY

DIVISION OF THE DOW CHEMICAL COMPANY

3636 RICHMOND AVENUE • P. O. BOX 22468

HOUSTON, TEXAS 77027

March 14, 1967

Arkansas Oil and Gas Commission
Oil and Gas Commission Building
El Dorado, Arkansas

Attention: Mr. Ralph A. Dumas, Director
Gentlemen:

By transmittal letter dated February 10, 1966 a completed form SWD-1, Application To Dispose of Salt Water was mailed to your office.

By letter dated February 16, 1966 and signed by Mr. W. E. Wright, our application to dispose of brine in this well was approved.

Items No. 4 and No. 5 in the original application have been changed. Therefore, a corrected application has been completed and is attached hereto for your approval.

Matters concerning the initiation of disposal operations and monthly disposal volume will be handled directly from our Magnolia Plant by Mr. Max Sorenson.

Yours very truly,

Maurice Lewis, Jr.
Superintendent,
Drilling and Production

MLjr/bh

Attachment

cc: Mr. Max Sorenson
The Dow Chemical Company
P. O. Box 500
Magnolia, Arkansas



March 2, 1966

The Dow Chemical Company
3636 Richmond Avenue
Houston, Texas 77-27

Att: Mr. Maurice Lewis, Jr.

Gentlemen:

Reference is made to your application of February 23, 1966, for permission to dispose of salt water produced from your S. E. Dennis #1 and 2, J. W. Nipper #1, S. Whitehead #1, V. S. Parham #1, F. W. Sauter #1, Dow #1 and 2 wells into your F. W. Sauter #1 SWD well, Section 20, Township 17 South, Range 21 West, Kilgore Lodge Field, Columbia County, Arkansas.

This letter will be your authority to conduct the operations covered by your application. Your attention is directed to the necessity of securing compliance with the provisions of Rule C-7, Section E, which is found on page 19 of the General Rules and Regulations.

Yours very truly,

W. E. Wright
Geologist

WEW:ve

1

2

5. The proposed disposal well ~~is~~ ^{will be} cased and cemented as follows:

Size 13-3/8" Surface 1000+ feet cemented with 690 ~~bags~~ ^{cubic feet}

Size 9-5/8" Production 8500 feet cemented with 2346 ~~bags~~ ^{cubic feet}

6. The estimated minimum and maximum amounts of water to be injected are 20,000 to 50,000 barrels water per day. respectively.

7. Upon commencement of operation, I will notify the Commission of the same.

8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.

9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from Not applicable (Where) Arkansas, on Not applicable (Date).

NAME OF OPERATOR ADDRESS

No wells are located within 1/2 mile of Disposal Well; therefore, no notices have been mailed.

I, Maurice Lewis, Jr., an employee of the The Dow Chemical (Name of Company) Oil Company, do certify that the information presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: Maurice Lewis, Jr.

Note:

If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.



Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Souter No. 1 (Sec.) 20 (Twp.) 17S (Rge.) 21W County Columbia
Operator Ethyl Corporation Field Kilgore Lodge Area

Address all correspondence concerning this form to: Ethyl Corporation
Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % (Name of Transporter) %

Remarks:
Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
Shirley Knight
No. 3541

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
(Affiant)
Field Manager



Columbia County Arkansas DOW #1 SOUTER Kilgore Lodge Bromine Plant 20-17S-21W
Well: DOW CHEMICAL CO. #1 F. W. Souter et al SWD Result: SWDW
loc'n: Sec 20-17S-21W, C NW SE NE, 2 1/4 mi W-SW/Magnolia

Spud: 4-5-66; Comp: 5-9-66; Elev: 260' KB; TD: 8476'; C/H&S Drig. Co.
Casing: 13 3/8" 1033'/940 sx, 9 5/8" 8436'/7262 sx on btm & 2200 sx in DVT
Injection Zone: (Smk)
IR: NA
Comp Info: Crd Smk, no details; drid to 8465', ran IEL, MLC & FDL to TD 8476',
set csg, Dropped from Report.
Tops: (Elec Log) Buckner 8100', Smk 8185'

Date: 10-18-66 Card No.: 4 Ark.



----- Log Data -----				Log	Max
Run No	Log Type	Top	Base	MD	Temp
01	EL	0	8474		

----- Casing Data -----			
Size	Base	Depth	Cement Unit
13 1/8 IN		1000	
9 5/8 IN		8437	



Map ID No. 41

RECEIVED

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

JAN 31

Serial No. 23,385

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date January 30, 1975

Name of Operator Dow Chemical U. S. A.

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas

Lease Name F. W. Souter Well No. 3 (Disposal)

Acres in lease N/A

Number of acres in and description of drilling unit N/A

Location of proposed well (Must agree with Surveyor's Plat) 280' FSL and
280' FWL of SW/4 of NW/4

Section 21 Township 17South Range 21 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town Two & one-half (2 1/2) miles West-Southwest
of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well _____

One Quarter (1/4) mile Southeast of Dow Chemical - F. W. Souter No. 1
(Brine Disposal)

Rotary or cable tools Rotary Date work will start March 1st, 1975

Name of drilling or workover contractor Sawyer Drilling Co.

Depth to be drilled 8900 feet

Formation you propose to complete in Smackover

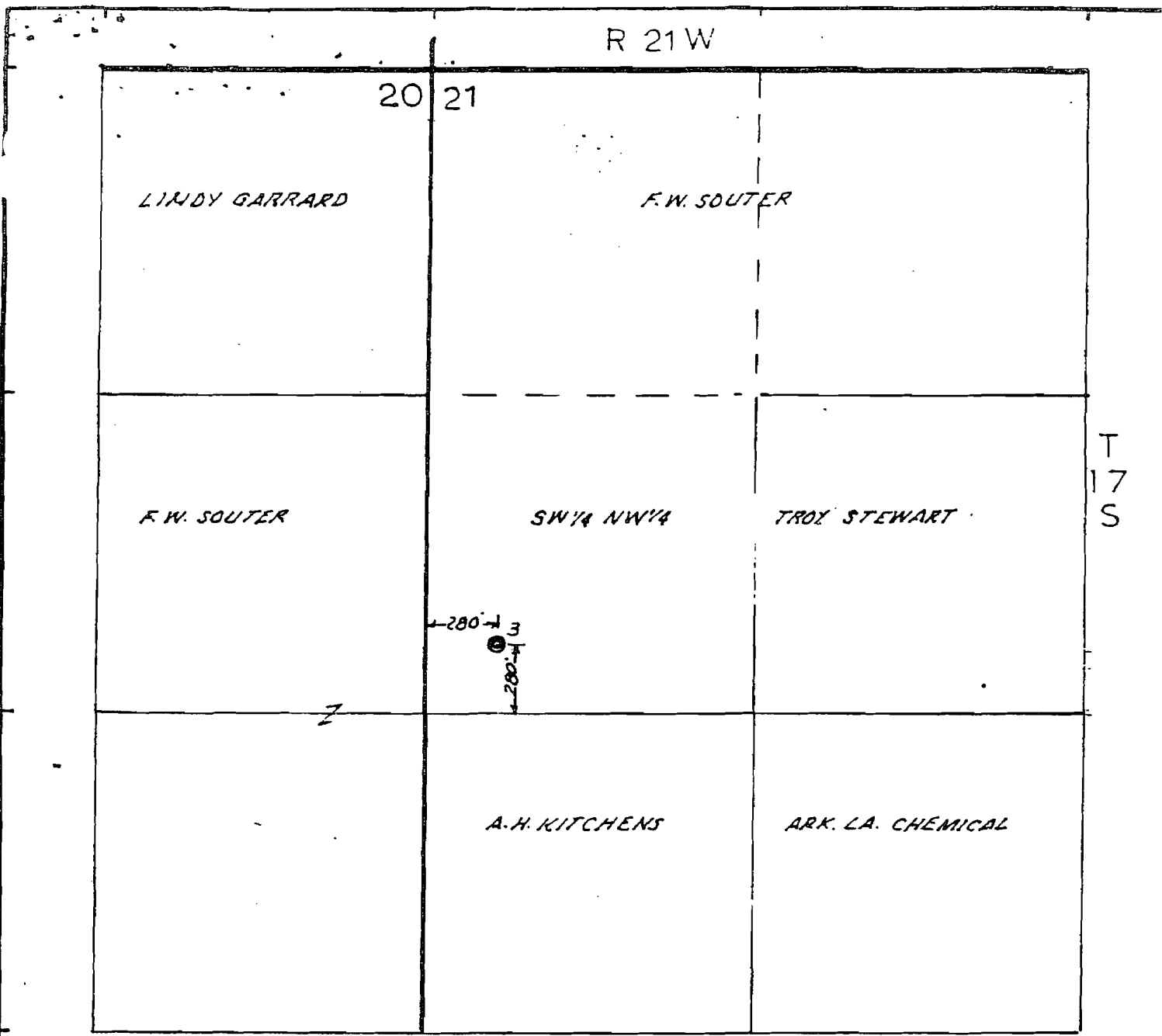
Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cecil R. Acker
Cecil R. Acker

O.K.
REN



WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO.

WELL NAME SOUTER NO. 3

LOCATION 280' FROM THE SOUTH LINE AND 280' FROM THE WEST LINE OF THE SW 1/4 NW 1/4 SECT. 21, T-17S; R-21 W, COLUMBIA CO., ARK.

The location shown hereon was staked from a ground survey made DEC. 5. 1974.

W. L. Crisp
R.L.S. 454

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

Scale 1" = 600'

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

B.W.
(initials)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical, USA
 Pool Completed In Smackover Lime
 Lease Name F. W. Souter SWD No. 3 Address: Street P. O. Box 520
 Exact Location 280' ESL - 280' FWL
SW_{1/4} - NW_{1/4} City Magnolia, Arkansas
 Sec 21 Twp. 17 S Rge. 21 W State _____
 County Columbia
 Date Commenced 3/18/75
 Date Completed 4/22/75
 Elevation 243.03 GL - 255.15 RT
 Total Depth Drilled 8525 *Trassic T.O.*
 Electric Log Run: Yes No _____
 Electric Log Filed: Yes No _____

RECEIVED

MAY 13 1975

ARKANSAS OIL & GAS COMMISSION

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft w/ Ready Mix sks.
 Surface: (Size & Wt.) 13 3/8" 54.5# set at 1,005 ft w/ 700 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft w/ _____ sks.
 Production: (Size & Wt.) 9 5/8" 53.5# - 47# - 43.5# 40# set at 8,175 ft w/ 3,935 sks.
 Tubing: (Size & Wt.) 7" 23# - 26# set at 8,525 ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: Open hole - 8175 - 8525
 Acidized: Yes No _____; Interval 8175 - 8525 w/ 20,000 gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well _____
 2. Tank battery to which this well is connected: Existing NA New _____
 3. Liquid production from this well is sold to (_____
 (Address _____
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test NA Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. C. Goble

J-W Operating Company

APC
CFK
T

February 2, 1976

Mr. B. G. Cozart
Dow Chemical U.S.A.
P. O. Box 520
Magnolia, Arkansas 71753

Gentlemen:

Reference is made to your application received January 13, 1976, requesting permission to inject produced water from the Abbott #1, Carter #1, Ellison #1, Ford #1, Holmes #1, Jameson #1, McAnulty #1, Nipper #1 and 2, Parham #1 and 2, Whitehead Construction Co. #1 and the Woodward #2 Brine Supply Wells, into your proposed Jennie Lovell #1 SWD well, Sec. 21, Twp. 17 South, Rge. 22 West, Kilgore Lodge Field, Columbia County, Arkansas.

This letter will be your authority to conduct the operations covered by your application. Your attention is directed to the necessity of securing compliance with the provisions of Rule C-7, Section B, which is found on Page 19 of the General Rules and Regulations.

It is requested that upon completion of this system, that this Department be notified for inspection purposes.

I trust that this letter will serve your purpose and if I can be of any further assistance, please advise.

Yours very truly,

W. E. Wright
Geologist

WEW/sh

cc: Arkansas Pollution Control Commission
P. O. Box 851
El Dorado, Arkansas 71730

RECEIVED

SWD-1 JAN 13 1976

ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

ARKANSAS OIL & GAS COMMISSION

APPLICATION TO DISPOSE OF SALT WATER

OPERATOR Dow Chemical U.S.A. FIELD Kilgore Lodge
ADDRESS P. O. Box 520 Magnolia STATE AR 71753
Street City

1. Application is hereby made to dispose of produced salt water in the section 8,644 to 9,002 subsurface by (Depth) Depth)

injecting said water into the Jennie Lovell # 1 (Name of Well)

Sec. 21 Twp. 17S Rge. 22W Smackover pool. (Injection Formation)

330' FSL & 430' FEL of
Exact Location NW/4 of NE/4 Elevation 302:1 GL -313.27 RT

COLUMBIA County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.

4. Only water produced from wells listed below will be injected into the disposal well.

Well Names and Numbers Location: Sec. Twp. Rge.

See sheet attached

Pipeline Purchaser/s by Leases
N/A

Address

5. The proposed disposal well is cased and cemented as follows:

Size 13 3/8" Surface 1,006 feet cemented with 725 sacks.

Size 9 5/8" Production 8,644 feet cemented with 4,030 sacks.

size: 7" set at 9,002.

6. The estimated minimum and maximum amounts of water to be injected are

-0- to 41,000 barrels respectively.

water per day.

7. Upon commencement of operation, I will notify the Commission of the same.

8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.

9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from N/A (Where)

Arkansas, on _____ (Date)

NAME OF OPERATOR ADDRESS

I, B . G. Cozart, an employee of the _____ (Name of Company)

Dow Chemical, U.S.A. ~~Oil Company~~, do certify that the information presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: B. G. Cozart

Note: If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.

SALTWATER SUPPLY WELLS

WELL NAMES AND NUMBERS	LOCATION	SEC.	TWP.	RGE.
D. R. Abbott # 1	SE/4 of SE/4	12	17S	22W
Joe Carter # 1	NW/4 of NW/4	18	17S	21W
S. F. Ellison # 1	NE/4 of SE/4	10	17S	22W
I. L. Ford # 1	SE/4 of NW/4	12	17S	22W
Holmes # 1	SE/4 of SW/4	11	17S	22W
Paul Jameson # 1	NW/4 of SE/4	12	17S	22W
McAnulty # 1	SW/4 of NW/4	8	17S	21W
V. W. Nipper # 1	SE/4 of SW/4	9	17S	21W
V. W. Nipper # 2	NW/4 of SW/4	9	17S	21W
V. S. Parham # 1	NE/4 of NW/4	17	17S.	21W
Parham # 2	SE/4 of SE/4	7	17S	22W
Whitehead Construction Co. # 1	SW/4 of SE/4	8	17S	21W
M. D. Woodward # 2	SW/4 of NE/4	11	17S	22W

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Souter No. 3 (Sec.) 21 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge Area

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____ % _____ %
(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87.

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3 543

ETHYL CORPORATION

(Company or Operator)
L. C. Reynolds
(Affiant)
L. C. Reynolds
Field Manager

Well: DOW CHEMICAL USA #3 F. W. Souer (Disposal)
Locn: Sec 21-17S-21W, 280' FSL, 280' FWL SW NW

Result: SWD
S

©COPYRIGHTED 1975
REPRODUCTION PROHIBITED

Spud: 3-18-75; Comp: 4-22-75; Elev: 243' Grd, 256' KB; TD: 8525'; C/ Sawyer Drig Co.
Casing: 13 3/8" 1005' / 700 sx, 9 5/8" 8175' / 395 sx
Prod Zone: (Smack) prod from OH 8175-8525'
R: NA
Comp Info: Drld to 8175', ran IEL, set 9 5/8" csg, drld to 8525', ran logs to TD 8525',
BHT 178 deg, ran 2" tbg to 8525'
Tops: (Elec Log) Mwy 1230', Nac sd 1874', B/ An 2533', MA 3597-3850', James 4380',
TP 4840', CV 6030', Buckner 8048', Smack 8150'
API 03-027-10346



Petroleum Information

CORPORATION
A subsidiary of A.C. Stone Company

Date: 6-3-75

Card No.: 2 Ark.

PI/Dwights PLUS Online Summary Report

Well No. 41

Date: 5/1/2001

Time: 2:15 PM

----- General Information -----

State	: ARKANSAS	Final Status	: SERVICE
County	: COLUMBIA	Drill Total Depth	: 8525
Field	: KILGORE LODGE	Log Total Depth	:
Operator Name	: DOW CHEMICAL CO THE		
Lease Name	: F W SOUTER		
Well Number	: 3	Spud Date	: MAR 18, 1975
API Number	: 03027103460000	Comp Date	: APR 22, 1975
Regulatory API	:		
Init Lahee Class	: U	Hole Direction	:
Final Lahee Class	: U	Reference Elevation	: 256 KB
Permit Number	: 23385	Ground Elevation	: 243
Geologic Province	: ARKLA BASIN	KB Elevation	: 256
Formation at TD	: 553SMKV SMACKOVER		
Oldest Age Pen	: 553 UPPER JURASSIC		
Township	: 17 S	Section	: 21 SEC
Range	: 21 W	Spot	: SW SW NW
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	: 280 FSL 280 FWL CONGRESS QTR		
Latitude	: 33.2488200	Latitude (Bot)	:
Longitude	: -93.2928500	Longitude (Bot)	:
Lat./Long. Source	: TB		

----- Production Tests -----

Test	Top	Base	Top	Base	Choke	Oil	Prod	Test
001	Form	Form	Depth	Depth		GORGrav	Method	Method
	553SMKV	553SMKV	8175	8525			OPENHOLE	SWABBING

Production Volume

Test	Oil	Cond	Gas	Wtr
001	Amount	Unit Desc	Amount	Unit Desc
				UW

Production Perforation

Test	Top	Base	Type	Method	Top Form	Base Form	Status	Count	Density	Per
001	8175	8525		OPENHOLE	553SMKV	553SMKV				

----- Formations -----

Form Code	Form Name	Top	Top	Base	Base	Source
		Depth	TVD	Depth	TVD	
Lithology						
651MDWYH	MIDWAY /GROUP/ SH/	1230				LOG
605NCTCS	NACATOCH SD	1874				LOG
602MVAD	MASSIVE ANHY /MASSIVE/	3597		3850		LOG
602JMES	JAMES	4380				LOG
601TVPTP	TRAVIS PEAK /TTP/	4840				LOG
553CNVL	COTTON VALLEY /GROUP/	6030				LOG
553BCKR	BUCKNER	8048				LOG
553SMKV	SMACKOVER	8150				LOG
605ANNNC	ANNONA /ANNONA CHALK/			2533		LOG

----- Log Data -----

Run No	Log Type	Top	Base	Log	Max
				MD	Temp
01	EL	0	8175		
01	EL	0	8525		

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 1005 700 SACK
9 5/8 IN 8175 3935 SACK

----- Tubing Data -----
Size Base Depth Mixed String
2 IN 8525

Map ID No. 46

02 027 10. 555

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

124 Serial No. 26,681

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date October 17, 19 80

Name of Operator CLEMENTS ENERGY, INC.

Send Permit to: Street P.O. Box 20500
City Oklahoma City
State Oklahoma 73156

Lease Name D & D Well No. 1

Acres in lease 80 acres

Number of acres in and description of drilling unit _____

Location of proposed well (Must agree with Surveyor's Plat) 500' ESL & 1040' FEL of Sec 20

Section 20 Township 17-South Range 21-West

County Columbia Field wildcat

Distance and direction from the nearest town Magnolia, Ark.

Distance from proposed location to nearest drilling, completed or applied for well _____

Rotary or cable tools Rotary Date work will start November 1, 1980

Name of drilling or workover contractor Vista Drilling Company, Inc.

Depth to be drilled 8500'

Formation you propose to complete in Smackover

Remarks: _____

RECEIVED

OCT 23 1980

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

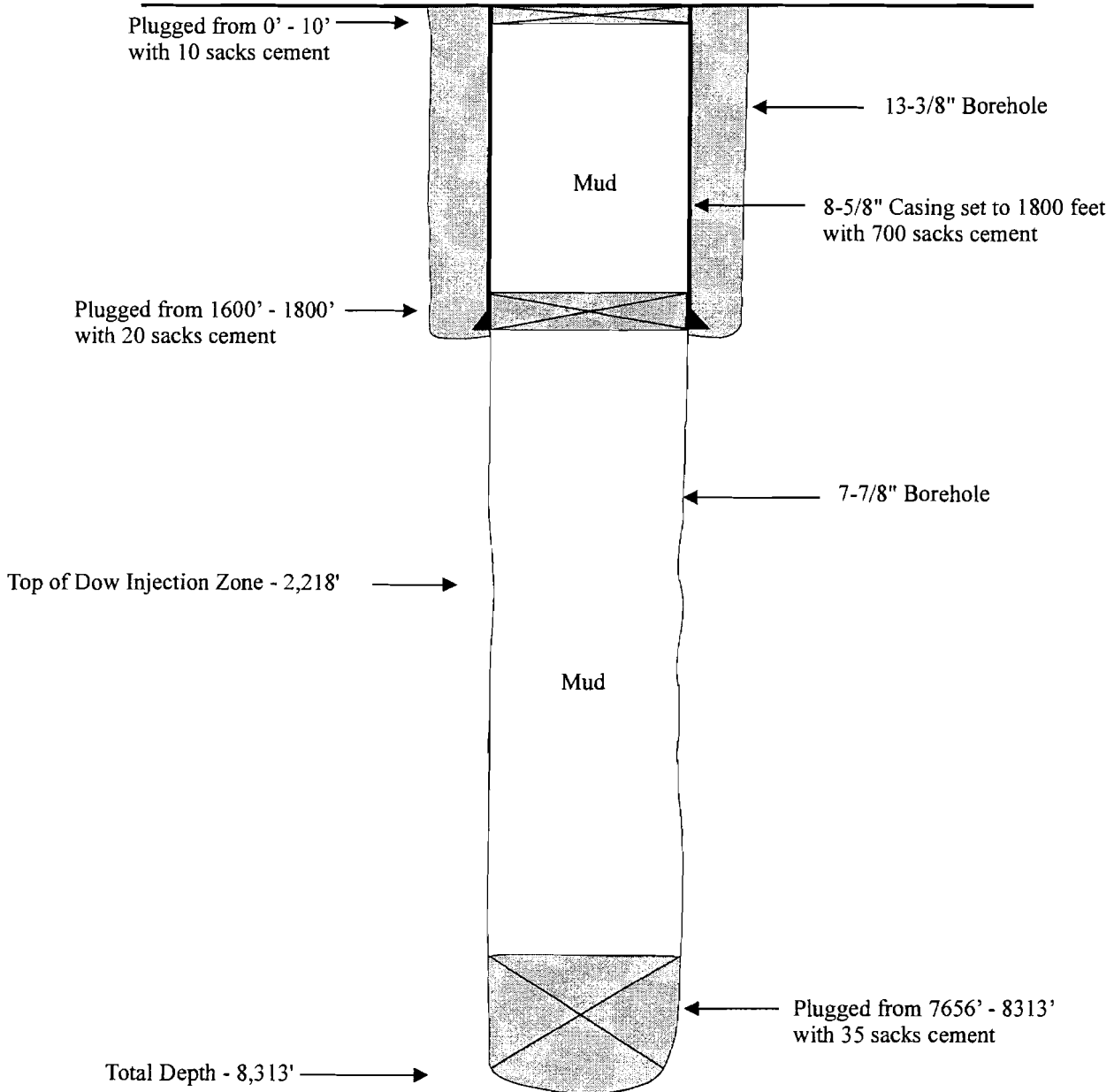
I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

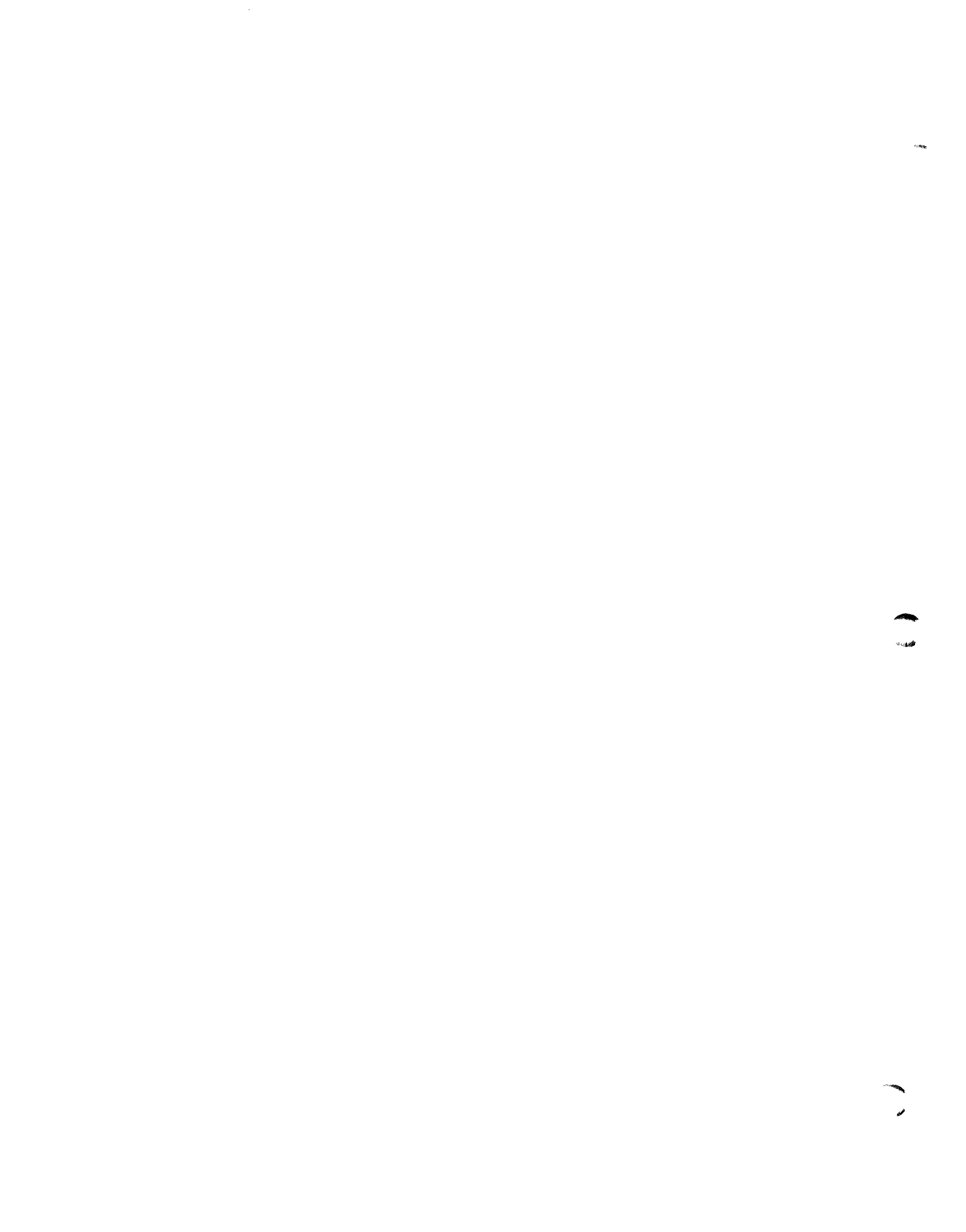
[Signature]

LF
MIT
K

Map ID No. - 46
Operator - Clements Energy, Inc.
Field - Wildcat
Well No. - 1
Sec. 20, T-17-S, R-21-W
Completion Date - 2/4/81

API No. - 03-027-10855
Serial No. - 26681
Lease - D & D
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 2/4/81





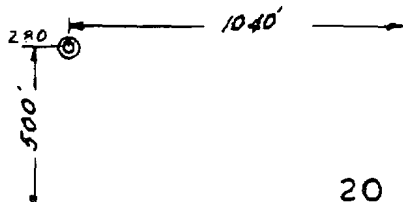
R 21 W

F. W. SCUTER

A. H. KITCHENS

CAMERON DODSON

DONALD SCANTLAND



A.G.G.

20 21
27 28

LOIS K. DEAN ETAL

SHELTON CAMP

T
17
S

WELL LOCATION PLAT

OPERATOR CLEMENTS ENERGY, INC.

WELL NAME DODSON NO. 1

LOCATION 500' FROM SOUTH LINE AND 1,040' FROM EAST LINE OF SECTION 20,
TOWNSHIP 17 SOUTH, RANGE 2 WEST, COLUMBIA COUNTY, AR

The location shown hereon was staked from a ground survey made 9/25/80 19

Bill F. Crisp

R.L.S. 454

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

Scale 1" = 600'

26681

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Columbia Wildcat Name of Operator Clements Energy, Inc.
 Pool Completed In _____
 Lease Name D & D No. 1 Address: Street 3031 NW 64th St
 Exact Location 500' FSI & 1040 FEL
 City Oklahoma City
 Sec. 20 Twp. 17S Rge. 21W
 County Columbia State Oklahoma
 Date Commenced 01-10-81
 Date Completed 02-04-81
 Elevation 270.1
 Total Depth Drilled 8313
 Electric Log Run: Yes No _____
 Electric Log Filed: Yes No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 16" 60# set at 40 ft. w/ 8 yards sks.
 Surface: (Size & Wt.) 8 5/8 24# set at 1800 ft. w/ 700 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: _____

Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well _____
 2. Tank battery to which this well is connected: Existing _____
 3. Liquid production from this well is sold to (_____)
 (Address _____)
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

RECEIVED

APR 28 1981

ARKANSAS OIL & GAS COMMISSION

PRODUCTION

Date of Test _____ Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS: PLUG AND ABANDON

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

11981

AOGC-11-(56)

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 26681

Date 2 26-81

**File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders**

Operator Clements Energy

Field Wildcat

County Columbia

Operator's Address: Street Box 20500

City Oklahoma City,

State OK 73156

Lease Name D & D Well No. 1

Location 500' FSL 7 1040' FEL

Section 20 Township 175 Range 21W

Character of well (Oil, Gas or Dry) Dry

Date you wish to plug Will Call

Total Depth of Well 8323

Name of party plugging well Halliburton & Pritchard Engineering

Address: Street 1805 Beck Building

City Shreveport, La

State LA 71101

AOGC-2(56) filed by _____ Date filed _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED

MAR 2 1981

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator Clements Energy, Inc Field Columbia - Wildcat

Address all correspondence concerning this Pool _____

form to: Clements Energy, Inc County Columbia

Street 3031 NW 64th City Oklahoma City State OK

Lease D & D Well No. 1 Sec. 20 Twp. 17S Rge. 21W

Date well was plugged 02-04-81 Total Depth of well 8313

Was well filled with mud-laden fluid, according to regulations of the Commission? yes

How much mud applied? Hole Full Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount

cement and rock 8313 - 7656 35 sacks 1800-1600 20 sacks, 10 - 0 10 sacks

Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
8 5/8	0		1800	

RECEIVED

APR 28 1981

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Handwritten Signature]

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator CLEMENTS ENERGY Field WILDCAT
 Address all correspondence concerning this Pool DRY
 form to: PRITCHARD ENGR County COLUMBIA
 Street 1805 Beck Bldg City Shreveport State LA 71101
 Lease P 12 Well No. 21 Sec 20 Twp. 17S Rge. 21W
 Date well was plugged 4-3-81 Total Depth of well 8600
 Was well filled with mud-laden fluid, according to regulations of the Commission? yes
 How much mud applied? _____ Were plugs used? yes If so, show all shoulders
 for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of
 cement and rock plug @ 7756-7766 - 355x5 343-443 - 405x5
0-30' 105x5
 Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
	<i>None</i>			

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

James A. Hendley

Columbia County

Arkansas

Clements Energy, Inc 1 D&D
Wildcat, 20-175-21W

WF

Well: CLEMENTS ENERGY, INC
Loc'n: 1 D&D API 03-027-10855

Result: D&A

Sec 20-17S-21W 500 FSL, 1040 FEL, 2 3/4 mi SW/Magnolia, 2 mi S/Kilgore
Lodge Fld

Spud: 1-9-81; Comp: 2-10-81; Elev: 237 Grd, 251 DF, 252 KB; TD: 8325; C/Vista
Drig Co

Casing: 8 5/8 @ 1232

Comp Info: TD 8325, ran logs

Tops: No Info

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Petroleum Information.

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 5-19-81

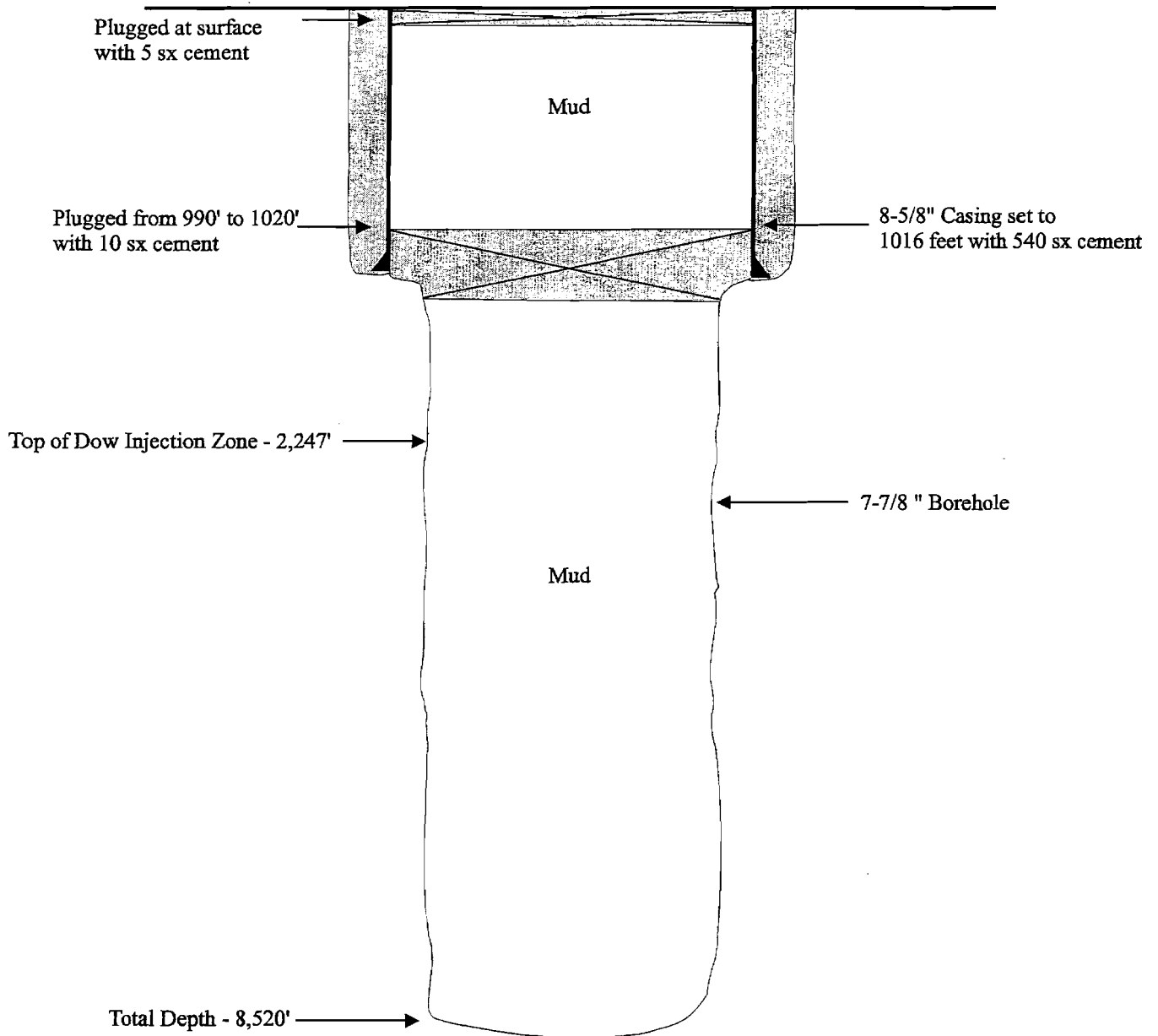
Card No.

2 Ark.

Map ID No. 49

Map ID No. - 49
Operator - J. D. Thrasher et al
Field - Wildcat
Well No. - 1
Sec. 19, R-17-S, T-21-W
Completion Date - 4/4/60

API No. - 03-027-00981
Serial No. - 17,093
Lease - J. A. W. Souter
Type - Dry Hole
Status - Plugged
County - Columbia
Date Plugged - 4/4/60



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing



NO. C-IE-51246-M

NP-10 (6)

ORZA RS 1059

SCHLUMBERGER WELL SURVEYING CORPORATION
HOUSTON, TEXAS



Induction - Electrical Log

COUNTY FIELD or LOCATION WELL COMPANY	COLUMBIA	COMPANY	J.D. THRASHER ET AL	Other Surveys	MLC-CST
	WILDCAT	WELL	# 1 J.A.W. SOUTER	Location of Well	200' N OF C SW NW SEC. 19-17S-21W
	SEC. 19-17S-21W	FIELD	WILDCAT	Elevation: D.F. 285.85 K.B. 286.40 or G.L. 276.3	
	# 1 J.A.W. SOUTER	LOCATION	SEC. 19-17S-21W	FILING No.	
		COUNTY	COLUMBIA		
		STATE	ARKANSAS		

RUN No.	ONE								
Date	4-3-60								
First Reading	8520								
Last Reading	1016								
Feet Measured	7504								
Csg. Schlum.	1016								
Csg. Driller	1016								
Depth Reached	8521								
Bottom Driller	8510								
Depth Datum	K.B. OR 10.20' ABOVE B.H.								
Mud Nat.	C.S.-GEL-DRIS.- 7% OIL								
Dens. Visc.	10.3 42								
Mud Resist.	0.85 @ 86 °F	@	°F	@	°F	@	°F	@	°F
Res. BHT	0.40 @ 182 °F	@	°F	@	°F	@	°F	@	°F
Rmf (M)	0.27 @ 182 °F	@	°F	@	°F	@	°F	@	°F
Rmc (M)	0.81 @ 182 °F	@	°F	@	°F	@	°F	@	°F
pH	11.5 @ °F	@	°F	@	°F	@	°F	@	°F
Wtr. Loss	12.8 CC 30 min.	CC 30 min.		CC 30 min.		CC 30 min.		CC 30 min.	
Bit Size	7 7/8"								
Spchs.-AM	16"								
IND.	6FF40								
MN	34'6"								
Opr. Rig Time	2 HRS.								
Truck No.	1579-SVPT.								
Recorded By	J. JONES-D. JONES								
Witness	THRASHER-LEES-HEAD-MAY-CHAPMAN								

REMARKS NO C.D. USED S.O.-O CIRCULATED MUD SAMPLE.

Cartridge No. ILC-D-459
Panel No. IRP-E-317
Sonde No. IRS-K-27
LAP-D-XT4
SBR=1

COMPLETION RECORD

SPUD DATE _____ COMPLETION DATE _____

CASING RECORD _____

IP _____

GOR _____ GR _____

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 17,093

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date February 24, 19 60

Name of Operator J. D. Thrasher et al

Send Permit to: Street 1602 Beck Building

City Shreveport

State Louisiana

Lease Name J. A. W. Souter Well No. 1

Acres in lease 20

Number of acres in and description of drilling unit 3/4 NW 1/4

Location of proposed well in drilling unit (give in feet) 200' N of Center S 1/2 E 1/4 NW 1/4

Section 19 Township 17 Range 21

County Columbia Field Kilgore Lodge W. E.

Distance and direction from the nearest town 4 1/2 miles SW Magnolia, Ark.

Distance from proposed location to nearest drilling, completed or applied for well 1 1/2 mile to dry hole

Rotary or cable tools rotary Date work will start At once

Name of drilling or workover contractor Thrasher Drilling Co., Inc.

Depth to be drilled 8500

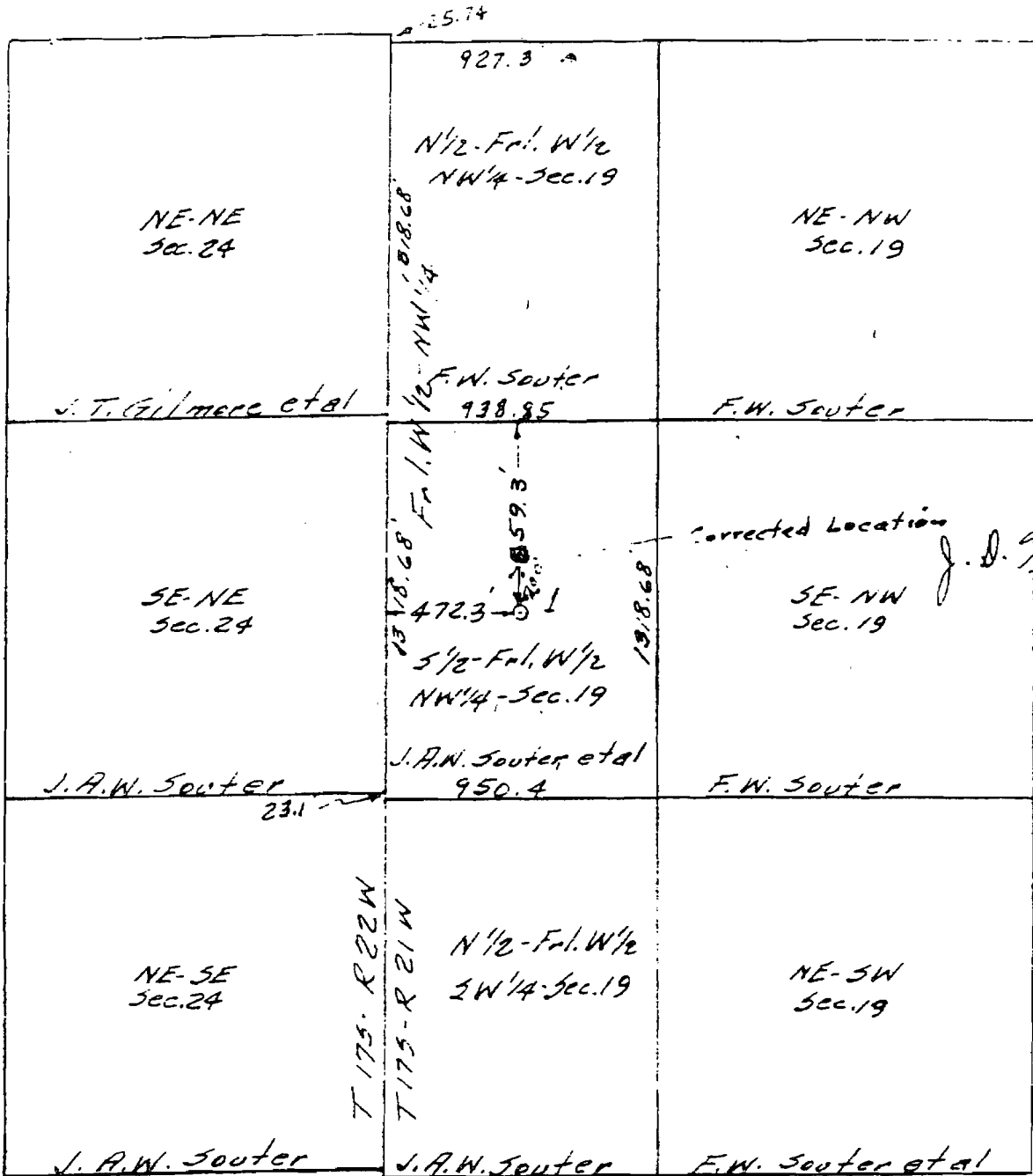
Formation you propose to complete in Smackover Lime

Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J. D. Thrasher



PLAT SHOWING LOCATION

SCALE - 1" EQUALS 600'

WELL J. A. W. Souter No. 1
 LOCATION Center of South 1/2 of Fractional W 1/2 of NW 1/4 of Sec. 19 - T 175 - R 21W - Columbia County, Arkansas.
 FOR J. D. Thrasher

CERTIFICATE:

THIS PLAT WAS PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND.

DATE: Feb. 23, 1960

BY C. Wesley Williams
 LAND SURVEYOR

MAGNOLIA BLUEPRINT CO.
 202 N. JACKSON ST.
 MAGNOLIA, ARKANSAS

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

RECEIVED

Well Completion and Recompletion Report

APR 6 1960

(Instructions: See Reverse Side)

Arkansas Oil & Gas Commission

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field W.C. Producer J.D. Tarnesner et al
 Pool Completed In Dry
 Lease Name J.A.W. Souter #1 No. 1 Address: Street 1602 Beck Building
 Exact Location 200' N C S₂ Prl. W₂ NW City Shreveport, Louisiana
 Sec. 19 Twp. 17 Rge. 21 State _____
 County Columbia
 Date Commenced 3-6-60
 Date Completed 4-4-60
 Elevation 286DF
 Total Depth Drilled 850
 Electric Log Run: Yes No _____
 Electric Log Filed: Yes No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 8 5/8 24# set at 2015 ft. w/ 5.0 pos mix sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) _____ None set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: _____ None - Dry Hole
 Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing _____ New _____
 3. Liquid production from this well is sold to (_____
 (Address _____
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION DATA

Date of Test Dry Hole Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

AOGC-11-(56)

RECEIVED

APR 6 1960

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars) **Arkansas Oil & Gas Commission**Serial No. 17093Date April 4, 1960

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator J.D. Thrasher et al
 Field W.C.
 County Columbia
 Operator's Address: Street 1602 Beck building
 City Shreveport
 State Louisiana
 Lease Name J .W.W. Souter Well No. 1
 Location 200' N C 9 $\frac{1}{2}$ Fr1.W $\frac{1}{2}$ NW
 Section 19 Township 17 Range 21
 Character of well (Oil, Gas or Dry) Dry
 Date you wish to plug 4/4/60
 Total Depth of Well 8520
 Name of party plugging well Halliburton
 Address: Street _____
 City Magnolia
 State Arkansas
 AOGC-2(56) filed by W.M. Arnold Date filed 4/4/60

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

W. M. Arnold

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

RECEIVED

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

APR 6 1960

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.

Arkansas Oil & Gas Commission

Operator J. D. Thrasher et al Field W. C.

Address all correspondence concerning this Pool Smackover

form to: J. D. Thrasher County Columbia

Street 1602 Beck Bldg. City Shreveport State Louisiana

Lease J. A. W. Souter Well No. 1 Sec. 19 Twp. 17 Rge. 21

Date well was plugged 4/4/60 Total Depth of well 8520

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? _____ Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement

and rock Set plugs 1020-990 w/10sks common cement; @ top w/5sks cement.

Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
8 5/8	None		1016'	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

J. D. Thrasher

Columbia County Arkansas Thrasher #1 Souter
Outpost-Kilgore Lodge Fld., 19-17S-21W
Well: J. D. Thrasher et al #1 J. A. W. Souter Result: D&A
Loc'n: Sec 19-17S-21W, 200' N of C frac SW NW, 2 mi SW/Kilgore Lodge disc. (abnd), 4 mi
W-SW/Magnolia

Spud: 3-6-60 Comp: 4-4-60 Elev: 286' KB TD: 8520'
C/Thrasher Drig, Co., Inc.

Casing: 8 5/8" 1016'/540 xx

Prod Zone: None

IP: None

Comp Info: Crd 8370-89', rec li, por w/sli H₂S odor, no test; drld to 8510', ran EL to
TD 8520', 20 SWS 2775-8355', rec NS

Tops: (Elec Log) Nac 1881', Sara 2239', B/An 2570', Tokio 2861', L/Cret 3391', MA
3841-4019', Jas 4518', Sligo 4821', Hoss 4949', CV 6238', Buckner 8210', Smk 8345'

See Appendix
OIL REPORTS

Date: 4-15-60

Card No.: 3 Ark.

Map ID No. 50

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. Brine Disposal

9-16-68 ✓

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date August 8, 1968

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name J. O. DeLoach Well No. 1

Acres in lease 202 Acres (Two Leases)

Number of acres in and description of drilling unit 40 acres being

NW-1/4 NW-1/4 Sec. 24, T-17-S, R-22-W

Location of proposed well in drilling unit (give in feet) 330' South and

330' West of NE Corner of NW 1/4 NW 1/4

Section 24 Township 17-S Range 22-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 6 miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1.7 miles

Rotary or cable tools Rotary Date work will start Not known at Present

Name of drilling or workover contractor Not known at present

Depth to be drilled 8,500'

Formation you propose to complete in Smackover Lime

Remarks: Oil & Gas production is not contemplated from this well.

It is located for brine disposal.

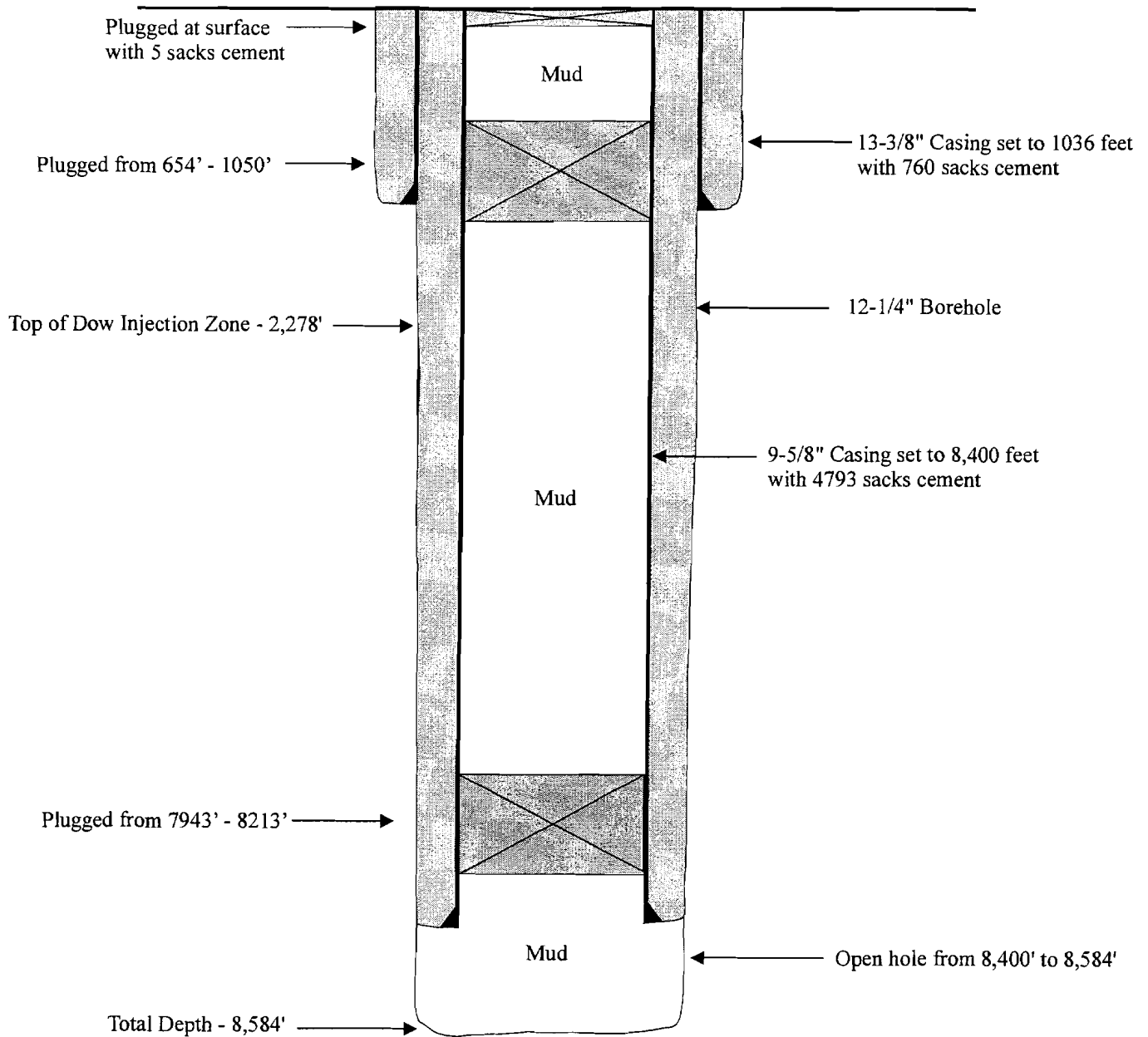
CERTIFICATE

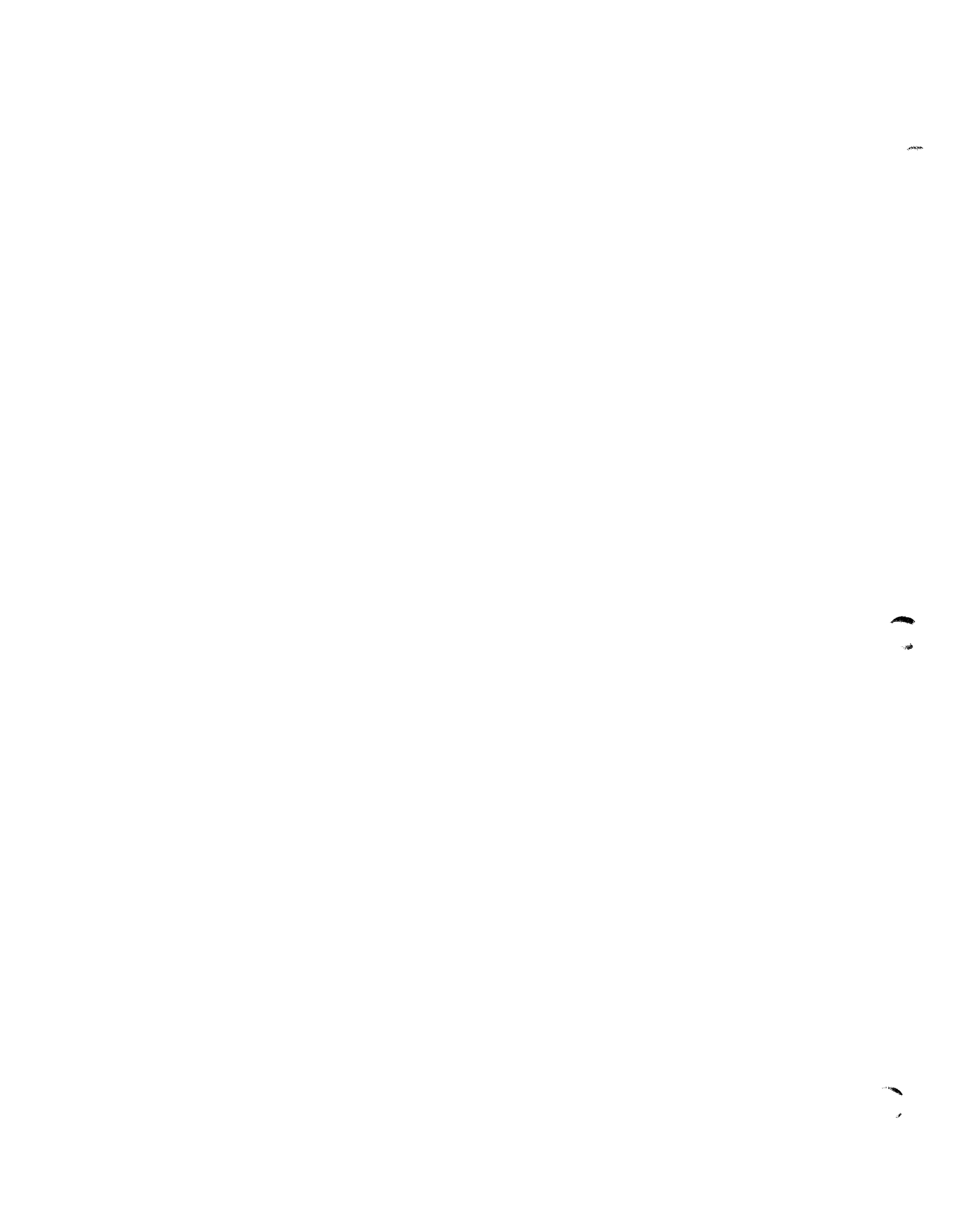
I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

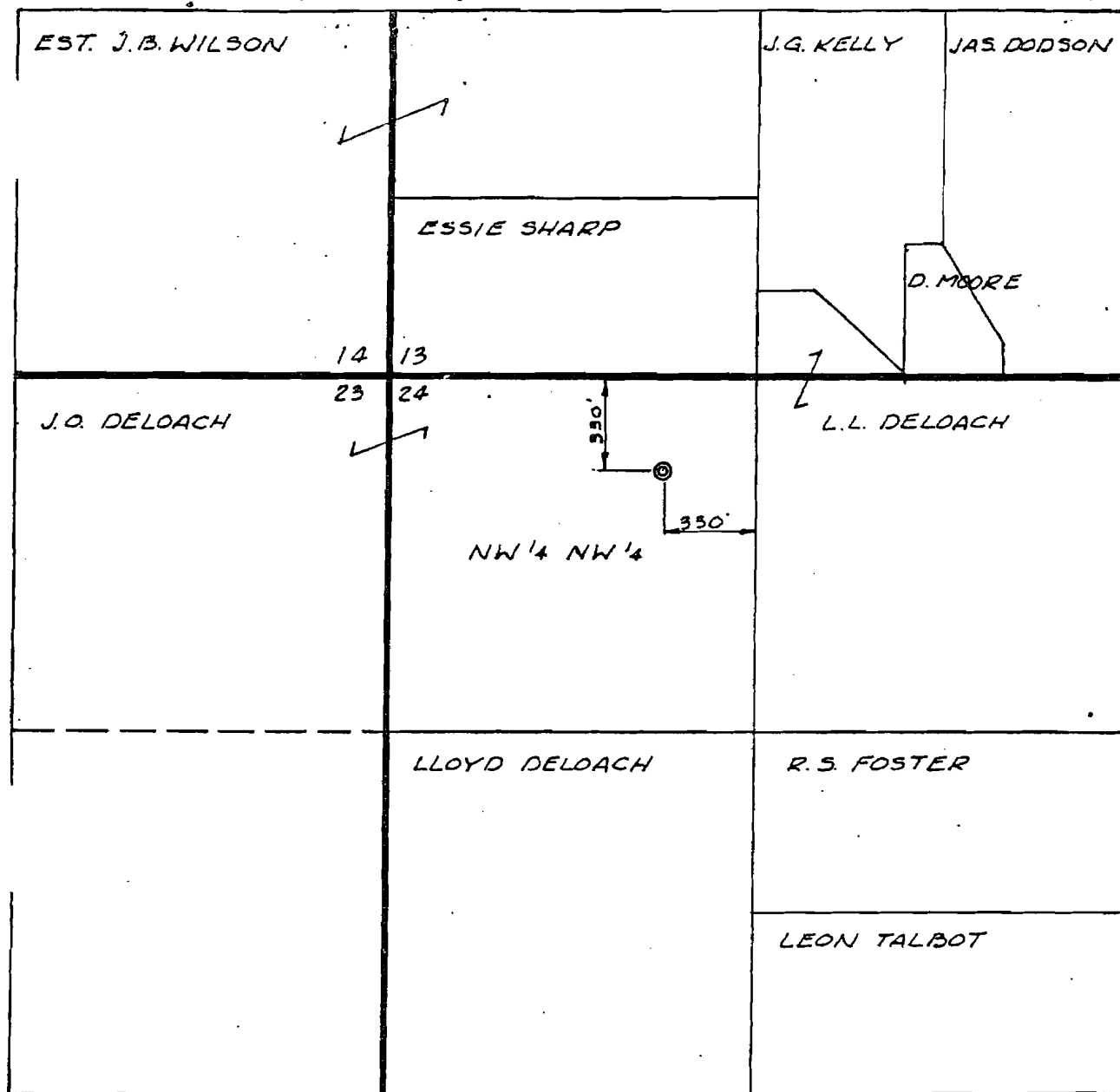
R. D. [Signature]

Map ID No. - 50
Operator - Dow Chemical Company
Field - Kilgore Lodge
Well No. - 1
Sec. 24, T-17-S, R-21-W
Completion Date - 10/2/70

API No. - 03-027-10858
Serial No. - 21539
Lease - J. O. DeLoach
Type - Class V Injection
Status - Plugged
County - Columbia
Date Plugged - 6/26/83







LOCATION PLAT

WELL NAME J.O. DELOACH NO. 1 BRINE DISPOSAL WELL

LOCATION 330' FROM THE NORTH LINE & 330' FROM THE EAST LINE OF THE NW 1/4 NW 1/4 SEC. 24, T.17-S, R-22-W, COLUMBIA COUNTY, ARK.

OPERATOR DOW CHEMICAL CO., MAGNOLIA, ARK.

THE LOCATION SHOWN HEREON WAS STAKED FROM A GROUND SURVEY MADE JULY 31, 1968

W. F. Gates

CRISP & GATES
SECURITIES BLDG.
MAGNOLIA, ARK.

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21539

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date Jan. 10, 1970

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia,

State Arkansas 71753

Lease Name J. O. DeLoach (SUD) Well No. 1

Acres in lease 202 acres (Two leases)

Number of acres in and description of drilling unit 40 acres being
NW 1/4 NW 1/4 Sec. 24, T17S, R22W

Location of proposed well (Must agree with Surveyor's Plat) 330' South and
330' West of NE Corner of NW 1/4 NW 1/4

Section 24 Township 17S Range 22W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 6 miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1.7 miles

Rotary or cable tools Rotary Date work will start No known at Present

Name of drilling or workover contractor ~~Not known at present~~ Noble Drdg. Co.
8,500'

Depth to be drilled

Formation you propose to complete in Smackover Lime

Remarks: Oil & Gas production is not contemplated from this well.

It is located for brine disposal

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. M. Johnson

LF

21539

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

D. W.

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In Slickway Line
 Lease Name J. O. DeLoach (SKD) No. 1 Address: Street Box 520
 Exact Location 330' S 330' W of
NEc NW 1/4 NW 1/4 City Magnolia
 Sec. 24 Twp. 17 S Rge. 22W State Arkansas
 County Columbia
 Date Commenced 3/10/70
 Date Completed 10/2/70
 Elevation 313 ft.
 Total Depth Drilled 8584 *Some of this is 7 1/2"*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No Enclosed

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" x 5/16 set at 40 ft. w/ 6 yds. sk.
 Surface: (Size & Wt.) 13 3/8", 48# set at 1036 ft. w/ 760 sk.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sk.
 Production: (Size & Wt.) 9 5/8", 40#, 435#, 47# set at 8400 ft. w/ 4793 sk.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: none *Open Hole 8400' - 8584'*
 Acidized: Yes No ; Interval 8420-8540 w/ 10000 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing pipeline New _____
 3. Liquid production from this well is sold to (_____ none (SKD) _____
 (Address _____)
 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test not applicable Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

RECEIVED

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

OCT 14 1970

R. V. ...
ARKANSAS OIL & GAS COMMISSION

COMMISSIONERS:

DON D. MONTGOMERY
EL DORADO

W. T. MURPHY, JR.
TEXARKANA

ARTSILL RAGON
FORT SMITH



COMMISSIONERS:

R. K. ROGERS
FORT SMITH

JACK L. TURNER
EL DORADO

RALPH C. WEISER
MAGNOLIA

ARKANSAS OIL AND GAS COMMISSION
314 EAST OAK STREET
EL DORADO, ARKANSAS 71730

September 16, 1968

The Dow Chemical Company
P. O. Box 520
Magnolia, Arkansas 71753

Attention: Mr. R. O. Vinson

Gentlemen:

Reference is made to your application of September 16, 1968, for permission to dispose of salt water produced from your I. L. Ford No. 1 and the M. D. Woodward No. 1 and 2 wells into your J. C. DeLoach No. 1 SWD well, Sec. 24, T. 17S, R. 22W, Kilgore Lodge Field, Columbia County, Arkansas.

This letter will be your authority to conduct the operations covered by your application. Your attention is directed to the necessity of securing compliance with the provisions of Rule C-7, Section E, which is found on page 19 of the General Rules and Regulations.

It is requested that upon completion of this system, that this Department be notified for inspection purposes.

I trust that this letter will serve your purpose and if I can be of any further assistance, please advise.

Yours very truly,

W. E. Wright
Geologist

WEW:vsg

cc: Arkansas Pollution Control Commission
Mr. J. W. Floyd - 1602 E. Main
El Dorado, Arkansas 71730

(4-68)(300)

ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

SWD-1

APPLICATION TO DISPOSE OF SALT WATER

OPERATOR The Dow Chemical Company FIELD Kilgore Lodge
ADDRESS P. O. Box 520 Magnolia STATE Arkansas
Street City

1. Application is hereby made to dispose of produced salt water in the section 8,200 to 8,500 by injecting said (Depth) (Depth)

water into the J. O. DeLoach No. 1 (Name of Well)

Sec. 24, Twp. 17-S, Rge. 22-W, Smackover pool. (Injection Formation)

Exact Location 330' S 330' W NEC, NW-1/4 NW-1/4 Elevation Approx. 300'
Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I. None

4. Only water produced from Wells listed below will be injected into the disposal well:

<u>Well Names and Numbers</u>	<u>Location: Sec.</u>	<u>T.</u>	<u>R.</u>
I. L. Ford No. 1		17-S	22-W
M. D. Woodward No. 1		17-S	22-W
M. D. Woodward No. 2		17-S	22-W

RECEIVED
12

SEP 16 1968

ARKANSAS OIL & GAS COMMISSION

(Used by The Dow Chemical Company only)

Pipeline Purchaser/s by Leases Address

5. The proposed disposal well is cased and cemented as follows:

Size 13-3/8 Surface 1,000 feet cemented with 500 Sacks.

Size 9-5/8 Production 8,500 feet cemented with 2,500 Sacks.

6. The estimated minimum and maximum amounts of water to be injected are

8,500 to 43,000 barrels water per day. respectively.

7. Upon commencement of operation, I will notify the Commission of the same.

8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.

9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from (Not Applicable) (Where) Arkansas, on _____ (Date).

NAME OF OPERATOR	ADDRESS
None	

I, R. O. Vinson, an employee of ~~the~~ The Dow Chemical Company X Oil Company, do certify that the information

presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete. /

Signed: R. O. Vinson

Note:

If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.

(4-68) (300)

ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

SWD-1

APPLICATION TO DISPOSE OF SALT WATER

OPERATOR The Dow Chemical Company FIELD Kilgore Lodge
ADDRESS Box 520 Magnolia STATE Arkansas
Street City

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water into the J. O. DeLoach No. 1 (Name of Well)

Sec. 24, Twp. 17S, Rge. 21W, Smackover pool. (Injection Formation)

Exact Location 330' S 330'W NEC, NW¼ NW¼ Elevation Approx. 300'
Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.

4. Only water produced from Wells listed below will be injected into the disposal well:

Well Names and Numbers Location: Sec. T. R.

The injected water will be from the effluent of an elemental chemical recovery plant.

RECEIVED

JAN 29 1970

(Used by The Dow Chemical Company only)

Box 520, Magnolia, Arkansas 71753

Pipeline Purchase ~~ARKANSAS OIL AND GAS COMMISSION~~

Address

5. The proposed disposal well is cased and cemented as follows:

Size 13-3/8 Surface 1,000 feet cemented with 500 Sacks.

Size 8-3/8 Production 8,500 feet cemented with 2,500 Sacks.

6. The estimated minimum and maximum amounts of water to be injected are 16,000 to 43,000 barrels water per day. respectively.

7. Upon commencement of operation, I will notify the Commission of the same.

8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.

9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from _____ (Where) Arkansas, on _____ (Date).

NAME OF OPERATOR ADDRESS

I, M. M. Sorenson, an employee of the The Dow Chemical Company (Name of Company) Oil Company, do certify that the information

presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: M. M. Sorenson

Note:

If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.

January 23, 1970

The Dow Chemical Company
P. O. Box 520
Magnolia, Arkansas 71753

Attention: Mr. M. M. Sorenson

Gentlemen:

We are returning your application for disposal into the J. O. DeLoach No. 1 well, Sec. 24, T178, R22W, in order that some amendments may be made to the application. We believe item #4 should be listed as changed on the application and possibly item #6 possibly should be changed with respect to the minimum and maximum barrels of water per day that might be injected into this well.

Should you have any questions regarding this matter, please feel free to contact us.

Yours very truly,

W. E. Wright
Geologist

WEW:crt



THE DOW CHEMICAL COMPANY

P. O. BOX 520
PHONE 501 234-2677
MAGNOLIA, ARKANSAS 71753

January 15, 1970

Arkansas Oil & Gas Commission
314 East Oak Street
El Dorado, Arkansas 71730

Gentlemen:

Enclosed is an application to dispose of salt water for the J. O. DeLoach No. 1 well located in Sec. 24, T-17, R-22W, Columbia County, Arkansas. The application to drill this well and the M. D. Woodward are also attached. The M. D. Woodward No. 1 is a brine supply well.

The casing program for this disposal is somewhat different than we have used in the past. We expect to case this well with 8,500 feet of plastic pipe. This will probably be the first instance in which plastic pipe has been set to this date.

Very truly yours,

A handwritten signature in cursive script, appearing to read "M. M. Sorenson".

M. M. Sorenson
Supt. of Operations

na
Encls.

RECEIVED

JAN 15 1970

ARKANSAS OIL & GAS COMMISSION

January 14, 1976

Mr. B. G. Cozart
Dow Chemical U.S.A.
P. O. Box 520
Magnolia, Arkansas 71753

Gentlemen:

Reference is made to your letter of January 9, 1976, concerning the disposal of approximately five barrels of brine solution of NaOH, NaCl and NaBr of approximately 8.5 pH.

Please consider this letter as your authority to inject into the existing and future tail brine disposal wells as approved by the Arkansas Oil and Gas Commission.

Only the above mentioned and requested chemicals may be injected along with the normal disposal of tail brine.

Yours very truly,

W. E. Wright,
Geologist

WEW:ms

cc: Arkansas Pollution Control Commission
P. O. Box 851
El Dorado, Arkansas



DOW CHEMICAL U.S.A.

POST OFFICE BOX 620
MAGNOLIA, ARKANSAS 71763

January 9, 1976

501-234-2877

RECEIVED

JAN 12 1976

Arkansas Oil & Gas Commission
Oil & Gas Commission Building
El Dorado, Arkansas 71730

ARKANSAS OIL & GAS COMMISSION

Dear Sir:

This letter is to obtain necessary permission from the Arkansas Oil and Gas Commission to use our existing and future salt water disposal wells and systems to dispose of approximately 206 gallons (4.9 barrels) a day of a brine solution that 2-1% NaOH combined with NaCl and NaBr solution. The solution will be about 8.5pH and results from a scrubber liquid that will prevent atmospheric emissions on a FUMAZONE manufacturing process. The solution will be mixed with the debrominated brine from the Bromine plant and pumped to the disposal wells and into the Smackover formation.

A permit application has been sent to the State of Arkansas, Department of Pollution Control & Ecology to dispose of this solution in this manner. There will be no discharge to surface water.

Yours truly,

B. G. Cozart
Plant Services Supervisor

dt

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 21539

Date 5/24/73

**File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders**

Operator Dow Chemical USA

Field Kilgore Lodge

County Columbia

Operator's Address: Street _____

City Magnolia

State Arkansas 71753

Lease Name DeLoach Well No. 1

Location 330' S and 330' W of NE Corner, NW $\frac{1}{4}$ NW $\frac{1}{4}$

Section 24 Township 17S Range 22W

Character of well (Oil, Gas or Dry) SWD

Date you wish to plug 6/10/83

Total Depth of Well 8,584'

Name of party plugging well Dow Chemical, USA

Address: Street _____

City Magnolia, Arkansas 71753

State _____

AOGC-2(56) filed by _____ Date filed _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED
JUN 02 1983

ARKANSAS OIL & GAS COMMISSION

James O. Ball
R. H. C. DeLoach

BR
Y-J
MB
MC
EM
AT

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.

Operator Dow Chemical USA Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover

form to: Dow Chemical USA County Columbia

Street (DeLoach) City Magnolia State Arkansas

Lease Leloach Well No. 1 SWD Sec. 24 Twp. 17S Rge. 22W

Date well was plugged June 26, 1983 Total Depth of well 8584

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Filled Were plugs used? used If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock cement plug 7943-8213 & 654-1050' 5 sk plug in top of 9/58

as notice given before plugging, to all available adjoining lease and land owners as required? Yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13 3/8	None Recovered		1036'	
9 5/8	None Recovered		8400'	

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED
JUL 20 1983

J. Ball Dow Chemical
Earl W. Lockett J & W Operators
Earl W. Lockett

ARKANSAS OIL AND GAS COMMISSION

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

COMPANY Dow Chemical Company WELL NAME & NO. 50. V.D. Deloach # 1 SWD
LOCATION 330's 330'w of ne Corner SEC. 24 TWP. 17 s RGE. 22 w
COUNTY Columbia FIELD Kilgore Lodge CONTRACTOR _____

CASING PROGRAM 20"-40' PERFORATIONS Open Hole - 8400-8584'
SURFACE 13-3-8 - 1036'
PRODUCTION 9-5-8 - 8400'
TUBING _____

PRODUCTION PLUG SET AT 8130'-8400' FEET, WITH 100 SKS cement WORK DONE BY _____
Dowell
E 6/27/83

WITNESSED BY Steve Klippert

FRESH WATER PLUG SET AT 654'-1050' FEET, WITH 100 SKS cement WORK DONE BY _____
Dowell

DATE 6/27/83

PLUGGED IN TOP OF SURFACE CASING WITH 5 SKS cement

WITNESSED BY Steve Klippert

REMARKS: Form 11 received 6/2/83

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well DeLoach No. 1 (Sec.) 24 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge Area

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
By Shirley Knight
No. 536

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
(Affiant)
Field Manager

Columbia County

Arkansas

Wildcat 23-17S-22W

W/E

Well: KILROY CO OF TEXAS Result: D&A
Loc'n: 1 DeLoach API 03-027-10858
Sec 23-17S-22W 2000 FNL, 500 FEL, 6 mi SW/Magnolia townsite, 3 mi SW/
Kilgore Lodge Fld
Spud: 11-11-80; Comp: 12-2-80; Elev: 326 DF; TD: 8610; C/Shuler Drlg
Casing: 8 5/8 @ 1250/500 sx
Comp Info: TD 8610, ran logs, Crd 8532-82, rec 48 ool lm, NS
Tops: (Elec Log) Smk 8532

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Petroleum Information.

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 1-13-81

Card No.

2 Ark.

PI/Dwights PLUS Online Summary Report
 Date: 5/1/2001
 Time: 2:15 PM

Well No. 50

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8584
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : J O DELOACH
Well Number    : 1                   Spud Date       : MAR 10, 1970
API Number     : 03027600150000      Comp Date       : OCT 01, 1970
Regulatory API :
Init Lahee Class : D                   Hole Direction  :
Final Lahee Class : U                   Reference Elevation:
Permit Number   : 21539              Ground Elevation :
Geologic Province : ARKLA BASIN              KB Elevation    :
Formation at TD : 553SMKV                SMACKOVER
Oldest Age Pen  : 553                UPPER JURASSIC
Township       : 17 S
Range          : 22 W
Base Meridian  : 5TH PRINCIPAL MRD
  
```

```

----- Additional Location Information -----
Footage Location : 330 FNL 330 FEL CONGRESS QTR QTR
Latitude         : 33.2553900        Latitude (Bot)  :
Longitude        : -93.3415000      Longitude (Bot) :
Lat./Long. Source : TB
  
```

```

----- Production Tests -----
Test   Top   Base   Top   Base   Choke   Oil   Prod   Test
Form   Form   Depth Depth   GORGrav Method Method
001   553SMKV 553SMKV 8400 8584
UNDESIGNATED
  
```

```

----- Production Volume -----
Test   Oil   Cond   Gas   Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
  
```

```

----- Production Perforation -----
Test   Top   Base   Type   Method   Top Form   Base Form   Status Count   Density   Per
001   8400 8584   OPENHOLE 553SMKV 553SMKV
  
```

```

----- Log Data -----
Run No   Log Type   Top   Base   Log   Max
01       EL
  
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 1036
9 5/8 IN 8400
  
```

Map ID No. 51

DOW CHEMICAL SHARP, AUDREY

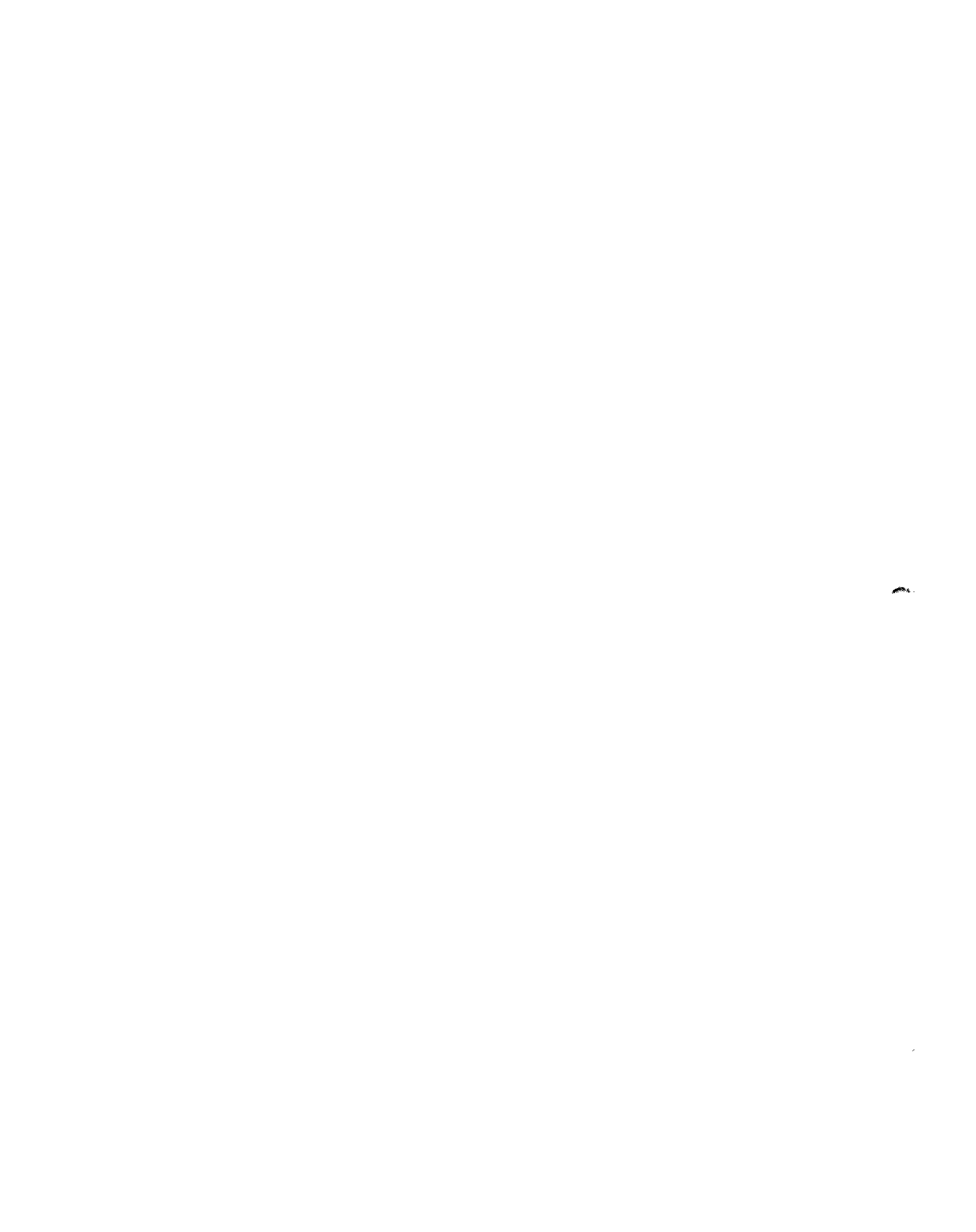
1

13-17S-22W DI-LL

cannot read

COUNTY: ... FIELD NO.: ... LOCATION: ...		COMPANY: THE ... THE		BEST COPY AVAILABLE 13-17S-22W
COUNTY: ... FIELD NO.: ... LOCATION: ...		COUNTY: ... FIELD NO.: ... LOCATION: ...		
RECEIVED				13-17S-22W DI-LL
...				
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...				

13-17S-22W
DI-LL



RECEIVED

Zach Company
 1000 West Broadway Street #1
 Los Angeles, CA 90015
 Phone: (213) 475-1111
 Fax: (213) 475-1112

DATE: 11/17/75
 TIME: 11:15 AM
 BY: J. J. [Signature]

CHARACTERISTICS OF APPROPRIATE LABORATORY CHANGES

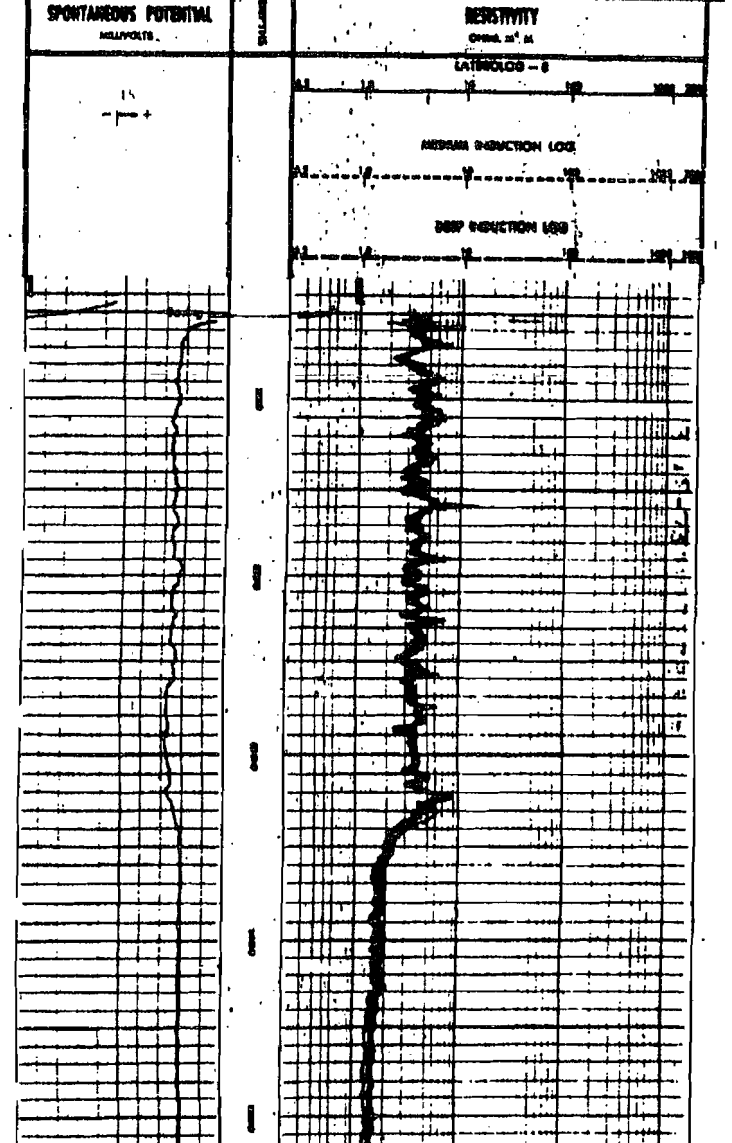
Item	Value	Unit	Scale	Scale by Note	Scale Error Note
App. Model No.					
App. Serial No.					
App. Type					
App. Location					
App. Operator					
App. Date					
App. Time					
App. Status					
App. Remarks					

09-027-15/75

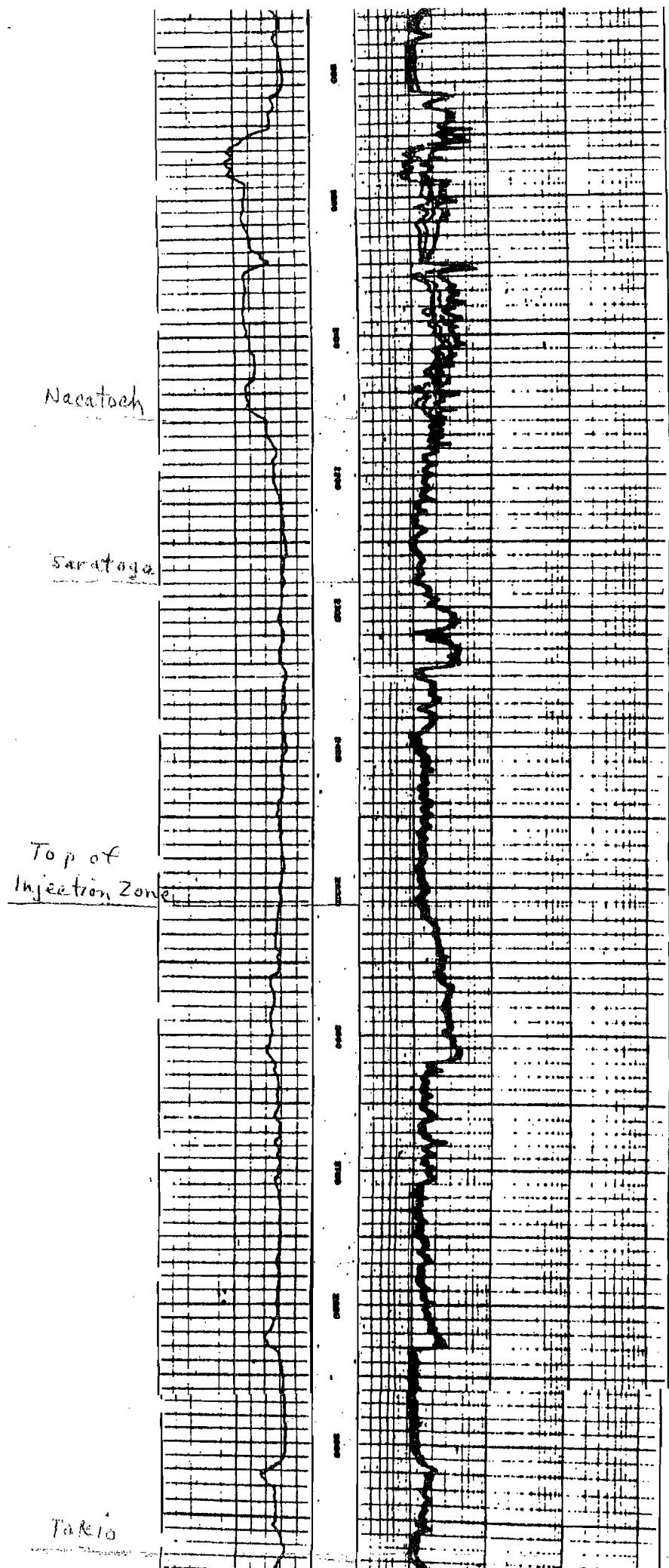
OPERATION DATA

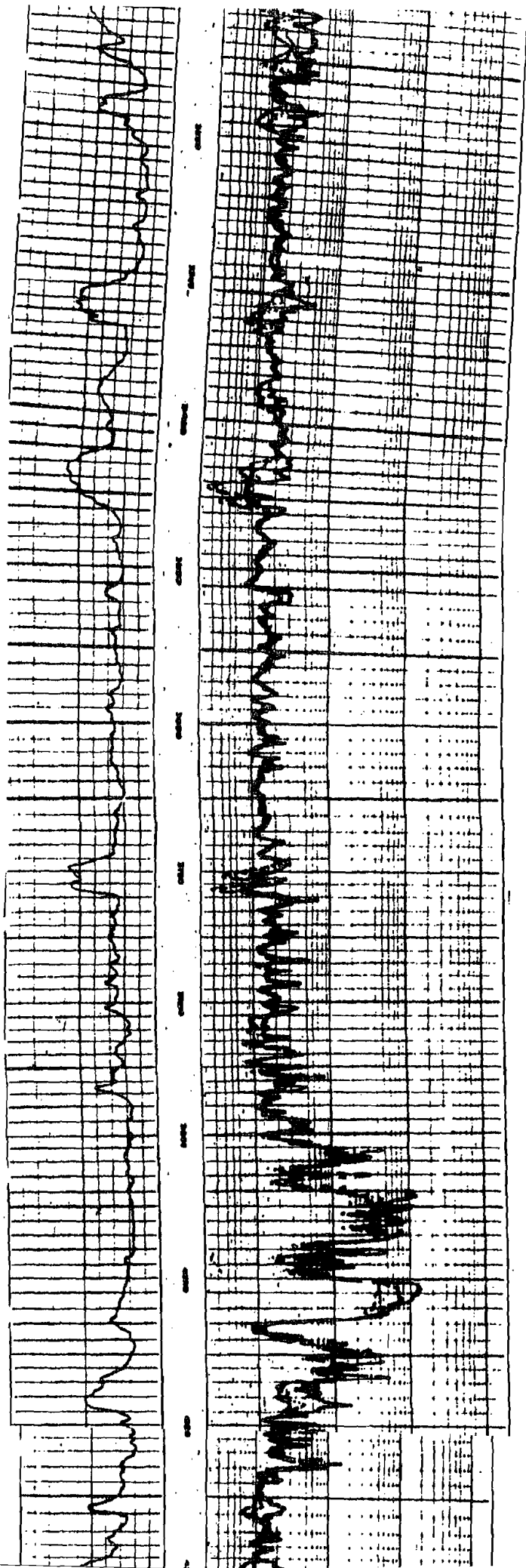
OPERATION	REASON	SOURCE	DATE	TIME	BY
BARRA BAY	CPA	CPA	11/17/75	11:15 AM	J. J.

All interpretations are opinions based on information from electrical or other measurements and are not guaranteed. The accuracy or completeness of any interpretation, and the effect of any error or omission of any part, is solely the responsibility of the user. No liability is assumed for any loss, damage or expense incurred or sustained by anyone relying on any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 7 of our Standard Terms and Conditions as set out in our current Price Schedule.

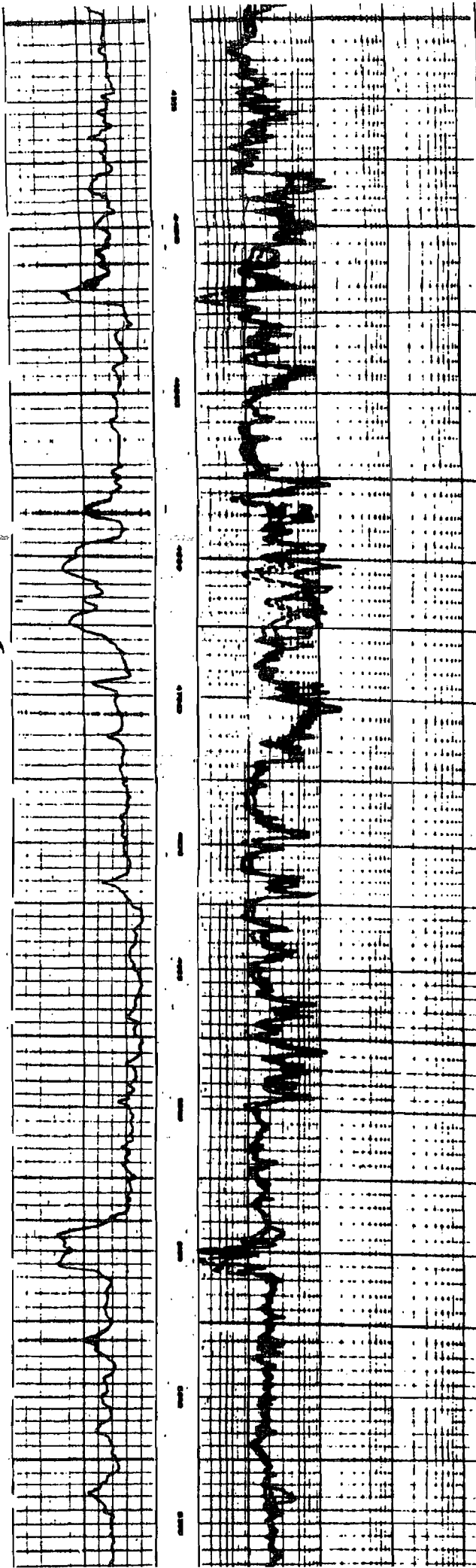






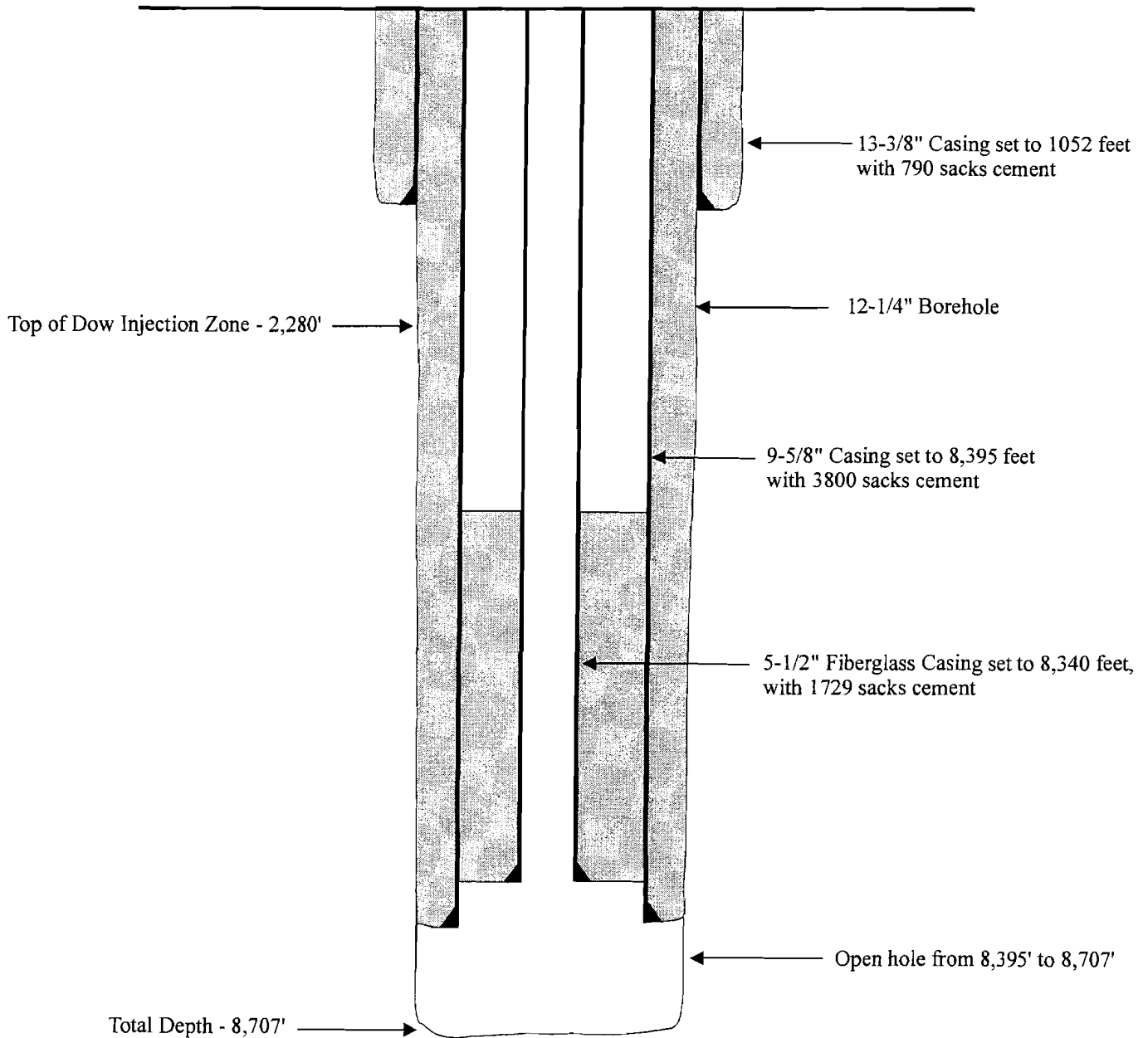


James



Map ID No. - 51
Operator - Dow Chemical Company
Field - Kilgore Lodge
Well No. - 1
Sec. 13, T-17-S, R-22-W
Completion Date - 3/9/73

API No. - 03-027-10177
Serial No. - 22669
Lease - Aubrey Sharp
Type - Class V Injection
Status - Active
County - Columbia
Date Plugged - na



1

2

3

03 027 10,177

Le Dewal

ARKANSAS OIL AND GAS COMMISSION 22,547
El Dorado, Arkansas

Serial No. 22669

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date January 29, 1973

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia, Arkansas 71753

State _____

Lease Name Aubrey Sharp Well No. No. 1

Acres in lease 40

Number of acres in and description of drilling unit No drilling unit established

Location of proposed well (Must agree with Surveyor's Plat) 488 feet north of south line and 400.70 feet west of the east line of the SW SW of

Section 13 Township 17 South Range 22 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 6 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well _____

This well is approximately 800 feet north of the Dow No. 1 J. O. DeLoach SW D

Rotary or cable tools Rotary Date work will start February, 1973

Name of drilling or workover contractor Noble Drilling Co.

Depth to be drilled 8700 feet

Formation you propose to complete in Smackover Limestone

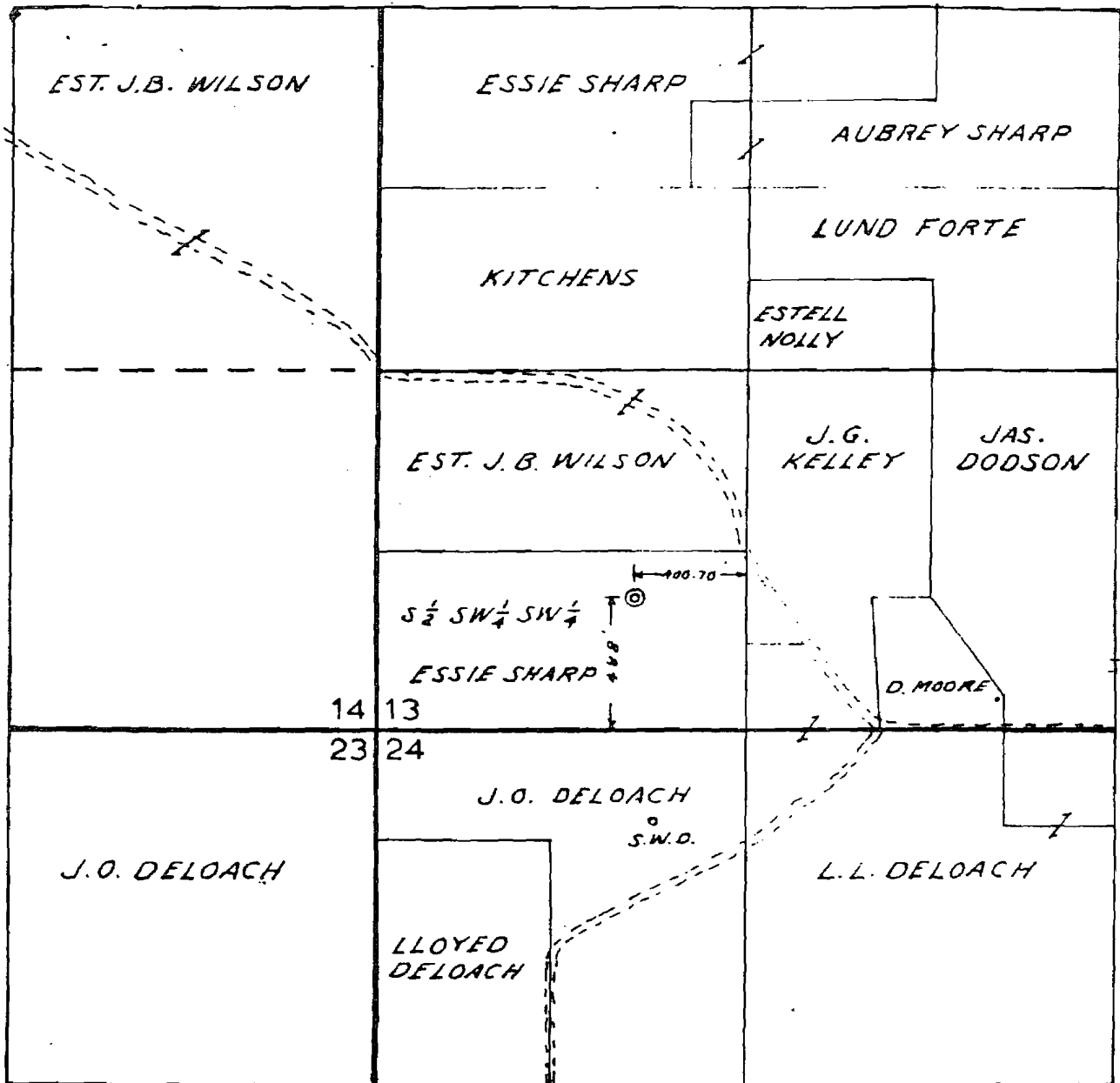
Remarks: This well will be used for reinjection of debrominated saltwater into the Smackover Limestone formation.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. S. Chamberlin

R. S. Chamberlin, Plant Manager



WELL LOCATION PLAT

OPERATOR THE DOW CHEMICAL CO, U.S.A.
 WELL NAME SHARP S.W.D. No. 1
 LOCATION 488' FROM THE SOUTH LINE AND 400.70' FROM THE EAST LINE OF SW 1/4 SW 1/4 SECT. 13 T-17 S R-22 W COLUMBIA CO, ARK.

The location shown hereon was staked from a ground survey
 made SEPT. 14 1972

Scale 1" = 600'

Will J. Crisp
 R.L.S. 454

CRISP SURVEYING SERVICE
 216 S. Washington St.
 Magnolia, Ark

¹⁰⁻⁴⁻⁷²
I told Mr. Chamberlain that
he needs to file SWD-1 prior
to our approving this permit.
Hold this until we get an ok. on
the SWD-1.

Rusty

U.S.A.

PHONE 501/234-2677

P. O. BOX 520

MAGNOLIA, ARKANSAS 71753

October 2, 1972

217 Oak Street
El Dorado, Arkansas 71730

Gentlemen:

Approval is requested for the attached well permit application with plat.

This well to be known as the Dow Chemical No. 1 Aubrey Sharp SWD will be used for saltwater reinjection into the Smackover lime for pressure maintenance purposes. This well will be cased with 1,000 feet of 13-3/8 inch surface pipe and approximately 8,375 feet of 9-5/8 inch casing from the surface down into the top of the Smackover. Cement will be circulated back to the surface behind each string.

Please notify me if you need more information.

Very truly yours,


R. S. Chamberlin
Plant Manager

RSC:jcl
att:(2)

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In Smackover Lime
 Lease Name Aubrey Sharp No. 1 Address: Street P. O. Box 520
 Exact Location 488' North of SL, 400.7' West
 of EL of SW/4 - SW/4 City Magnolia
 Sec. 13 Twp. 17S Rge. 22W State Arkansas 71753
 County Columbia
 Date Commenced 2-1-73
 Date Completed 3-9-73
 Elevation GL 323.82
 Total Depth Drilled 8707 *Jurassic T.K.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft. w/ sks.
 Surface: (Size & Wt.) 13-3/8" 48# set at 1052 ft. w/ 790 sks.
 Intermediate: (Size & Wt.) set at ft. w/ sks.
 Production: (Size & Wt.) 9-5/8" 47 and 43.5# set at 8395 ft. w/ 3800 sks.
 Tubing: (Size & Wt.) None set at ft.
 Perforations: Size No. Per Foot
 Perforated Intervals: Open hole -- 8395 - 8707

Acidized: Yes No ; Interval 8395 to 8707 w/ 21,000 gals.
 Fractured: Yes No ; Interval w/ lbs.
 of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing NA New
 3. Liquid production from this well is sold to (NA)
 (Address)
 4. Disposition of gas from this well: Vented Fuel Sold
 If sold, to whom NA
 Address

PRODUCTION

Date of Test NA Actual Length of Time Tested
 Type Well: Flowing NA Gas Lift Pump
 Tubing Pressure NA Casing Pressure Choke Size
 Net Oil Produced bbls. Gas Produced MCF % BSW GOR
 Gravity Oil NA BHP Recorded NA
 Net Oil in 24 Hours Open Flow Potential MCF
 Purpose of this test: Original Completion Workover Recompletion
 Allowable Requested NA

REMARKS:

SWD well

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

RECEIVEDARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

OCT 5 1972

APPLICATION TO DISPOSE OF SALT WATER

ARKANSAS OIL & GAS COMMISSION

OPERATOR The Dow Chemical Company FIELD Kilgore LodgeADDRESS P. O. Box 520, Magnolia STATE Arkansas 71753
Street City Phone 501-234-2677

1. Application is hereby made to dispose of produced salt water in the section 8.000 to 8.700 subsurface by
(Depth) (Depth)

injecting said water into the Dow Chemical-No. 1 Aubrey Sharp
(Name of Well)

Sec. 13 . Twp. 17S . Rge. 22W Smackover pool.
(Injection Formation)

Exact Location 400.70' W of E line. 488' N of Elevation 320'
S line, SWSW
Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.

(1) The only known lessees are Dow Chemical.

4. Only water produced from wells listed below will be injected into the disposal well.

Well Names and Numbers	Location:	Sec.	Twp.	Rge.
Dow Chemical- Fee 1	SW NE	18	17S	21W
Fee 2	NW NW	15	17S	21W
Nipper 1	SE SW	9	17S	21W
Nipper 2	NW SW	9	17S	21W
Whitehead 1	SW SE	8	17S	21W
Parham 1	NE NW	17	17S	21W
None		N/A		

Pipeline Purchaser/s by Leases

Address

Wells continued.

Carter 1	NW NW	18	17S	21W
Jameson 1	NW SE	12	17S	22W
Ford 1	SE NW	12	17S	22W
Woodward 1	SW NE	11	17S	22W

5. The proposed disposal well is cased and cemented as follows:

Size 13-3/8 Surface 1,000 feet cemented with (a) sacks.

Size 9-5/8 Production 8,070 feet cemented with (a) sacks.

(a) Plan to circulate cement back to surface behind each string.

6. The estimated minimum and maximum amounts of water to be injected are

Zero to 72,000 barrels respectively.

water per day.

- 7. Upon commencement of operation, I will notify the Commission of the same.
- 8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.
- 9. The operators listed below were notified of this Application and were mailed

a copy of same by First Class Mail from dna (Where)

Arkansas, on dna (Date)

<u>NAME OF OPERATOR</u>	<u>ADDRESS</u>
None	

I, R. S. Chamberlin, an employee of The Dow Chemical (Name of Company) Company, do certify that the information presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: R. S. Chamberlin

Note: If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL. DORADO, ARKANSAS 71730-5896Producers Certificate of Compliance and Authorization to
Transport Oil or Gas from Lease

Well Sharp No. 1 (Sec.) 13 (Twp.) 17S (Rge.) 22W County Columbia
 Operator Ethyl Corporation Field Kilgore Lodge Area
 Address all correspondence concerning this form to: Ethyl Corporation
 Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
 Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % (Name of Transporter) %

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
 JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
 ARKANSAS OIL & GAS COMMISSION

Rhiley Knight
 No. 3 546

ETHYL CORPORATION

(Company or Operator)

L. C. Reynolds
 Field Manager

(Affiant)

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report
(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Wildcat Name of Operator Kilroy Co. of Texas, Inc.
 Pool Completed In None
 Lease Name DeLoach No. 1 Address: Street 1908 First City Nat'l. Bk. Bldg.
 Exact Location 2000' ENL & 500' EEL City Houston
 Sec 23 Twp 17S Rge 22W State Texas
 County Columbia
 Date Commenced 11/31/80
 Date Completed 12/31/80
 Elevation 315.15
 Total Depth Drilled 8591'
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 8 5/8" 24# set at 1268' ft. w/ 525 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size _____ No. Per Foot _____
 Perforated Intervals: _____
 Acidized: Yes _____ No _____; Interval _____ w/ _____ gals.
 Fractured: Yes _____ No _____; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing _____
 3. Liquid production from this well is sold to (_____
 (Address _____
 4. Disposition of gas from this well: Vented _____ Fuel _____
 If sold, to whom _____
 Address _____

New
RECEIVED
MAR 2 1981

PRODUCTION

ARKANSAS OIL & GAS COMMISSION

Date of Test DRY- P & A 12/31/80 Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Helen Williams LF

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator Kilroy Co. of Texas, Inc. Field Wildcat

Address all correspondence concerning this Pool ---

form to: Kilroy Co. of Texas, Inc. County Columbia

Street 1908 First City Nat'l Bk Bldg City Houston State Texas

Lease DeLoach Well No. 1 Sec. 23 Twp. 17S Rge. 22W

Date well was plugged 12/31/80 Total Depth of well 8591'

Was well filled with mud-laden fluid, according to regulations of the Commission? Yes

How much mud applied? Hole Full Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock. 35 sxs CLH used in 8 5/8" 24# set @ 1268' and 7 7/8 open hole as follow plug 50' in open hole 1320'-1270' 35' plug in csg. 1270'-1240' plug 20' for 0-20' @ surface.

Was notice given before plugging, to all available adjoining lease and land owners as required? Yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
8 5/8"			1268'	

RECEIVED

MAR 2 1981

CERTIFICATE

ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Alan Williams

Map ID No. 60

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. Brine Supply

8-9-68

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date August 8, 1968

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name M. D. Woodward Well No. 2

Acres in lease 313 Acres (2 Leases)

Number of acres in and description of drilling unit 40 Acres being SW-1/4 NE-1/4 Sec. 11, T-17-S, R-22-W

Location of proposed well in drilling unit (give in feet) 660' North and 710' East of SW Corner of SW 1/4 NE 1/4

Section 11 Township 17-S Range 22-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 6 miles SW of Waldo

Distance from proposed location to nearest drilling, completed or applied for well 1/2 mile

Rotary or cable tools Rotary Date work will start Not known at present

Name of drilling or workover contractor Not known at present

Depth to be drilled 8,500'

Formation you propose to complete in Smackover Lime

Remarks: Oil & Gas production is not contemplated in this well. It is located for brine production.

CERTIFICATE

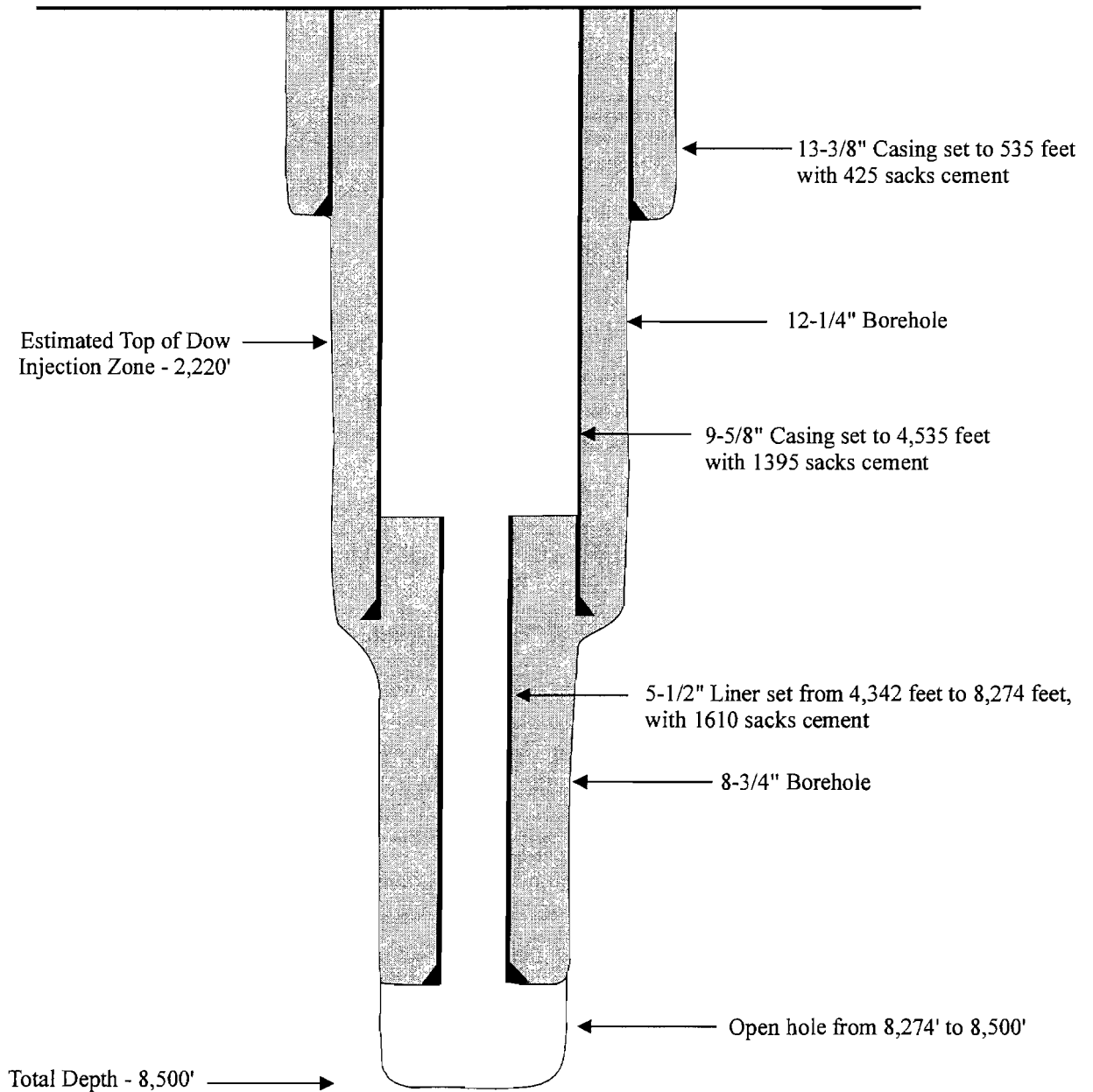
I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

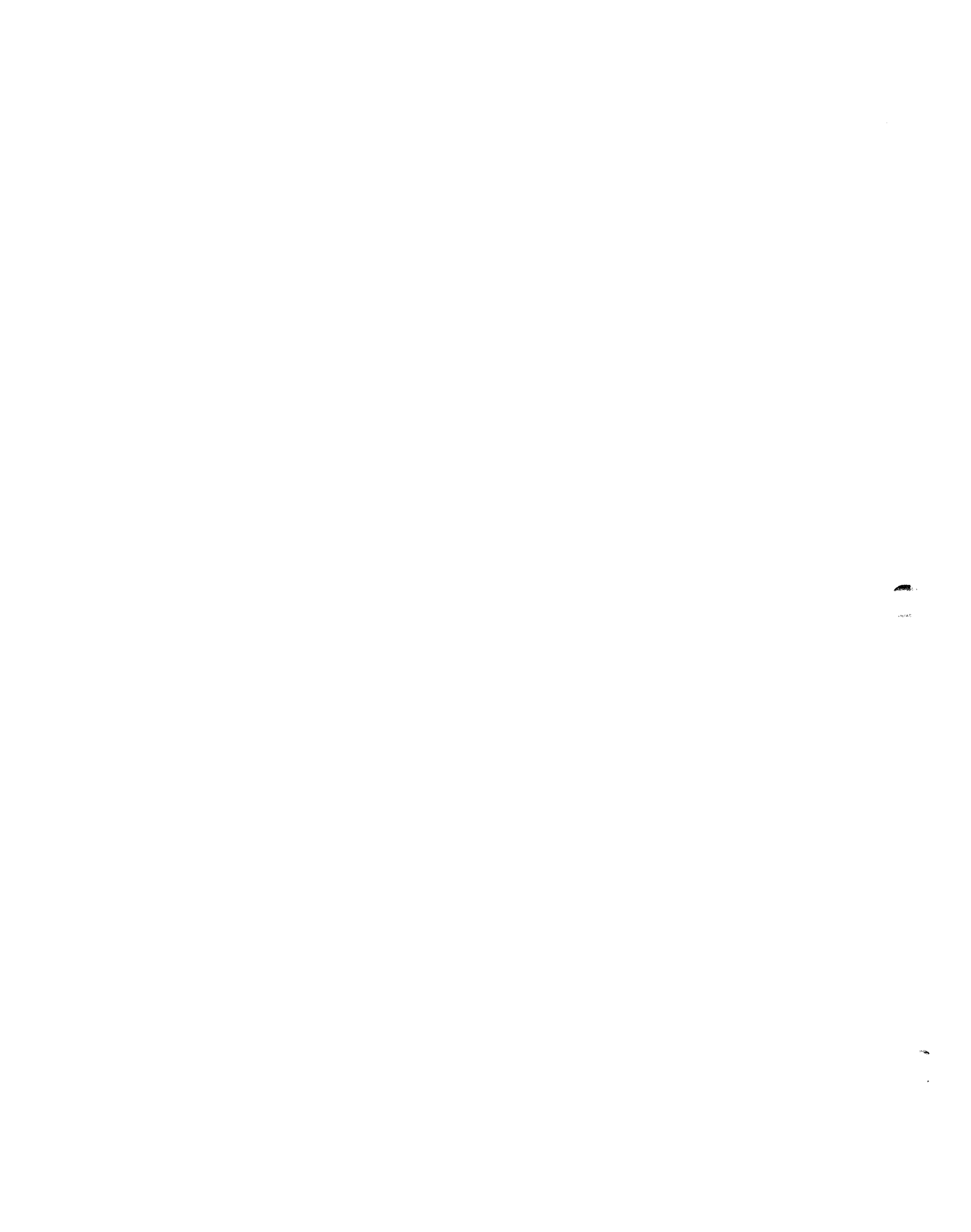
R. W. Wilson

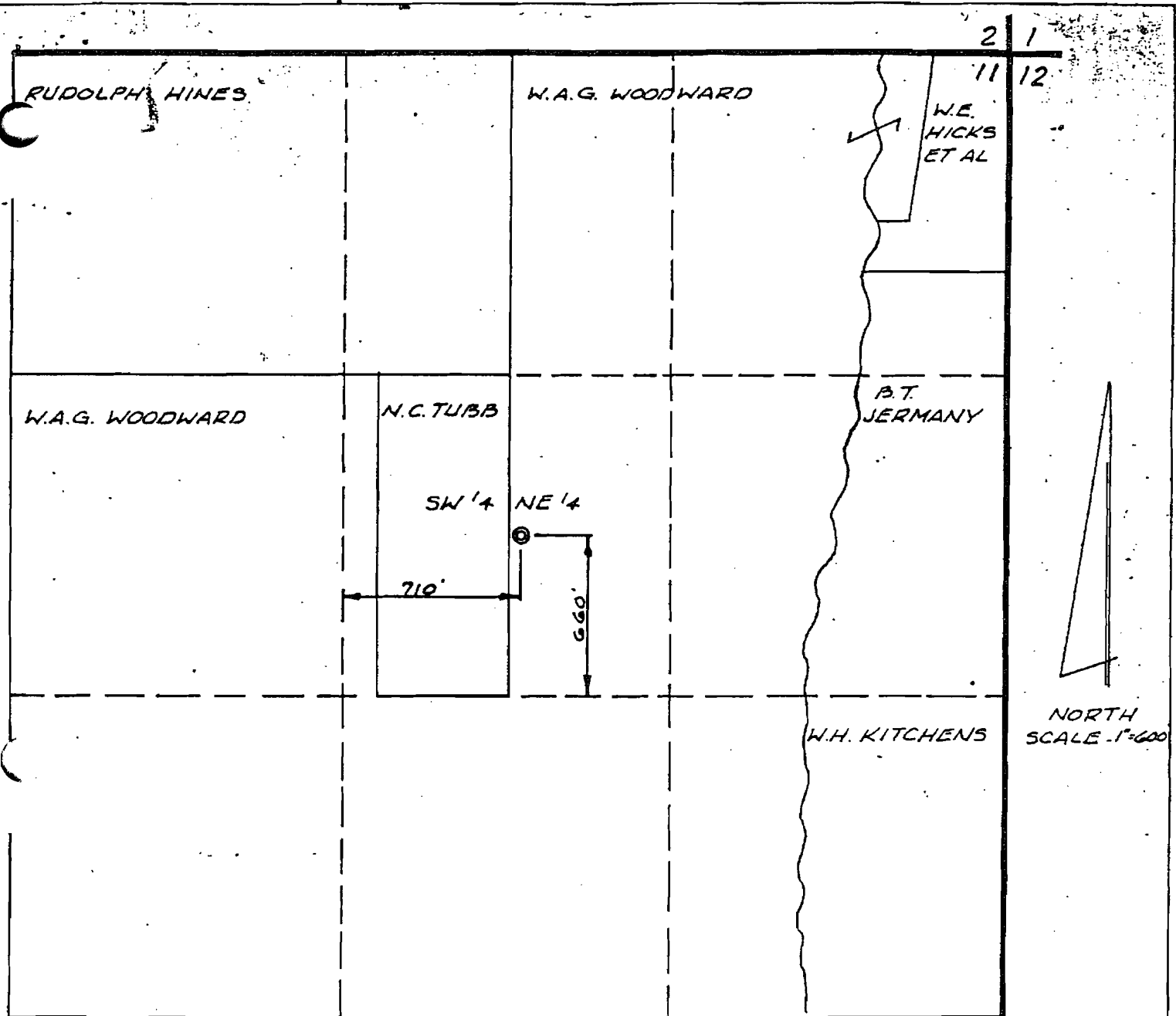
RD

Map ID No. - 60
Operator - Dow Chemical Company
Field - Kilgore Lodge
Well No. - 2
Sec. 11, T-17-S, R-22-W
Completion Date - 6/6/70

API No. - 03-027-60014
Serial No. - 21529
Lease - M. D. Woodward
Type - Brine Supply
Status - Active
County - Columbia
Date Plugged - na







LOCATION PLAT

WELL NAME M.D. WOODWARD NO. 2 BRINE SUPPLY WELL

LOCATION 660' FROM THE SOUTH LINE & 710' FROM THE WEST LINE OF THE SW 1/4 NE 1/4 SEC. 11, T-17-S, R-22-W, COLUMBIA COUNTY, ARK.

OPERATOR DOW CHEMICAL CO, MAGNOLIA, ARK.

THE LOCATION SHOWN HEREON WAS STAKED FROM A GROUND SURVEY MADE JULY 30, 1968

Phil L. Crisp

CRISP & GATES
SECURITIES BLDG.
MAGNOLIA, ARK.

JAMES D. REYNOLDS, CHAIRMAN
GANDER

RALPH A. DUMAS, DIRECTOR
EL DORADO



ARKANSAS OIL AND GAS COMMISSION

314 EAST OAK STREET

EL DORADO, ARKANSAS 71730

December 22, 1969

The Dow Chemical Company
P. O. Box 520
Magnolia, Arkansas 71753

ATTN: Mr. M. M. Sorenson

Gentlemen:

Since the passage of Act 111 of 1969, the permits that are issued for brine supply and brine disposal wells are governed by the same rules that apply to permits issued for oil and gas wells. The permits are subject to expiration if the well has not been commenced within ninety (90) days of date of issue. Well locations shall be required to be a minimum of 200 feet from a governmental division line to comply with Order Reference No. 54-63, copy attached.

The permit for re-issue of your I. L. Ford No. 1 well is being processed this date.

Our records reveal that the DeLoach No. 1 SWD, the Woodward No. 1 and No. 2 Supply Wells shall have to be re-issued as they have also exceeded the ninety-day expiration date.

Thank you for your cooperation.

Yours very truly,

ARKANSAS OIL AND GAS COMMISSION

Ralph A. Dumas
Director of Conservation and Production

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

1-15-70

Serial No. 21,529

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date Jan. 10, 19 70

Name of Operator The Dow Chemical Company

Send Permit to: Street Box 520

City Magnolia,

State Arkansas 71753

Lease Name M. D. Woodward (Brine Supply) Well No. 2

Acres in lease 313 Acres (2 leases)

Number of acres in and description of drilling unit 40 acres being SW $\frac{1}{4}$
NE $\frac{1}{4}$ Sec. 11, T17S, R22W.

Location of proposed well (Must agree with Surveyor's Plat) 660' North and 710' East
of SWC

Section 11 Township 17S Range 22W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 6 miles SW of Waldo

Distance from proposed location to nearest drilling, completed or applied for well
1/2 mile

Rotary or cable tools Rotary Date work will start Not known at present

Name of drilling or workover contractor Not known at present

Depth to be drilled 8,500'

Formation you propose to complete in Smackover Lime

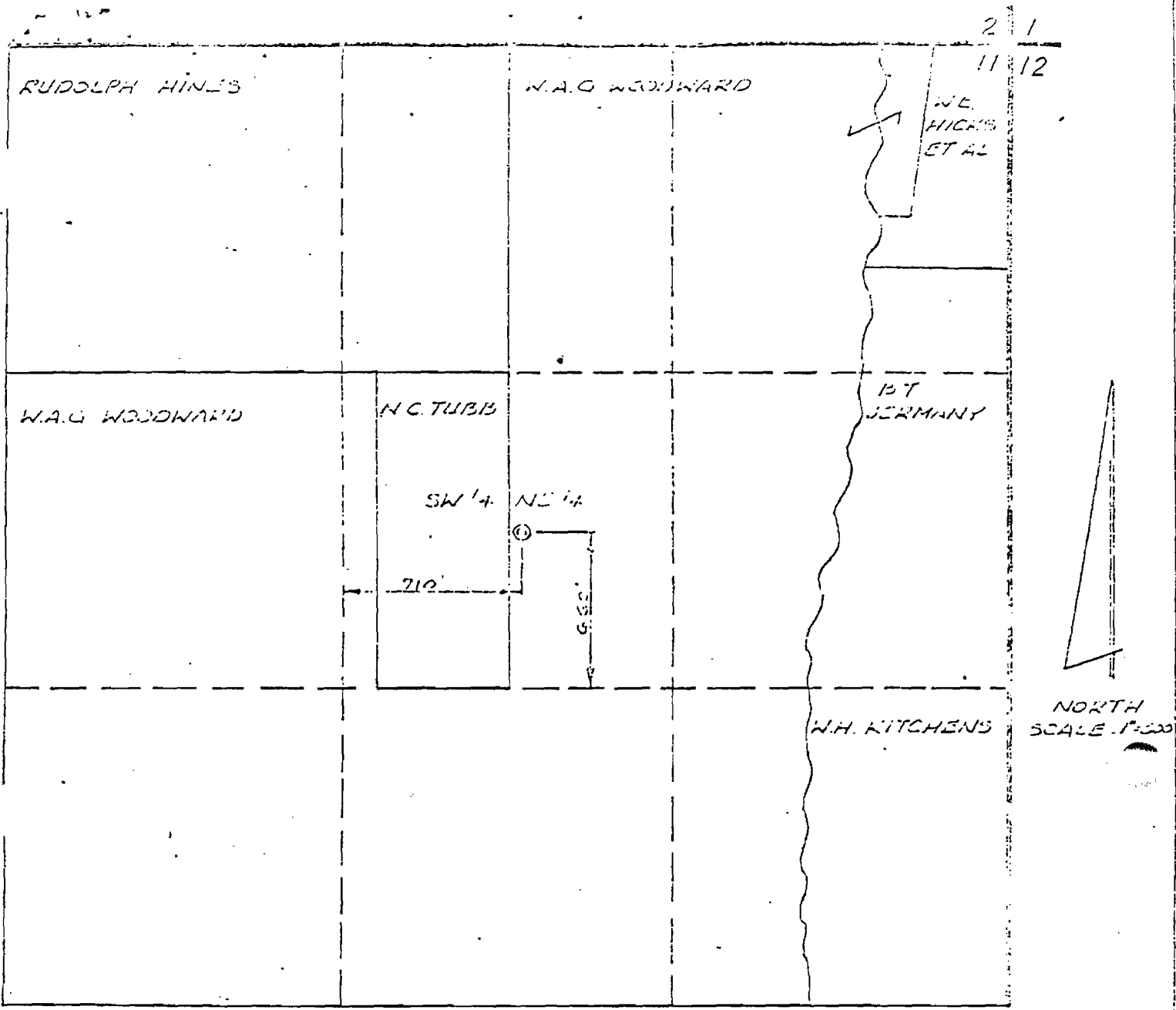
Remarks: Oil & Gas production is not contemplated in this well. It is
located for brine production.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. M. Lorcuser

CF



LOCATION PLAT

WELL NAME M.D. WOODWARD NO. 2 BRINE SUPPLY WELL

LOCATION 660' FROM THE SOUTH LINE & 710' FROM THE WEST LINE OF THE SW 1/4 NE 1/4 SEC. 11, T-17-S, R-22-W, COLUMBIA COUNTY, ARK.

OPERATOR DOW CHEMICAL CO, MAGNOLIA, ARK.

THE LOCATION SHOWN HEREON WAS STAKED FROM A GROUND SURVEY MADE JULY 30, 1968

W.A.G. Woodward

CRISP & JAMES
SECURITIES BLDG.
MAGNOLIA, ARK.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

21,529

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

3.44

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In _____
 Lease Name M. D. Woodward No. 2 Address: Street P. O. Box 520
 Exact Location 660'N 710'E SW 1/4 S1/4
 Sec. 11-175-22W City Magnolia,
 Sec. 11 Twp. 17S Rge. 22W State Arkansas 71753
 County Columbia
 Date Commenced 2-2-70
 Date Completed 6-6-70
 Elevation 362' KB
 Total Depth Drilled 8500'
 Electric Log Run: Yes No _____
 Electric Log Filed: Yes No _____ (Enclosed)

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.)	<u>20" x 1/4"</u>	set at	<u>40</u>	ft. w/	<u>6</u>	vds. <u>3525</u>
Surface: (Size & Wt.)	<u>13-3/8" 48 lb.</u>	set at	<u>535</u>	ft. w/	<u>425</u>	skts.
Intermediate: (Size & Wt.)	<u>9-5/8" 40 lb.</u>	set at	<u>4535</u>	ft. w/	<u>1395</u>	skts.
Production: (Size & Wt.)	<u>Liner 5-1/2", 17 lb.</u>	set at	<u>4342-8274</u>	ft. w/	<u>1610</u>	skts.
Tubing: (Size & Wt.)	_____	set at	_____	ft.	_____	_____
Perforations: Size	<u>0.45</u>	No. Per Foot	<u>4</u>	_____		
Perforated Intervals:	<u>8280-8333</u>					

Acidized: Yes No _____; Interval 8280-8333 & 8350-8440 w/ 10,000 gals.
 Fractured: Yes _____ No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well 1
- Tank battery to which this well is connected: Existing _____ New Pipeline to plant
- Liquid production from this well is sold to (Processed by operator)
(Address _____)
- Disposition of gas from this well: Vented Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test not applicable Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

R. D. Wain

Handwritten initials and marks on the right margin.

REMARKS: Cut window in 9-5/8" casing at 4200'. Drilled 7-7/8" hole to 8500' and ran 5-1/2" liner.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

21,529

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
 Pool Completed In _____
 Lease Name M. D. Woodward No. 2 Address: Street _____ P. O. Box 520
 Exact Location 660'N 710'E S4E City Magnolia,
 Sec. 11-17S-22W Twp. 17S Rge. 22W State Arkansas 71753
 County Columbia
 Date Commenced 2-2-70
 Date Completed 6-6-70
 Elevation 362' KB
 Total Depth Drilled 8500'
 Electric Log Run: Yes No _____ (Enclosed)
 Electric Log Filed: Yes No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" x 1/4" set at 40 ft. w/ 6 vds. sks.
 Surface: (Size & Wt.) 13-3/8" 48 lb. set at 535 ft. w/ 425 sks.
 Intermediate: (Size & Wt.) 9-5/8" 40 lb. set at 4535 ft. w/ 1395 sks.
 Production: (Size & Wt.) Liner 5-1/2", 17 lb. set at 4342-8274 ft. w/ 1610 sks.
 Tubing: (Size & Wt.) _____ set at _____ ft.
 Perforations: Size 0.45 No. Per Foot 4
 Perforated Intervals: 8280-8333
 Acidized: Yes No _____; Interval 8280-8333 & 8350-8440 w/ 10,000 gals.
 Fractured: Yes _____ No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
 2. Tank battery to which this well is connected: Existing _____ New Pipeline to plant
 3. Liquid production from this well is sold to (Processed by operator _____)
 (Address _____)
 4. Disposition of gas from this well: Vented Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test not applicable Actual Length of Time Tested _____
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Handwritten Signature]

REMARKS:

Well completed for salt water production.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

Arkansas Oil and Gas Commission

314 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Woodward No. 42 (Sec.) 11 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____% _____%
(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3 560

ETHYL CORPORATION

L. C. Reynolds
(Company or Operator)
(Affiant)
Field Manager

Date: 5/1/2001
 Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8501
Field          : KILGORE LODGE       Log Total Depth  : 8502
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : M D WOODWARD BRINE
Well Number    : 2                   Spud Date       : FEB 02, 1970
API Number     : 03027600140000      Comp Date       : JUN 26, 1970
Regulatory API :
Init Lahee Class : D                   Hole Direction  :
Final Lahee Class : U                   Reference Elevation: 362    KB
Permit Number  : 21529                Ground Elevation :
Geologic Province : ARKLA BASIN              KB Elevation    : 362
Formation at TD : 553SMKV                SMACKOVER
Oldest Age Pen : 553                UPPER JURASSIC
Township      : 17 S
Range         : 22 W
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 660 FSL 710 FWL CONGRESS SECTION
Latitude        : 33.2721300          Latitude (Bot)   :
Longitude       : -93.3452900         Longitude (Bot)  :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Oil      Prod      Test
Form   Form     Form     Depth   Depth   GORGrav Method Method
001    553SMKV    553SMKV  8274    8500
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Treatment -----
Test   Top      Base      Volume MeasAmount T/P PSI Inj Type Nbr Agent Add
001    8274    8500    10000 GAL ACID
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count      Density Per
001    8274    8500                OPENHOLE    553SMKV      553SMKV
    
```

```

----- Formations -----
Form Code Form Name      Top      Top      Base      Base
Depth     TVD     Depth     TVD     Source
Lithology
601HSTN   HOSSTON                4870
553CNVL5  COTTON VALLEY SPLINTERY SH /CV SP S 6100
553BCKR   BUCKNER                8040
553SMKPL  SMACKOVER POROUS /LM/    8270
    
```

```

----- Log Data -----
Run No  Log Type  Top      Base      Log      Max
01      EL        0        8502     MD
    
```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 550
9 5/8 IN 4535 1395 SACK

----- Liner Data -----
Size Type Cement Unit Top Depth Base Depth
5 1/2 IN 4342 8274

1

2

Map ID No. 61

61

DOW CHEMICAL HOLMES

1

11-17S-22W
DI-LL

LABORATORY REPORT		DUAL INDUCTION METHOD	
COUNTY: WILL TOWNSHIP: HOLMES SECTION: 10357 RANGE: 11S MERIDIAN: 22W		LABORATORY: DOW CHEMICAL CO. ADDRESS: 1100 N. W. 11th St., Grand Rapids, Mich.	
SAMPLE NO.: 98465D		DATE: 11-17-22	
ANALYST: J. A. ...		CHECKED BY: J. A. ...	
METHOD: ...		REMARKS: ...	
RESULTS:		REMARKS:	
CHANGES IN METHOD TYPE OR ADDITIONAL SAMPLES:		SCALE CHANGES:	
EQUIPMENT DATA:		REMARKS:	

COUNTY: ... FIELD NO: 03-087-10357 WELL: ... COUNTY: ... COMPANY: ...		DEPT: ... DATE: ... TIME: ... BY: ...	
GROUND LEVEL:	
...		...	

QUAL INDUCTION LATEROLOG

CHANGES IN LOG TYPE OR ADDITIONAL SAMPLES SCALE CHANGES

Date: ...

Depth: ...

Type: ...

Source of Sample: ...

... ..

EQUIPMENT DATA

Run No: ...

Panel No: ...

Card No: ...

... ..

REMARKS

... ..

CALIBRATION DATA

CALIBRATION	DATE	BY	TYPE	RECORD	CONV
...

SPONTANEOUS POTENTIAL MILLIVOLTS	SALINITY	RESISTIVITY OHMS M ² /M			
		DEEP INDUCTION LOG			
		MEDIUM INDUCTION LOG			
		LATEROLOG 8			

All interpretations in this report are based on information furnished by the customer and are subject to change without notice. The company assumes no responsibility for any errors or omissions in this report, and shall not be held liable for any damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our employees or employees. These conditions are also subject to Change 1 of our General Terms and Conditions as set out in our contract form 3-6-64.

DUAL INDUCTION LOG

Company: **HOW ENGINEERING, GAITHERSBURG, MD.**
 WELL: **03-087-10357**
 FIELD: **STIGLER**
 COUNTY: **ST. LOUIS**
 STATE: **MISSISSIPPI**

DATE: **5-20-75**
 TIME: **10:30 AM**
 WELL NO.: **03-087-10357**
 SURFACE: **98465 D**

DEPTH	TEMP	TEMP GRAD	TEMP COR	TEMP SURF	TEMP WELLS	TEMP LOG	TEMP SURF	TEMP WELLS	TEMP LOG
0	75.0								
1	75.0								
2	75.0								
3	75.0								
4	75.0								
5	75.0								
6	75.0								
7	75.0								
8	75.0								
9	75.0								
10	75.0								
11	75.0								
12	75.0								
13	75.0								
14	75.0								
15	75.0								
16	75.0								
17	75.0								
18	75.0								
19	75.0								
20	75.0								
21	75.0								
22	75.0								
23	75.0								
24	75.0								
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39	75.0								
40	75.0								
41	75.0								
42	75.0								
43	75.0								
44	75.0								
45	75.0								
46	75.0								
47	75.0								
48	75.0								
49	75.0								
50	75.0								

CHANGES IN WPT TYPE OR ADDITIONAL SAMPLES: []
 SCALE CHANGES: []

DATE: [] SAMPLE NO.: []
 DEPTH: [] TYPE: []

WELL NO.: [] SURFACE: []
 COUNTY: [] STATE: []

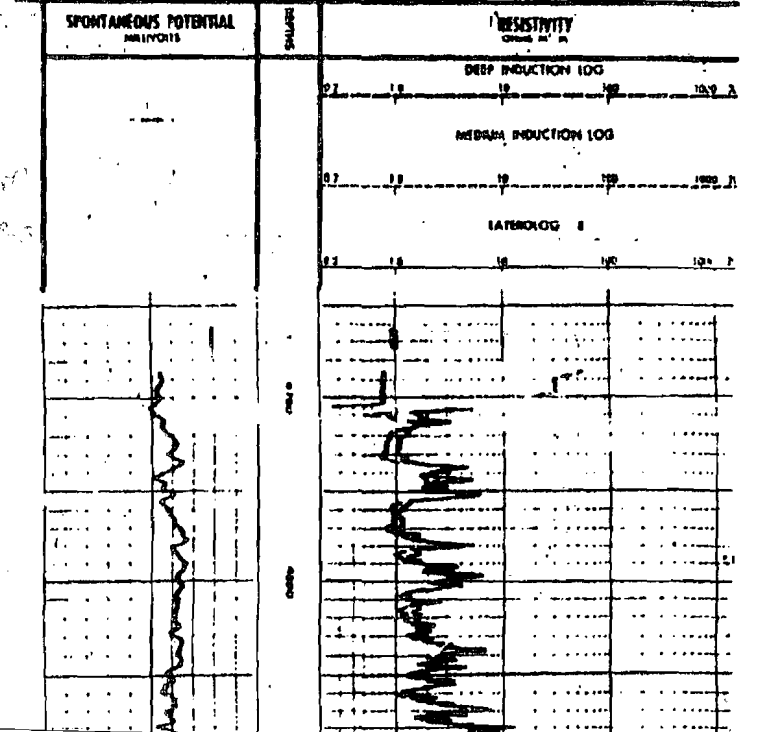
TEMPERATURE: []
 PRESSURE: []
 RESISTIVITY: []

WELL NO.: [] SURFACE: []
 COUNTY: [] STATE: []

TEMPERATURE: []
 PRESSURE: []
 RESISTIVITY: []

CALIBRATION DATA

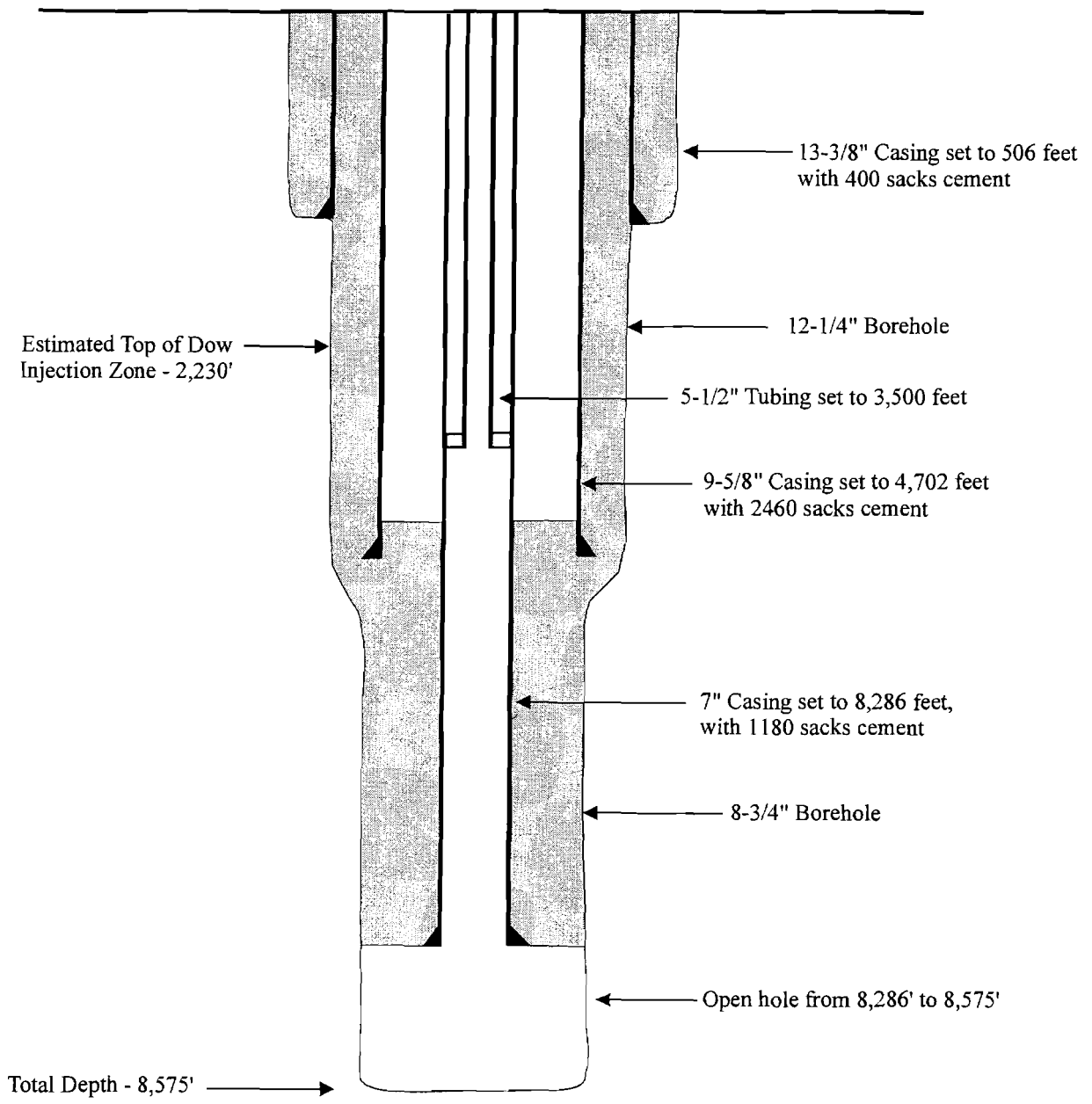
CALIBRATION	DATE	WELL NO.	DEPTH	TEMP	RESISTIVITY	WPT
1	1/15/75	03-087-10357	10	75.0	100	100

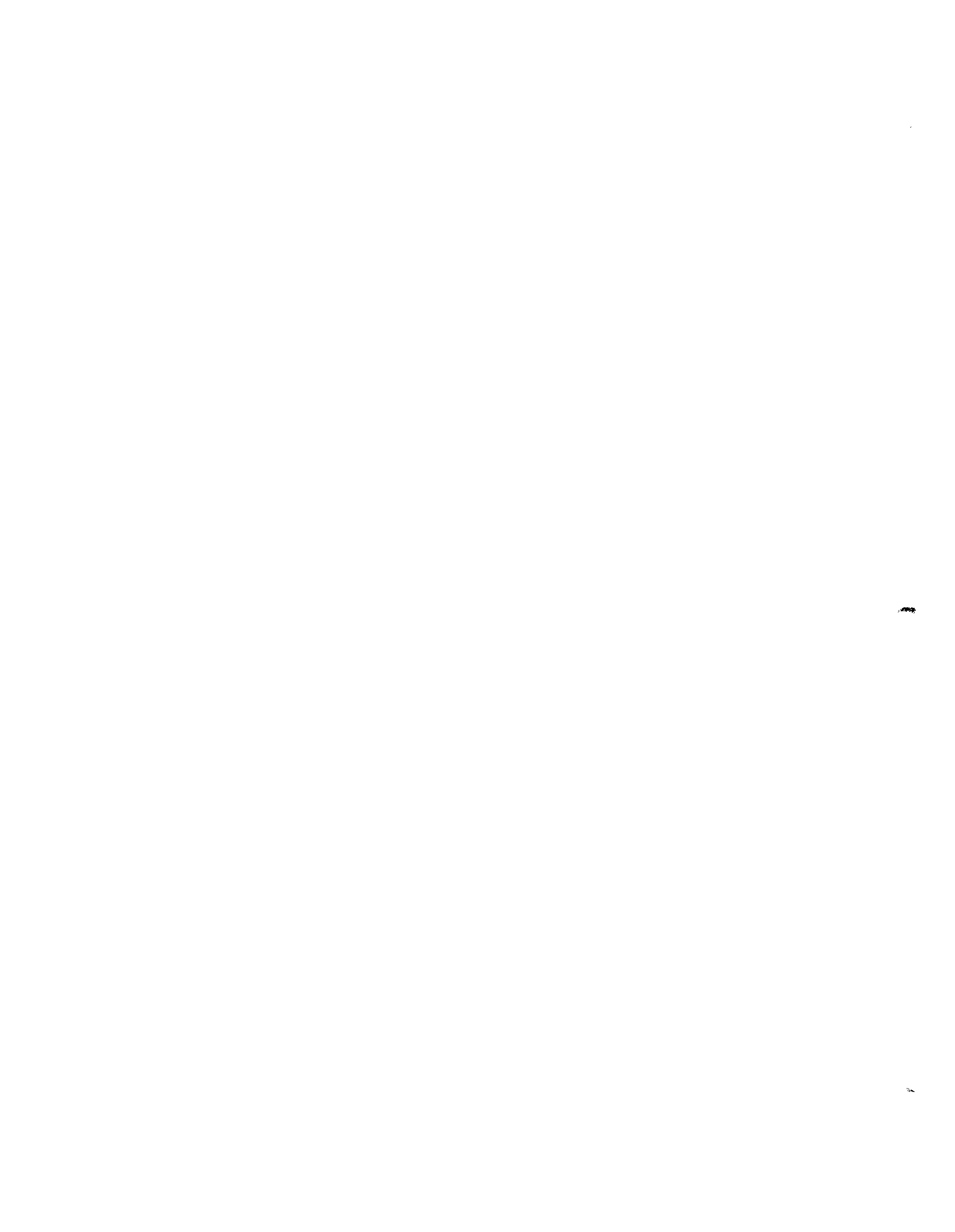


Top of [unclear]?

Map ID No. - 61
Operator - Dow Chemical U.S.A.
Field - Kilgore Lodge
Well No. - 1 SWS
Sec. 11, T-17-S, R-22-W
Completion Date - 5/24/75

API No. - 03-027-10357
Serial No. - 23440
Lease - Holmes
Type - Brine Supply
Status - Active
County - Columbia
Date Plugged - na





ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

RECEIVED

Serial No. 23440

APR 22 1975

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

ARKANSAS OIL & GAS COMMISSION

Date April 21, 1975

Name of Operator Dow Chemical U.S.A.

Send Permit to: Street P. O. Box 520

City Magnolia,

State Arkansas

Lease Name Holmes Well No. 1 (SWS)

Acres in lease N/A

Number of acres in and description of drilling unit N/A

Location of proposed well (Must agree with Surveyor's Plat) 280' FNL & 280' FEL of SE/4 of SW/4

Section 11 Township 17 South Range 22 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town Four (4) miles Southwest of Waldo

Distance from proposed location to nearest drilling, completed or applied for well

1/2 mile East - Southeast of Dow Chemical's - S. F. Ellison # 1

Rotary or cable tools Rotary Date work will start April 25, 1975

Name of drilling or workover contractor Sawyer Drilling Co.

Depth to be drilled 8600 feet

Formation you propose to complete in Smackover Lime

Remarks: _____

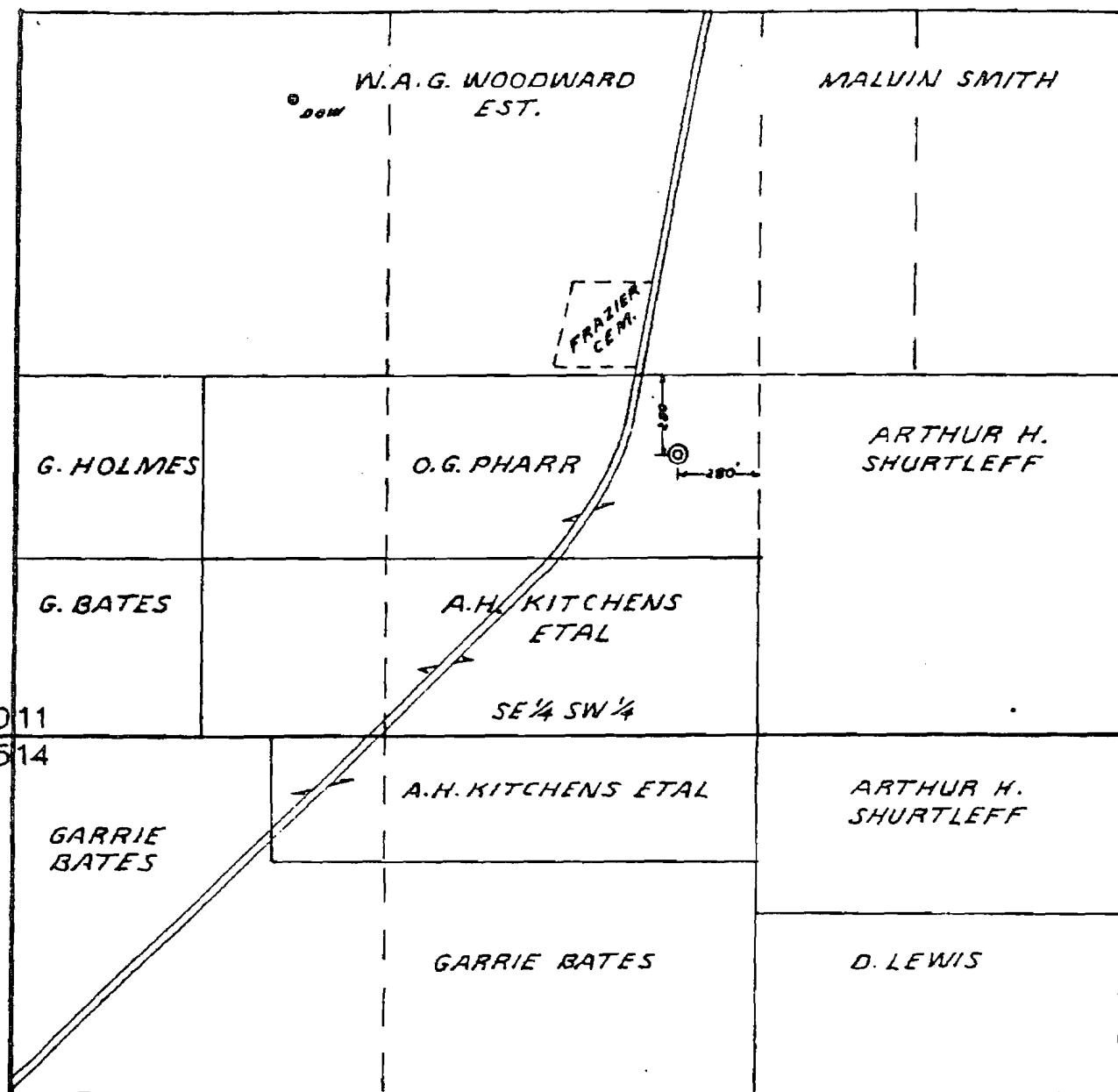
*O.K.
REK*

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cecil R. Acker

Cecil R. Acker



WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO.

WELL NAME ~~XXXXXXXXXXXXXXXXXXXX~~ HOLMES NO. 1

LOCATION 280' FROM THE NORTH LINE, AND 280' FROM THE EAST LINE OF THE SE 1/4 SW 1/4 SECT. 11, T-17S; R-22W, COLUMBIA CO., ARK.

The location shown hereon was staked from a ground survey made FEB. 5 1975.

Scale 1" = 600'

R.L.S. 454

By Bill F. Crisp

CRISP SURVEYING SERVICE
216 S. Washington St.
Nogelle, Ark.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

R. Goble

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical, USA
Pool Completed In Smackover Lime
Lease Name Holmes SWS No 1 Address: Street P. O. Box 520
Exact Location 280' FNL - 280' FEL
SE 1/4 SW 1/4 City Magnolia,
Sec. 11 Twp. 17 S Rge. 22 W
County Columbia State Arkansas 71753
Date Commenced 4/26/75
Date Completed 5/24/75
Elevation 338.35 G.L. - 349.70 RT
Total Depth Drilled 8575 *Inmate 7.02*
Electric Log Run: Yes X No
Electric Log Filed: Yes X No

RECEIVED

NOV 6 1975

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 40 ft. w/ ready mix sks.
Surface: (Size & Wt.) 13 3/8" 54# set at 506' ft. w/ 400 sks.cir.
Intermediate: (Size & Wt.) 9 5/8" 40#-36# set at 4702' ft. w/ 2460 sks.cir.
Production: (Size & Wt.) 7" 23#-26#-29# set at 8286' ft. w/ 1180 sks.cir.
Tubing: (Size & Wt.) 5 1/2" set at 3500' ft.

Perforations: Size No. Per Foot
Perforated Intervals: Open Hole 8286 - 8575

Acidized: Yes X No ; Interval 8286 - 8575 w/ 20,000 gals.
Fractured: Yes No ; Interval w/ lbs.
of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well NA
2. Tank battery to which this well is connected: Existing New
3. Liquid production from this well is sold to
(Address)
4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom
Address

PRODUCTION

Date of Test Actual Length of Time Tested
Type Well: Flowing Gas Lift Pump
Tubing Pressure Casing Pressure Choke Size
Net Oil Produced bbls. Gas Produced MCF % BSW GOR
Gravity Oil BHP Recorded
Net Oil in 24 Hours Open Flow Potential MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Ralph Goble
Ralph Goble
J-W Operating Company

*W
R
D
C
F
P*

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Holmes No. 1 (Sec.) 11 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % (Name of Transporter) %

Remarks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION
Shirley Knight
No. 3/55P

ETHYL CORPORATION
L. C. Reynolds
(Company or Operator)
L. C. Reynolds
(Affiant)
L. C. Reynolds
Field Manager

Well: DOW CHEMICAL USA
1 SWS Holmes (API 03-027-10357) Result: SWS
Locn: Sec 11-17S-22W, 280' FNL, 280' FEL SE SW
Spud: 4-26-75; Comp: 5-24-75; Elev: 338' Grd, 349' KB; TD: 8578'; C/ Sawyer Drig
Casing: 13 3/8" 506' / 400 sx, 9 5/8" 4702' / 2 sx, 7" 8286' / 1120 sx, & Service
Prod Zone: (Smack) prod thru OH 8286 8575'
IP: Brine Supply
Comp Info: LTD 8578', DTD 8575' (Smk), ran logs, (BIT 184 deg), set csg, DP
Tups: (Elec Log) TP 4908', CV 6112', Buckner 8055', Smack 8280'

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Petroleum Information

CORPORATION

A subsidiary of A.C. Nielsen Company

Date: 11 25-75

Card No.:

1 Ark.

Date: 5/1/2001
Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8575
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : HOLMES
Well Number    : 1 SWS                Spud Date       : APR 26, 1975
API Number     : 03027103570000      Comp Date       : MAY 24, 1975
Regulatory API :
Init Lahee Class : U                Hole Direction   :
Final Lahee Class : U                Reference Elevation: 350    KB
Permit Number   : 23440              Ground Elevation : 338
Geologic Province : ARKLA BASIN          KB Elevation     : 350
Formation at TD : 553SMKV                SMACKOVER
Oldest Age Pen  : 553                UPPER JURASSIC
Township       : 17 S                Section          : 11    SEC
Range          : 22 W                Spot             : NE SE SW
Base Meridian  : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 280 FNL 280 FEL CONGRESS QTR QTR
Latitude         : 33.2737800          Latitude (Bot)   :
Longitude        : -93.3531100       Longitude (Bot)  :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top   Base   Top   Base   Choke   Oil   Prod   Test
      Form   Form   Depth Depth   GORGrav Method   Method
001   553SMKV 553SMKV 8286 8575   OPENHOLE SWABBING

Production Volume
Oil           Cond           Gas           Wtr
Test Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001

Production Perforation
Test   Top   Base   Type   Method   Top Form   Base Form   Status Count   Density   Per
001   8286  8575   OPENHOLE 553SMKV 553SMKV
    
```

```

----- Formations -----
Form Code Form Name           Top   Top   Base   Base
      Depth   TVD   Depth   TVD   Source
Lithology
601TVPTP TRAVIS PEAK /TTP/           4908
553CNVL  COTTON VALLEY /GROUP/      6112
553BCKR  BUCKNER                      8055
553SMKV  SMACKOVER                    8280
    
```

```

----- Log Data -----
Run No   Log Type   Top   Base   Log   Max
      01     EL         0     8575  MD    Temp
    
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 506 400 SACK
9 5/8 IN 4702 2460 SACK
7 IN 8286
    
```

Map ID No. 62

Q3 Q27.10, 206

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 22,704

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date April 4, 19 73

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name #1 Kitchens Well No. 1 SWS

Acres in lease 40

Number of acres in and description of drilling unit No unit established (Part of Operating Area 3. See attached letter and lease agreements.)

Location of proposed well (Must agree with Surveyor's Plat) 280' FSL and 450' FWL of the SW/4 of the NW/4 of Section 12

Section 12 Township 17 South Range 22 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 6 miles west of Magnolia, Arkansas

Distance from proposed location to nearest drilling, completed or applied for well 1600'

Rotary or cable tools Rotary Date work will start April 6, 1973

Name of drilling or workover contractor Noble Drilling

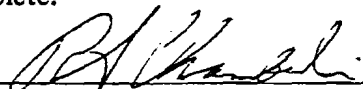
Depth to be drilled 8,500'

Formation you propose to complete in Smackover

Remarks: Saltwater production well

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

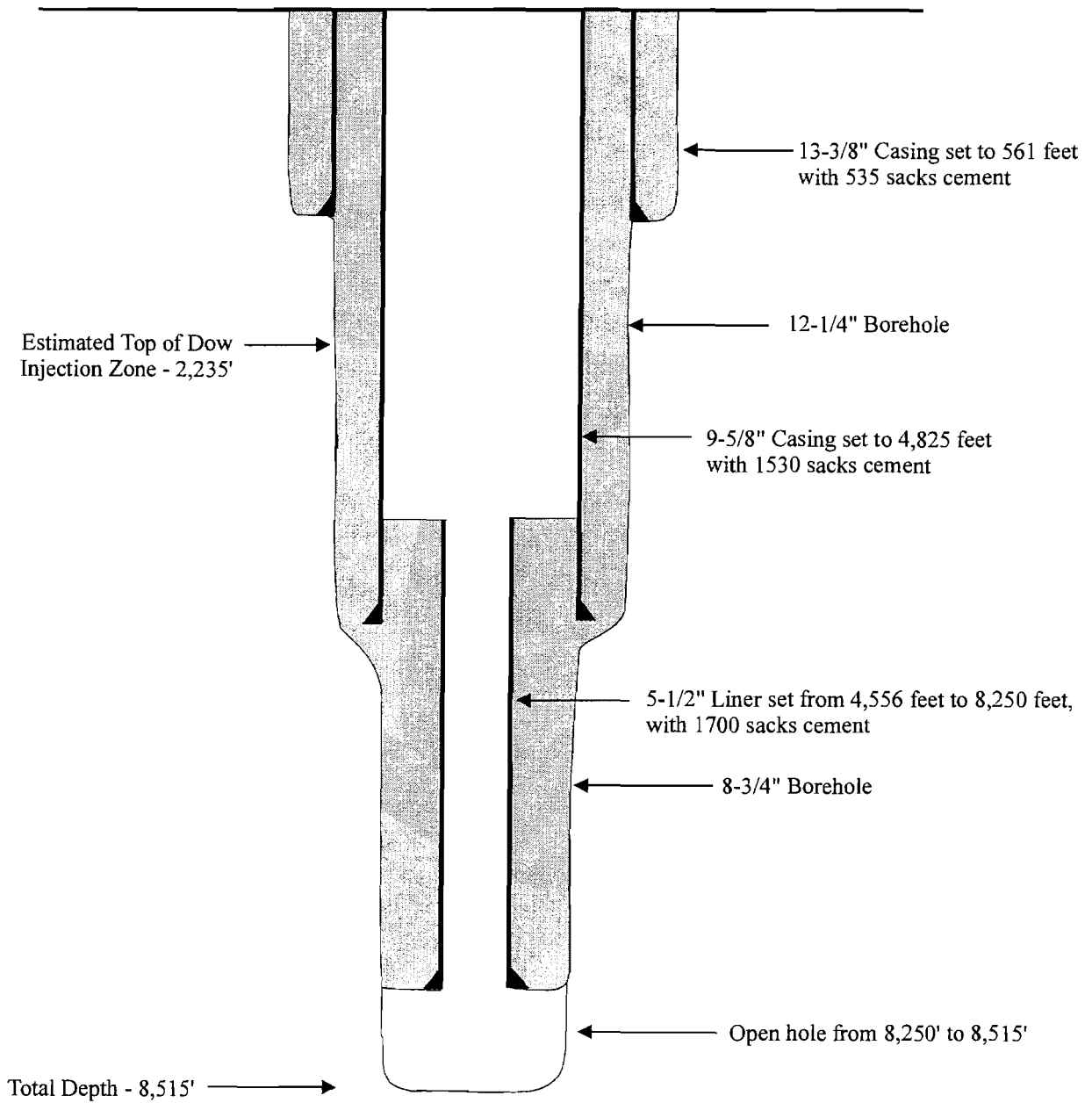


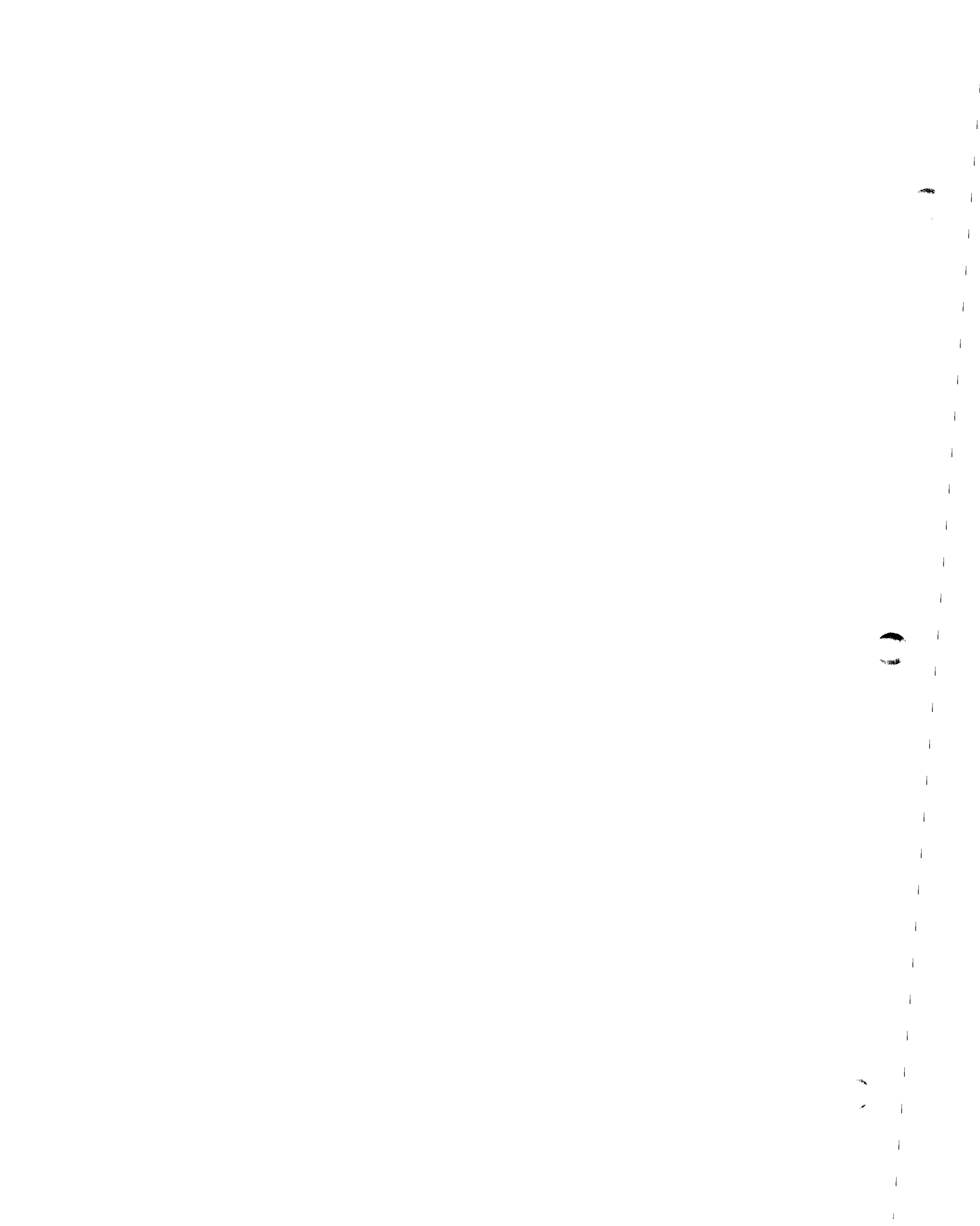
R. S. Chamberlin, Plant Manager

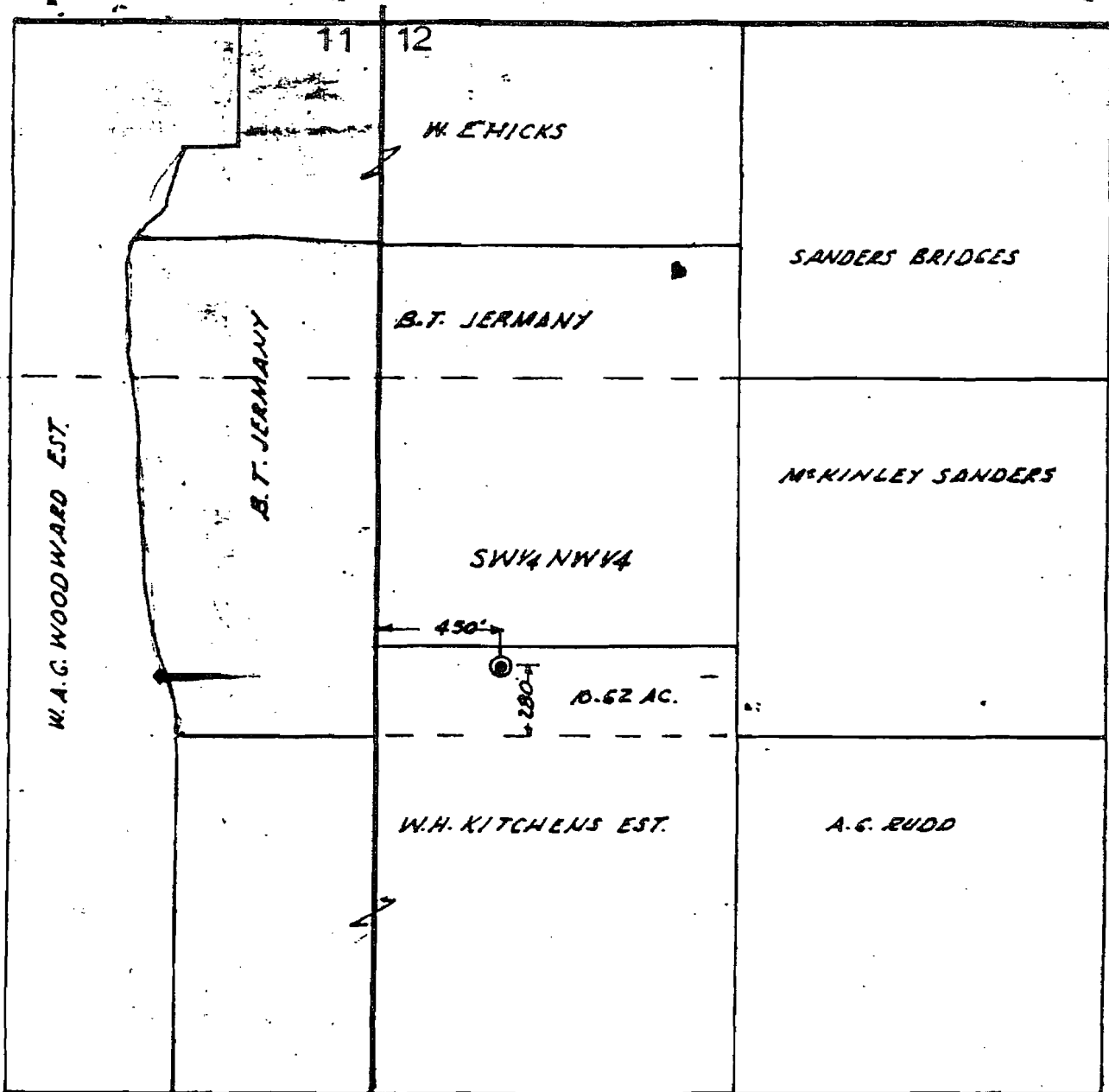
RD

Map ID No. - 62
Operator - Dow Chemical Company
Field - Kilgore Lodge
Well No. - 1 SWS
Sec. 12, T-17-S, R-22-W
Completion Date - 5/4/73

API No. - 03-027-10206
Serial No. - 22704
Lease - Kitchens
Type - Brine Supply
Status - Active
County - Columbia
Date Plugged - na







WELL LOCATION PLAT

OPERATOR THE DOW CHEMICAL CO.
 WELL NAME KITCHENS NO.1 SWS
 LOCATION 280' FROM THE SOUTH LINE AND 450' FROM THE WEST LINE OF THE SW 1/4 NW 1/4 SECT. 12-T.17S; R.22W, COLUMBIA CO, ARK.

The location shown hereon was staked from a ground survey made MARCH 21, 1973.

Scale 1" = 600'

Bill F. Crisp
 R.L.S. 454

CRISP SURVEYING SERVICE
 216 S. Washington St.
 Magnolia, Ark.

Oil, Gas and Mineral Lease

THIS AGREEMENT entered into on this the 31st day of July, 1970, by and between
Mrs. Clyde Manning
1714 Fair Park Blvd., Little Rock, Arkansas

hereinafter called "Lessor", whether one or more, and THE IRON CHEMICAL COMPANY, hereinafter called "Lessee", WITNESSETH:

Lessor, for and in consideration of the sum of \$1000.00 in hand paid, and other valuable consideration, the receipt of which is hereby acknowledged, and the covenants and agreement set forth hereinafter, do hereby grant, demise, lease and let unto Lessee for the purpose of drilling, mining and operating for the production of oil, gas, distillate, salt water and its component parts and other mineral, whether similar or dissimilar, including but not limited to the right to produce or remove oil, gas, distillate, salt water and all of its component parts and other mineral, in drilling, prospecting, draining, production, storage, transportation, treatment or by any other means, the following described land, hereinafter referred to as "land premises", in Columbia County, Arkansas:

TRACT NO. 1: The South 15/40 of the NW 1/4 of NW 1/4 of Section 12, Township 17 South, Range 22 West, more particularly described as follows: Beginning at a 1 inch Iron Pipe in the West line of said Section 12, said point of beginning being South 2 degrees 10 minutes West 820.5 feet from a 1-1/4 inch Iron Pipe at the Northwest Corner of said Section 12, thence South 2 degrees 10 minutes West with said West Section line 484.4 feet to the Southwest Corner of said NW 1/4 of NW 1/4, thence North 89 degrees 11 minutes East with the South line of said quarter-quarter section 1229.3 feet to a 1-3/4 inch Iron Shaft at the Southeast Corner of said NW 1/4 of NE 1/4, thence North 2 degrees 04 minutes East with the East line of said quarter-quarter section 499.0 feet to a 1-1/4 inch Iron Pipe, thence South 88 degrees 30 minutes West parallel to the North line of said Section 1229.2 feet to the point of beginning, containing 13.85 acres, more or less.

TRACT NO. 2: 12.52 acres in the NE 1/4 of the NE 1/4 of Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at a 1 inch Iron Pipe at the intersection of an East and West fence line with the East line of said Section 11, said point of beginning being South 2 degrees 10 minutes West 722.5 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence Westerly with said fence the following four courses: North 83 degrees 13 minutes West 302.4 feet, North 81 degrees 19 minutes West 201.4 feet, North 88 degrees 52 minutes West 227.6 feet, South 83 degrees 41 minutes West 160.9 feet to a 1 inch Iron Pipe in branch from which a 24 inch Beech marked "X" bears North 89 degrees East 23.7 feet and a 6 inch Black Gum marked "X" bears South 3 degrees West 20.2 feet, thence Southerly with said branch the following three courses: South 16 degrees 51 minutes West 235.6 feet, South 41 degrees 38 minutes East 120.4 feet, South 1 degree 59 minutes West 288.5 feet to the South boundary line of said NE 1/4 of NE 1/4, thence South 87 degrees 56 minutes East with the South line of said quarter-quarter section 863.7 feet to the Southeast Corner of said NE 1/4 of NE 1/4, thence North 2 degrees 10 minutes East with the East line of said Section 582.4 feet to the point of beginning, containing 12.52 acres, more or less. ALSO, 24.25 acres off the East side of the SE 1/4 of NE 1/4 of Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at the Northeast Corner of said quarter-quarter section, said point of beginning being South 2 degrees 10 minutes West 1304.9 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence North 87 degrees 56 minutes West with the North line of said quarter-quarter section 863.7 feet to a point in the center line of a branch, course Northerly, thence Southerly with said branch the following three courses: South 39 degrees 03 minutes West 141.3 feet, South 10 degrees 55 minutes East 623.7 feet, South 30 degrees 55 minutes East 89.3 feet to the head of said branch, thence South 17 degrees 02 minutes East 179.0 feet to a point at the intersection of the center line of a 24 foot gravel road and South fence extended, thence South 1 degree 19 minutes West with said South fence 344.4 feet to a point on the South line of said quarter-quarter section, thence South 88 degrees 16 minutes East with said South line of quarter-quarter section 694.2 feet to the Southeast Corner of the SE 1/4 of the NE 1/4 of said Section 11, thence North 2 degrees 10 minutes East with the East line of said Section 11, 1304.9 feet to the point of beginning, containing 24.25 acres, more or less.

TRACT NO. 3: 20.53 acres off the East side of the NE 1/4 of the SE 1/4 of Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at the Northeast Corner of said quarter-quarter section, said point of beginning being South 2 degrees 10 minutes West 2603.8 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence North 83 degrees 16 minutes West with the North line of said quarter-quarter section 694.2 feet to a point in a fence, thence South 1 degree 19 minutes West with said fence 1308.4 feet to a point on the South line of said quarter-quarter section, thence South 88 degrees 36 minutes East with said South line of quarter-quarter section 674.5 feet to the Southeast Corner of the NE 1/4 of the SE 1/4 of said Section 11, thence North 2 degrees 10 minutes East with the East line of said Section 11, 1304.9 feet to the point of beginning, containing 20.53 acres, more or less, ALSO The West 7.5 acres of the NE 1/4 of the SE 1/4 of said Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at the Northeast Corner of said quarter-quarter section, said point of beginning being South 2 degrees 10 minutes West 2603.8 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence North 83 degrees 16 minutes West with the North line of said quarter-quarter section 694.2 feet to a point in a fence, thence South 1 degree 19 minutes West with said fence 1308.4 feet to a point on the South line of said quarter-quarter section, thence South 88 degrees 36 minutes East with said South line of quarter-quarter section 674.5 feet to the Southeast Corner of the NE 1/4 of the SE 1/4 of said Section 11, thence North 2 degrees 10 minutes East with the East line of said Section 11, 1304.9 feet to the point of beginning, containing 7.5 acres, more or less.

feet to the South boundary line of said NE $\frac{1}{4}$ of NE $\frac{1}{4}$, thence South 87 degrees 56 minutes East with the South line of said quarter-quarter section 863.7 feet to the Southeast Corner of said NE $\frac{1}{4}$ of NE $\frac{1}{4}$ thence North 2 degrees 10 minutes East with the East line of said Section 582.4 feet to the point of beginning, containing 12.52 acres, more or less. ALSO, 24.25 acres off the East side of the SE $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at the Northeast Corner of said quarter-quarter section, said point of beginning being South 2 degrees 10 minutes West 1304.9 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence North 87 degrees 56 minutes West with the North line of said quarter-quarter section 863.7 feet to a point in the center line of a branch, course Northerly, thence Southerly with said branch the following three courses: South 39 degrees 03 minutes West 141.3 feet, South 10 degrees 55 minutes East 623.7 feet, South 30 degrees 55 minutes East 89.3 feet to the head of said branch, thence South 17 degrees 02 minutes East 179.0 feet to a point at the intersection of the center line of a 24 foot gravel road and South fence extended, thence South 1 degree 19 minutes West with said South fence 344.4 feet to a point on the South line of said quarter-quarter section, thence South 88 degrees 16 minutes East with said South line of quarter-quarter section 694.2 feet to the Southeast Corner of the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of said Section 11, thence North 2 degrees 10 minutes East with the East line of said Section 11, 1304.9 feet to the point of beginning, containing 24.25 acres, more or less.

TRACT NO. 3: 20.53 acres off the East side of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 11, Township 17 South, Range 22 West, more particularly described as follows: Beginning at the Northeast Corner of said quarter-quarter section, said point of beginning being South 2 degrees 10 minutes West 2609.8 feet from a 1-1/4 inch Iron Pipe at the Northeast Corner of said Section 11, thence North 83 degrees 16 minutes West with the North line of said quarter-quarter section 694.2 feet to a point in a fence, thence South 1 degree 19 minutes West with said fence 1308.8 feet to a point on the South line of said quarter-quarter section, thence South 88 degrees 36 minutes East with said South line of quarter-quarter section 674.5 feet to the Southeast Corner of the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of said Section 11, thence North 2 degrees 10 minutes East with the East line of said Section 11, 1304.9 feet to the point of beginning, containing 20.53 acres, more or less, ALSO, The West 7.5 acres of the NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 12, Township 17 South, Range 22 West

TRACT NO. 4: The South 10.62 acres of the SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 12, Township 17 South, Range 22 West.

TRACT NO. 5: The North 29.38 acres of the SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 12, Township 17 South, Range 22 West.

TRACT NO. 6: The North 10 acres of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 14, and the S $\frac{1}{2}$ of SE $\frac{1}{4}$ of SW $\frac{1}{4}$ and the SE $\frac{1}{4}$ of SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 11, containing 30 acres, all in Township 17 South, Range 22 West, containing in the tract, 40 acres, more or less.

All of the lands described hereinabove as tracts 1, 2, 3, 4, 5, & 6, being in Township 17 South, Range 22 West, and containing in the aggregate 158.65 acres, more or less.

Signed for identification:

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

E.W.
yr

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Co.
 Pool Completed In Smackover Line
 Lease Name Kitchens SW $\frac{1}{4}$ No. 1 Address: Street P.O. Box 520
 Exact Location 290' FSL, 450' FWL
 SW $\frac{1}{4}$ of NW $\frac{1}{4}$
 City Magnolia,
 Sec. 12 Twp. 17S Rge. 22W State Arkansas 71753
 County Columbia
 Date Commenced April 8, 1973
 Date Completed May 4, 1973
 Elevation 345.14
 Total Depth Drilled 8515 *Jurassic T.D.*
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

RECEIVED

MAY 23 1973

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM

Conductor: (Size & Wt.) 20' set at 40 ft. w/ sks.
 Surface: (Size & Wt.) 13-3/8" - 48# set at 561 ft. w/ 535 sks.
 Intermediate: (Size & Wt.) 9-5/8" 40# set at 4825 ft. w/ 1530 sks.
 Production: (Size & Wt.) 5 1/2", 26\$ Liner Top @ 4556 set at 8250 ft. w/ 1700 sks.
 Tubing: (Size & Wt.) set at ft.
 Perforations: Size No. Per Foot
 Perforated Intervals: Open hole 8250 - 8515
 Acidized: Yes No ; Interval 8250 - 8515 w/ 20,000 gals.
 Fractured: Yes No ; Interval w/ lbs.
 of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well
 2. Tank battery to which this well is connected: Existing New
 3. Liquid production from this well is sold to ()
 (Address)
 4. Disposition of gas from this well: Vented Fuel Sold
 If sold, to whom
 Address

PRODUCTION

Date of Test Actual Length of Time Tested
 Type Well: Flowing Gas Lift Pump
 Tubing Pressure Casing Pressure Choke Size
 Net Oil Produced bbls. Gas Produced MCF % BSW GOR
 Gravity Oil BHP Recorded
 Net Oil in 24 Hours Open Flow Potential MCF
 Purpose of this test: Original Completion Workover Recompletion
 Allowable Requested

REMARKS: Salt water supply well.
 Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

[Handwritten mark]

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Kitchens No. 1 (Sec.) 12 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

_____% _____%
(Name of Transporter) (Name of Transporter)

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Shirley Knight
No. 3,553

ETHYL CORPORATION

(Company or Operator)
L. C. Reynolds
(Affiant)
L. C. Reynolds
Field Manager

Well: THE DOW CHEMICAL CO. #1 Kitchens-SWS
Loc'n: Sec 12-17S-22W, 280' FSL, 450' FWL SW NW

Result: SWD
IW

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REPRODUCTION PROHIBITED

Spud: 4-8-73; Comp: 5-4-73; Elev: 361' KB; TD: 8515'; C/ Noble Drig Co.
Casing: 20" 40', 13 3/8" 561' /535 sx, 9 5/8" 4825' /1530 sx, 5 1/2" liner 8250' /1700 sx.
Prod Zone: (Smk) prod from OH 8250-8515',
IP: IRNA
Comp Info: Drld to TD 8515', ran EL, set csg, OH 8250-8515', will use as salt wtr
supply well.
Tops: (Elec Log) CV 6083', Buckner 8021', Smk 8230'.
API 03-027-10206



Petroleum Information

CORPORATION

A Subsidiary of A.C. Nielsen Company

Date: 6-5-73

Card No.: 1 Ark

Date: 5/1/2001
 Time: 2:15 PM

----- General Information -----

State	: ARKANSAS	Final Status	: SERVICE
County	: COLUMBIA	Drill Total Depth	: 8515
Field	: KILGORE LODGE	Log Total Depth	:
Operator Name	: DOW CHEMICAL CO THE		
Lease Name	: KITCHENS - SWS		
Well Number	: 1	Spud Date	: APR 08, 1973
API Number	: 03027102060000	Comp Date	: MAY 04, 1973
Regulatory API	:		
Init Lahee Class	: D	Hole Direction	:
Final Lahee Class	: U	Reference Elevation:	354 KB
Permit Number	: 22704	Ground Elevation	:
Geologic Province	: ARKLA BASIN	KB Elevation	: 354
Formation at TD	: 553SMKV		
Oldest Age Pen	: 553		
Township	: 17 S	Section	: 12 SEC
Range	: 22 W	Spot	: SW SW NW
Base Meridian	: 5TH PRINCIPAL MRD		

----- Additional Location Information -----

Footage Location	: 280 FSL 450 FWL CONGRESS QTR		
Latitude	: 33.2782900	Latitude (Bot)	:
Longitude	: -93.3412900	Longitude (Bot)	:
Lat./Long. Source	: TB		

----- Production Tests -----

Test	Top Form	Base Form	Top Depth	Base Depth	Choke	Oil GORGrav	Prod Method	Test Method
001	553SMKV	553SMKV	8250	8515			OPENHOLE	

UNDESIGNATED

----- Production Volume -----

Test	Oil Amount	Unit	Desc	Cond Amount	Unit	Desc	Gas Amount	Unit	Desc	Wtr Amount	Unit	Desc
001												

----- Production Perforation -----

Test	Top	Base	Type	Method	Top Form	Base Form	Status	Count	Density	Per
001	8250	8515		OPENHOLE	553SMKV	553SMKV				

----- Formations -----

Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source
553CNVL	COTTON VALLEY /GROUP/	6083				LOG
553BCKR	BUCKNER	8021				LOG
553SMKV	SMACKOVER	8230				LOG

----- Log Data -----

Run No	Log Type	Top	Base	Log MD	Max Temp
01	IL	0	8515		

----- Casing Data -----

Size	Base	Depth	Cement Unit
20 IN		40	
13 3/8 IN		561	535 SACK
9 5/8 IN		4825	1530 SACK

----- Liner Data -----

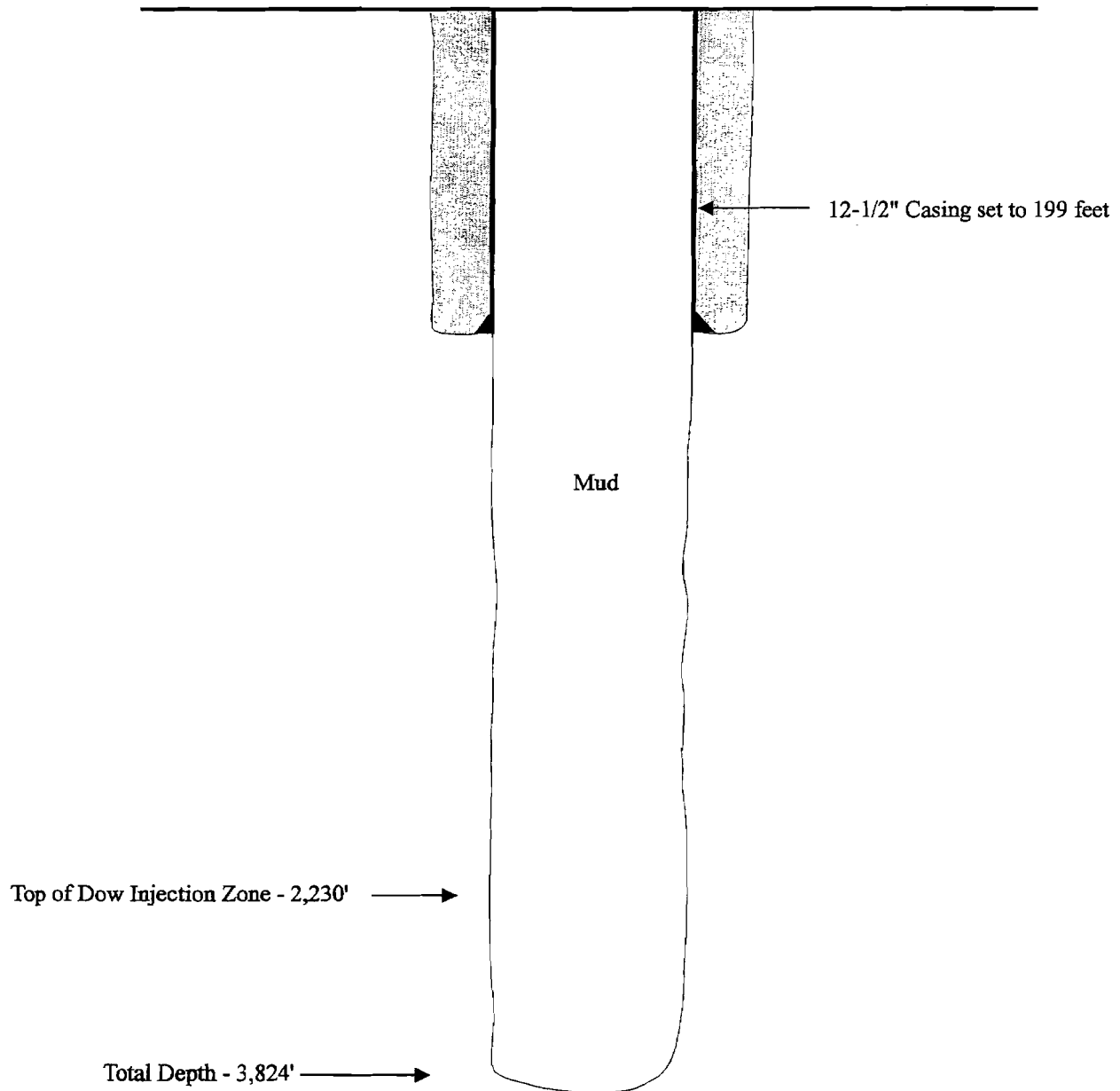
Size	Type	Cement Unit	Top Depth	Base Depth
5 1/2 IN		1700 SACK		8250



Map ID No. 74

Map ID No. - 74
Operator - King Oil Corporation
Field - Wildcat
Well No. - 1
Sec. 13, R-17-S, T-22-W
Completion Date - 12/8/36

API No. -
Serial No. - 6733
Lease - Kitchens et al
Type - Dry Hole
Status - Abandoned
County - Columbia
Date Plugged - 12/8/36



Fill in Two Copies of this with Typewriter
Fill in all Information Requested

Form 1-10-37

JAN 6 1937

Department of ARKANSAS BOARD OF CONSERVATION

Arkansas Board of Conserva

EL DORADO, ARKANSAS

LOG OF WELL—MUST BE SWORN TO

Owner King Oil Corporation Well No. 1 Elevation 326
 Permit No. 6733 Farm Kitchens, Rhea & Fullenwider Polk County, Ark.
 Location NE¹ of SE¹ of NW¹ of Section 13 Township 17S Range 22W
 Drilled by H. H. McBride Data by H. H. McBride

The information given herewith is a correct record and log of above well.

Signed King Oil Corporation

Title By William D. King (President)

Subscribed and sworn to before me this 5th day of Jan. 1937

(Seal)

[Signature]
Notary Public

Started Drilling _____ Finished Drilling _____
 Oil Formation from _____ to _____ Gas Formation from _____ to _____
 Oil Formation from _____ to _____ Gas Formation from _____ to _____
 Oil Formation from _____ to _____ Gas Formation from _____ to _____
 Total Depth 3924 Initial Prod. first 24 hrs. dry Second 24 hrs. _____ Gravity _____
 If Gas Well—Initial Prod. _____ Cubic Feet. Rock Pressure _____

CASING RECORD

Set at 10¹/₂ 199¹/₂ 6in. ft. 8" _____ ft. 6" _____ ft. _____ ft.
 Liner Used " _____ ft. " _____ ft. " _____ ft. " _____ ft.

FROM FEET	TO FEET	FORMATION	FROM FEET	FEET TO	FORMATION
0			1057		shell
199		surface clay and sand	1090		shale
243		shale	1091		shell
244		boulder	1120		soft chalk
280		shale	1121		rock
290		sand	1132		sand
300		shale	1155		sandy shale
540		sand and shale	1176		shale
545		lignite	1177		rock
623		shale and blds	1200		shale
640		shale	1202		rock
641		boulder	1210		hard shale & lignite
650		sticky shale	1250		shale
678		shale	1253		lime rock
699		boulder	1275		hard sandy shale
741		shale	1285		shale
742		shell and shale	1323		shale
780		shale	1324		hard rock
781		rock	1327		shale
800		shale	1328		hard rock
802		rock	1352	1332	shale
820		shale	1336		hard rock
831		rock	1346		shale
860		shale and blds	1349		rock
862		rock	1367		gumbo
870		sand	1370		rock
872		hard sand rock	1372		shale
940		gummy shale	1380		shale
941		rock	1381		shell
948		lignite and shale	1416		sticky shale
957		sand	1457		hard sandy shale
965		shale and sand	1460		rock
1009		shale	1483		shale
1018		brown shale and lignite	1485		boulder
1056		shale and lignite	1496		hard sandy shale & shells

IF ADDITIONAL SPACE NEEDED, USE BACK

1530 shale	3311-3330 light gray shale (cored)
1550 shell and shale	3330-3348 gray sandy shale (cored)
1575 shale	3348-3356 Hd sandy shale & lime
1615 shale and blds	3356-3381 sandy shale & lime
1635 gumbo	3381-3389 sandy lime sticky shale C.
1657 soft shale and boulders	3389-3399 sticky shale
1697 shale and shell	3389-3402 sticky shale
1730 shale	3402-3409 Hd lime & shale
1735 sticky shale	3409-3450 shale & lime streaks
1745 lime shells and shale	3450-3452 Hd shale
1796 sticky shale-measured up	3452-3467 sand
1798 hard lime cap	3467-3550 shale
1813 soft chalk	3550-3576 shale
1884 sticky shale	3576-3586 shale
1907 shale	3586-3593 lime
1918 sandy lime broken and shale	3593-3612 sticky lime & shale
1921 broken lime & shells-chalky fossils Nac.	3612-3616 Hd lime
1939 soft sand and shale breaks	3616-3625 shale & lime
1966 broken lime and sand	3625-3635 sticky shale, streaks sand
1986 shale	3635-3657 shale
1996 gummy lime	3657-3660 Hd lime rock
2040 shale and strks lime	3660-3664 lime
2045 shale and lime shells	3664-3672 red & blue shale (cored)
2055 broken lime and sand, shells	3672-3686 shale
2064 sandy lime and shells	3686-3690 shale & broken sand & lime
2069 hard lime shale and shells	3690-3693 shale & broken lime
2100 sticky lime shale and shell	3693-3696 shale & broken lime
2109 soft shale streaks of chalk	3696-3699 rotten shale
2150 broken lime chalk and shale	3699-3707 dark shale broken lime (C)
2170 chalky shale	3707-3712 shale & shells
2232 chalk	3712-3716 Hd lime rock
2257 shale	3716-3732 sticky lime
2263 broken shale and chalk	3732-3740 hard lime & shale (C)
2300 chalk	3740-3757 hard shale streaks lime
2300 chalk	3757-3774 hard shale & lime
2302 sandy shale	3774-3792 hard lime & streaks anhydrite
2307 hard shale-cored	3792-3824 anhydrite
2320 hard shale	
2335 hard shale and pyrites	
2471 sandy shale	
2510 shale	
2585 soft white lime and shale	
2688 sandy shale	
2706 sandy shale and lime shells	
2712 hard sandy shale, strks lime-cored	
2712-2739 shale	
2739-2760 shale	
2760-2765 shale & shells	
2765-2780 sticky shale	
2780-2790 shale & lime shells	
2790-2828 sandy shale	
2828-2858 Hd shale & lime shells	
2858-2870 sticky shale	
2870-2900 shale & lime shells	
2900-2974 shale & lime shells	
2974-2980 sandy shale & shells	
2980-2985 sandy shale & shells	
2985-3010 shale	
3010-3060 sticky shale	
3060-3127 sticky lime & shale	
3127-3135 sandy lime & shale cored	
3135-3145 shale & sandy lime	
3145-3155 broken sand & sandy lime	
3155-3191 sandy shale	
3191-3192 Hd lime shell	
3192-3194 sand	
3194-3210 sticky shale	
3210-3220 sand	
3220-3273 Hd shale & lime	
3273-3305 Hd sandy lime & shale	
3305-3314 Hd sandy lime	

Nov. 20. Night Tower corrected measurement
3270

3270-3293 coarse sand, gravel & pyrite

Well: Kitchen-Rhea-Fullenwider #1 Kitchens et al
Loc: 500S 566W NE/4 SE NW Sec. 13-17S-22W

Result: Dry

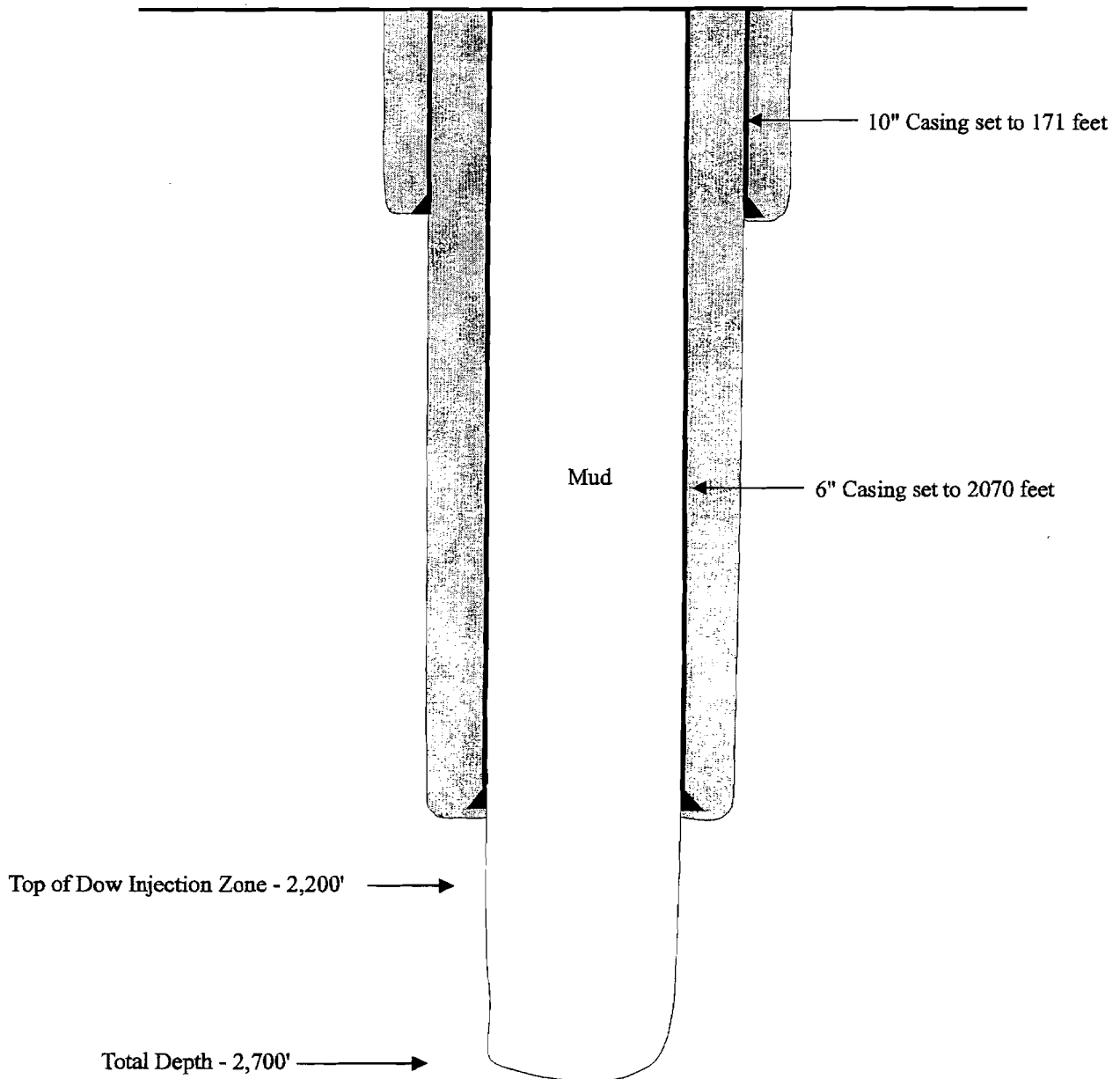
Elev: 327	PRODUCTION:
EL/T	Dry & Abandoned
Nacatoch 1970	
E/Ch. 25B5	
Anhy. 3790	RECORD: SPUD 10/17/36 COMP 12/8/36
TD 3624'	

G. B. Smith
OIL REPORTS

Map ID No. 75

Map ID No. - 75
Operator - Fullenwider
Field - Wildcat
Well No. - 1
Sec. 12, R-17-S, T-22-W
Completion Date - 8/9/24

API No. -
Serial No. -
Lease - Dowdy et al
Type - Dry Hole
Status - Abandoned
County - Columbia
Date Plugged - 8/9/24



TERRA
DYNAMICS INC
ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

Well: (Wepfer) Fullamwider #1 Dowdy et al
Loc: 366N 500W SE/c Sec. 12-17S-22W

Result: Dry

Elev: 307.9'	PRODUCTION:
TD 2700'	Dry & Abandoned
	RECORD: SPUD 10/20/22 COMP 8/9/24
	10" 171'; 6" 2070'

La Parquette
OIL REPORTS

DATE

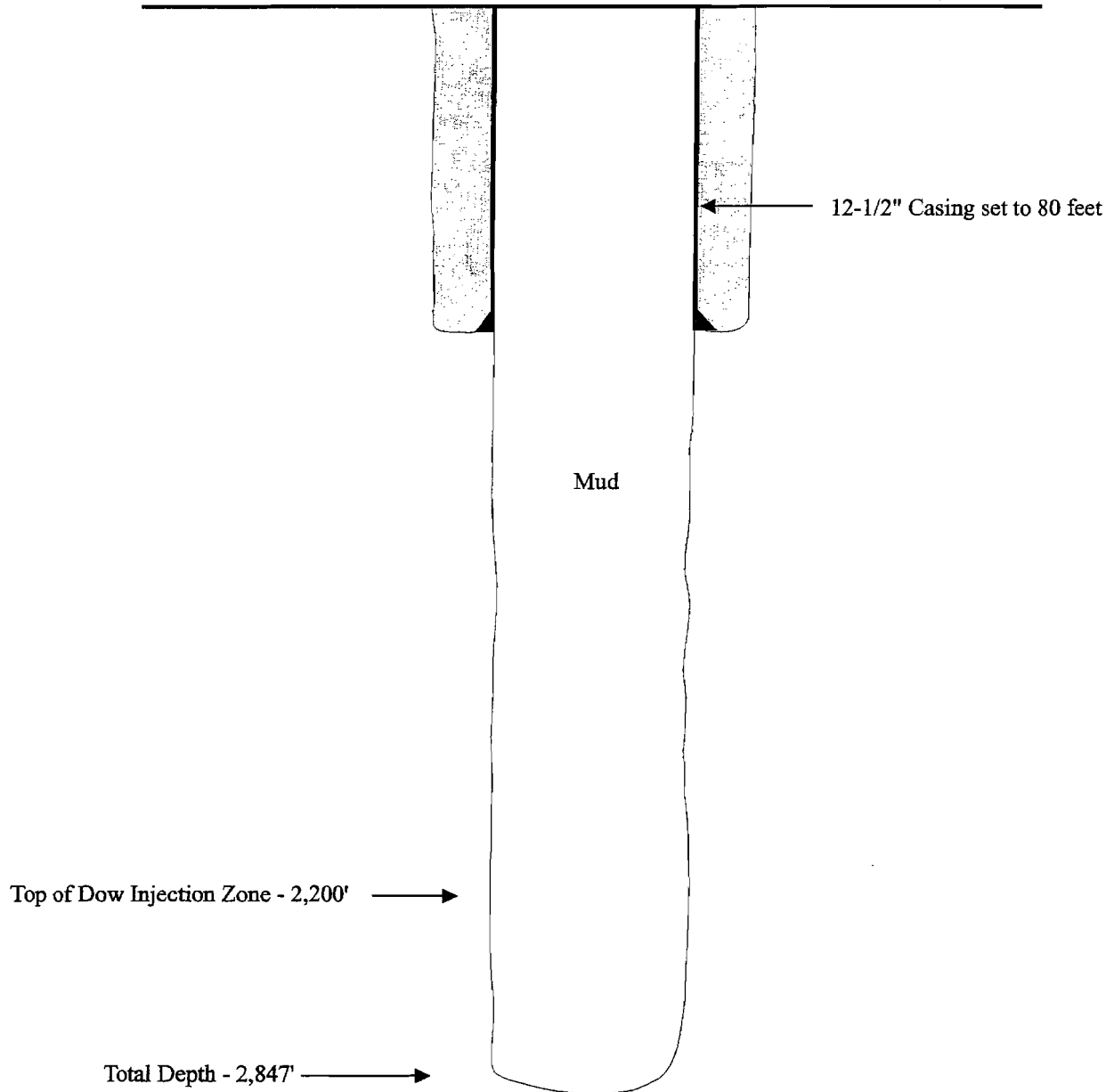
USE NO



Map ID No. 76

Map ID No. - 76
Operator - G. W. Dawley
Field - Wildcat
Well No. - 1
Sec. 12, R-17-S, T-22-W
Completion Date - 3/26/28

API No. -
Serial No. - 5672
Lease - Fullenwider etal
Type - Dry Hole
Status - Abandoned
County - Columbia
Date Plugged - 3/26/28



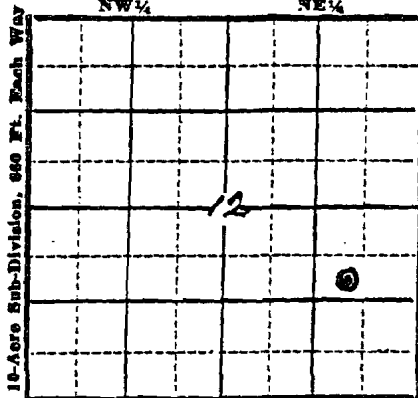
DEPARTMENT OF CONSERVATION AND INSPECTION

Application for Permit to Drill, Deepen, Abandon, or Plug and Perforate

Serial No. 5672

(1) Date FEB 14, 1928

NOTICE—To drill, deepen, abandon or perforate a well in Arkansas without first securing a written permit is an infraction of the law and subject to prosecution.



(2) County COLUMBIA

(3) Farm FULBRIGHT Well No. 1

(4) Sec. 12 T. 17S R. 22W

(5) Land Owner KITCHENS-RHEA

(6) Owner of Well GEORGE W. DAWLEY

(7) Address MAGNOLIA ARKANSAS

(8) Permit to DRILL

Drill, Deepen, Abandon, Plug and Perforate

(9) ~~Oil~~ ~~Gas~~ ~~and~~ Test Well

(10) Location of Well in feet from some corner in the Section 600' E 741' NORTH OF SW

CORNER OF NE 1/4 OF SE 1/4

(11) Send Permit to GEORGE W. DAWLEY

TRUSTEE

MAGNOLIA ARKANSAS

Address

SW 1/4 SE 1/4
SINGLE SECTION PLAT
640 Acres

Mark Well Accurately on Section Plat Shows Above

Two typewritten copies of the log of each well on Department forms must be filed with this office not later than ten days after completion of drilling.

Well: (Fullenwider) Cannt #1 George Dawley
Locn: 241N 660E SW/c NE SE Sec. 12-17S-22W

Result: Dry

Elev:

PRODUCTION:

TD 2847'

Dry & Abandoned

RECORD:

SFUD 2/23/28

COMP 3/26/28

12 1/2" 80'

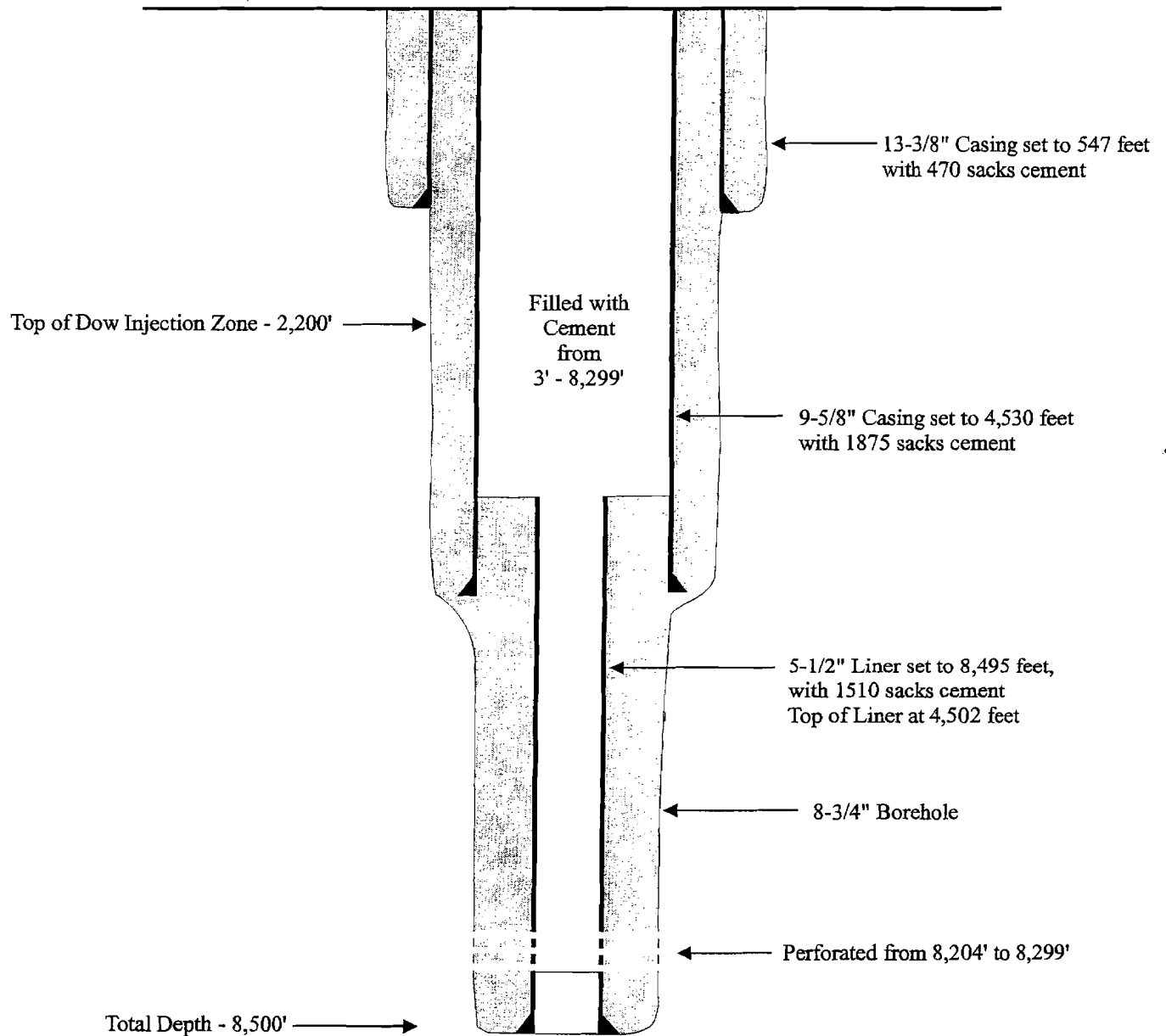
J. R. Roberts
OIL REPORTS

Elev. at approx. 300' for topographic map

Map ID No. 77

Map ID No. - 77
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 1
Sec. 12, T-17-S, R-22-W
Completion Date - 9/29/70

API No. - 03-027-10053
Serial No. - 21,635
Lease - Paul Jameson BSW
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 9/15/93



03 027 10,052

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 21,635

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date May 26, 1970

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name Paul Jameson - Brine Supply Well No. No. 1

Acres in lease 40 Acres

Number of acres in and description of drilling unit 40 Acres

Location of proposed well (Must agree with Surveyor's Plat) 330' from the South Line and 300' from the East line of the NW 1/4 SE 1/4

Section 12 Township 17-S Range R-22-W

County Columbia Field Kilgore Lodge ~~XXXXXX~~

Distance and direction from the nearest town 4 Miles West of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1/2 Miles

Rotary or cable tools Rotary Date work will start June 15, 1970

Name of drilling or workover contractor Noble Drilling Company

Depth to be drilled 8,500'

Formation you propose to complete in Smackover Lime

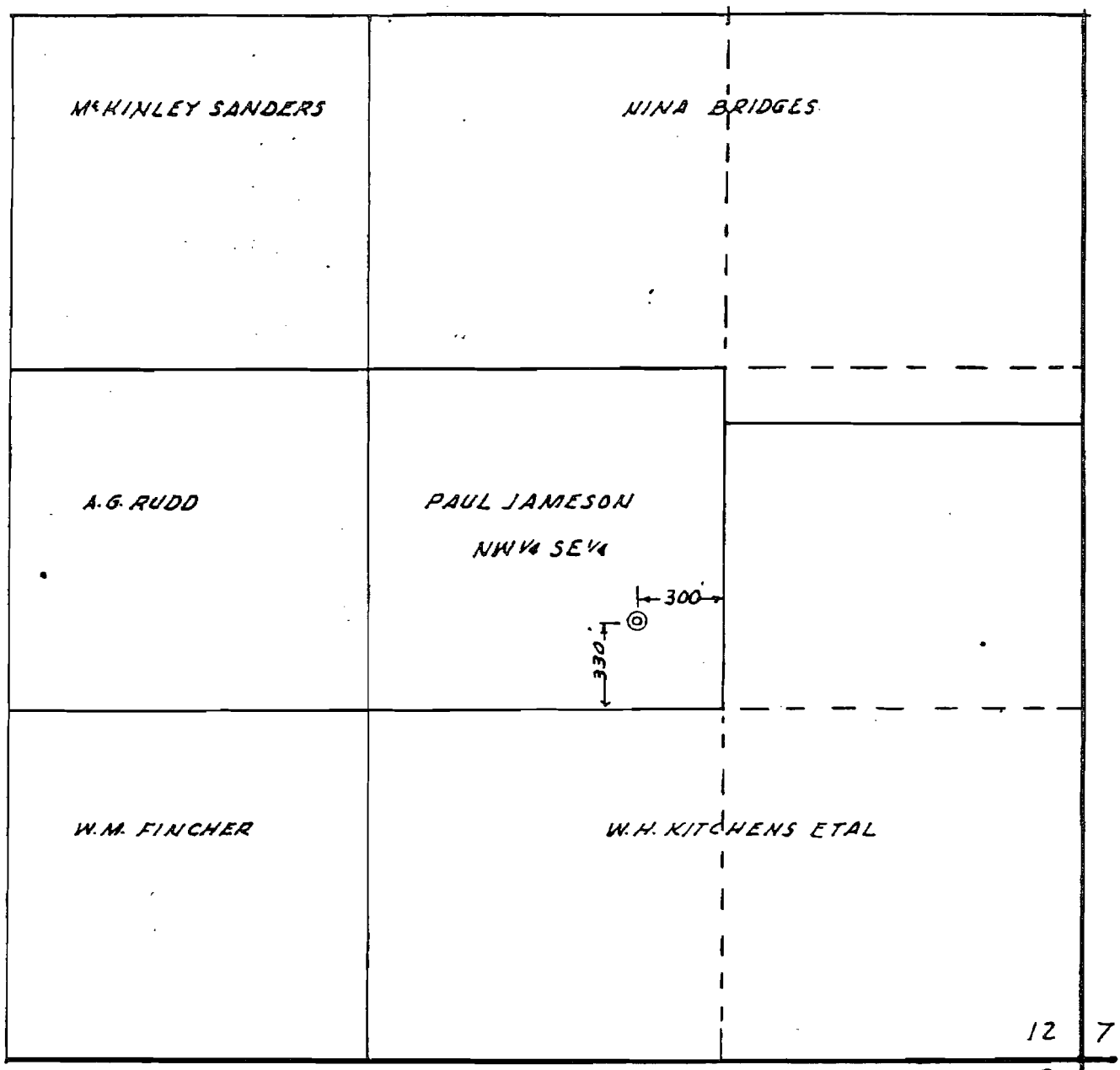
Remarks: _____

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Paul J. Jameson

LF



12 7
13 18

WELL LOCATION PLAT

OPERATOR DOW CHEMICAL CO.
 WELL NAME PAUL JAMESON NO-1
 LOCATION 330' FROM THE SOUTH LINE & 300' FROM THE EAST LINE OF THE NW 1/4 SE 1/4
SECT. 12-7175; R22W, COLUMBIA CO., ARK.

The location shown hereon was staked from a ground survey made MAY 11, 1970.

Scale 1" = 600'

Bill F. Crisp
R.L.S. 484

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.

21635

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

BSU

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator The Dow Chemical Company
Pool Completed In Smackover Line
Lease Name Paul Jameson (BSU) No. 1 Address: Street Box 520
Exact Location 330' FSL, 300' FEL
NW $\frac{1}{4}$ SE $\frac{1}{4}$ City Magnolia
Sec. 12 Twp. 17-S Rge. R-22-W State Arkansas
County Columbia
Date Commenced 6/29/70
Date Completed 9/29/70
Elevation 319 ft.
Total Depth Drilled 8500
Electric Log Run: Yes No
Electric Log Filed: Yes No Enclosed

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" x 5/16" set at 40 ft. w/ 6 yds. sks.
Surface: (Size & Wt.) 13 3/8", 48" set at 547 ft. w/ 470 sks.
Intermediate: (Size & Wt.) 9 5/8", 40# set at 4530 ft. w/ 1875 sks.
Production: (Size & Wt.) (liner) 5 1/2", 17# set at 8495 ft. w/ 1510 sks.
Tubing: (Size & Wt.) _____ set at _____ ft.
Perforations: Size 0.45 No. Per Foot 4
Perforated Intervals: 8204-8245, 8251-8265, 8268-8278, 8284-8299

Acidized: Yes No ; Interval Perforations as above w/ 10,000 gals.
Fractured: Yes No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well 1
2. Tank battery to which this well is connected: Existing pipeline New _____
3. Liquid production from this well is sold to (processed in operator's plant)
(Address _____)
4. Disposition of gas from this well: Vented Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test not applicable Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

RECEIVED

RW

CERTIFICATE

OCT 14 1970

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

[Signature]

ARKANSAS OIL & GAS COMMISSION

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Jameson No. 1 (Sec.) 12 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % _____
(Name of Transporter) %

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Ry Charles Knight
No. 3552

ETHYL CORPORATION
(Company or Operator)
L. C. Reynolds
(Affiant)
Field Manager

ARKANSAS OIL AND GAS COMMISSION
P.O. Box 1472
El Dorado, Arkansas 71731-1472

APPLICATION TO PLUG

Serial No. 21,635

Date 8-9-93

File Original Five Full Days Prior To Beginning Plugging Operations

Operator Ethyl Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Magnolia

State Arkansas Zip 71753

Lease Name Paul Jameson Well No. 1

Location 330' FSL, 300' FEL, NW 1/4 SE 1/4

Section 12 Township 17S Range 22W

Type of well (Oil, Gas or Dry) Brine

Date you wish to plug Tentatively 8-17-93

Total Depth of Well 8500'

Name of party plugging well Halliburton

Address: Street P. O. Box 5335

City Bossier City

State Louisiana Zip 71171

AOGC-2(56) filed by _____ Date filed _____

RECEIVED
AUG 12 1993

ARKANSAS OIL & GAS COMMISSION

R.H
MK

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

One

Arkansas Oil and Gas Commission

P.O. Box 1472

El Dorado, Arkansas 71731-1472

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

**SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS
AND COMPLY THEREWITH.**

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover

form to: Ethyl Corporation County Columbia

Street P. O. Box 729 City Magnolia State Arkansas

Lease Paul Jameson (611) Well No. 1 Sec. 12 Twp. 17S Rge. 22W

Date well was plugged 9-15-93 Total Depth of well 8500'

Was well filled with mud-laden fluid, according to regulations of the Commission? Filled with cement

How much mud applied? _____ Were plugs used? _____ If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement

and rock Well filled with 11.0 lbs./gal cement, 1050 sacks 8299' - 3'

Was notice given before plugging, to all available adjoining lease and land owners as required? N/A

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
20"			40	
13-3/8"			547	
9-5/8"			4530	
5-1/2"			8495	

SEE 20
CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

D.E
MA

AM
JMK

PI/Dwights PLUS Online Summary Report

Well No. 77

Date: 5/1/2001
Time: 2:15 PM

```

----- General Information -----
State      : ARKANSAS           Final Status   : SERVICE
County    : COLUMBIA          Drill Total Depth : 8500
Field     : KILGORE LODGE     Log Total Depth  : 8500
Operator Name : DOW CHEMICAL CO THE
Lease Name  : P JAMESON BRINE SPY
Well Number : 1                Spud Date      : JUN 26, 1970
API Number  : 03027100530000   Comp Date      : SEP 29, 1970
Regulatory API :
Init Lahee Class : D          Hole Direction  :
Final Lahee Class : U          Reference Elevation:
Permit Number  : 21635        Ground Elevation :
Geologic Province : ARKLA BASIN  KB Elevation    :
Formation at TD : 553SMKV          SMACKOVER
Oldest Age Pen : 553          UPPER JURASSIC
Township     : 17 S          Section        : 12 SEC
Range        : 22 W          Spot           : NW SE
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 330 FSL 300 FEL CONGRESS QTR QTR
Latitude         : 33.2745200      Latitude (Bot) :
Longitude        : -93.3315900     Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Oil      Prod      Test
Form   Form     Form     Depth   Depth   Choke    GORGrav  Method   Method
001                8204    8299                PERF
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count      Density      Per
001    8204    8245                PERF                                4
001    8251    8265                PERF                                4
001    8268    8278                PERF                                4
001    8284    8299                PERF                                4
    
```

```

----- Log Data -----
Run No   Log Type      Top      Base      Log      Max
         EL          0        8500     MD       Temp
    
```

```

----- Casing Data -----
SizeBase Depth      Cement Unit
20 IN              40
13 3/8 IN          547
9 5/8 IN           4530      1875 SACK
    
```

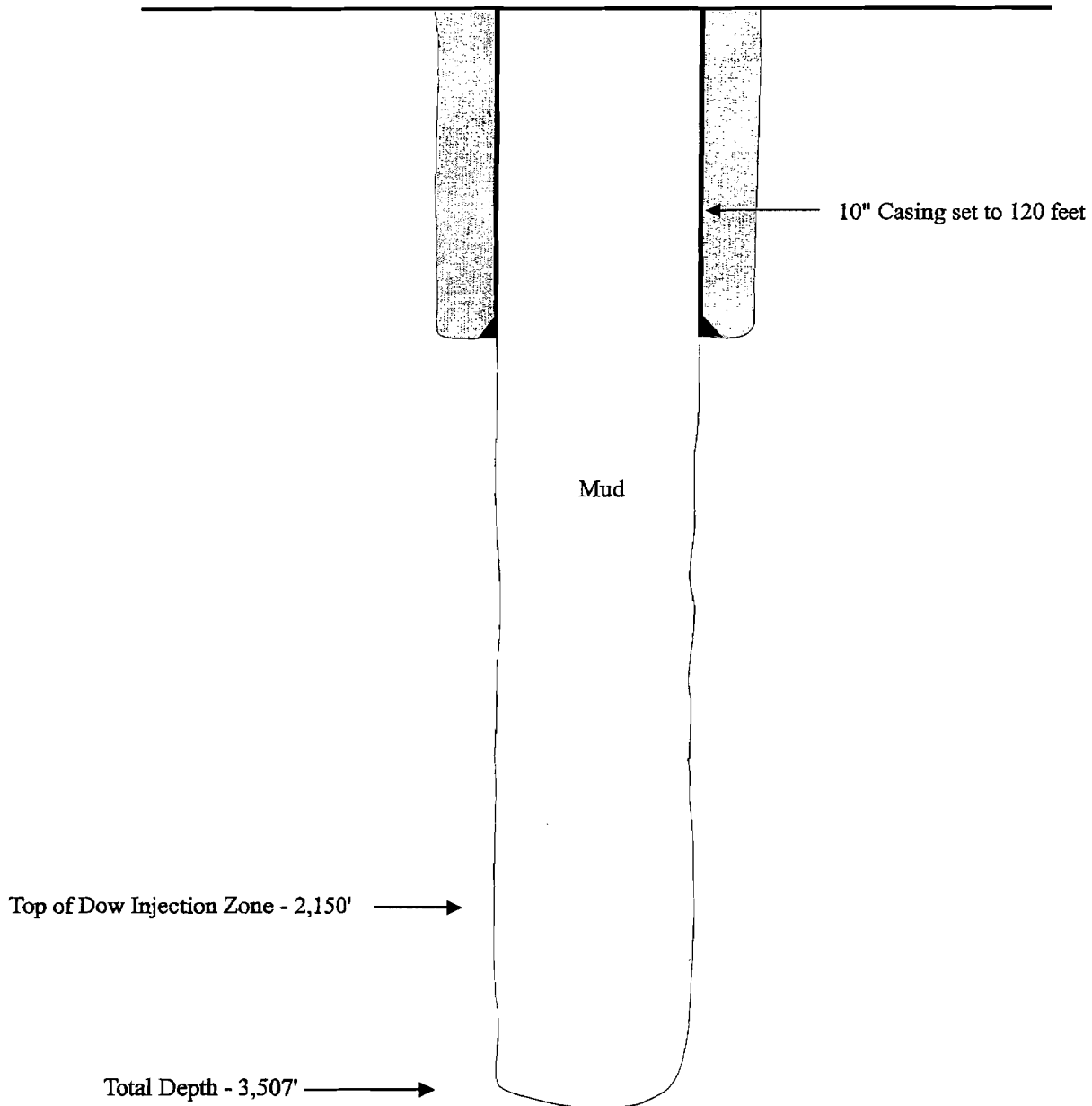
```

----- Liner Data -----
Size      Type      Cement Unit Top Depth      Base Depth
5 1/2 IN                4502          8495
    
```


Map ID No. 78

Map ID No. - 78
Operator - J. G. Cubage
Field - Wildcat
Well No. - 1
Sec. 12, R-17-S, T-22-W
Completion Date - 11/24/35

API No. -
Serial No. - 6593
Lease - Rhea
Type - Dry Hole
Status - Abandoned
County - Columbia
Date Plugged - 11/24/35



ARKANSAS BOARD OF CONSERVATION

Application for Permit to Drill, Deepen, Abandon, or Plug and Perforate

2

Serial No. 6593

(1) Date July 10, 1935

NOTICE—To drill, deepen, abandon or perforate a well in Arkansas without first securing a written permit is an infraction of the law and subject to prosecution.

6

10-Acre Sub-Division, 660 Feet Each Way

NORTH
NW¼ NE¼

SW¼ SE¼

SINGLE SECTION PLAT
640 Acres

Mark Well Accurately on Section Plat Shown Above

Two typewritten copies of the log of each well on Department forms must be filed with this office not later than ten days after completion of drilling.

(2) County Columbia

(3) Farm Kitchens, Rhea & Fullenwider No. 1

(4) Sec. 12, T. 17 S, R. 22 W

(5) Land Owner _____

(6) Owner of Well J. G. Cubage, Trustee

(7) Address Magnolia, Ark.
111 West Monroe

(8) Permit to DRILL
(Drill, Deepen, Abandon, Plug and Perforate)

(9) Oil, Gas or Test Well test

(10) Location of Well, in feet, from some corner in the Section 165' N 330' E of SWc
SE₁ SE₁

(11) Send Permit to J. G. Cubage,
Magnolia, Ark. (Name)
(Address)

Columbia County
Well: J. H. Cubage #1 Rhea
Locn: 150N 330E SW/4 SE SE Sec. 12-17S-22W

Result: Dry

Elev:	PRODUCTION:
EL/T Red Beds 3309	Dry & Abandoned
TD 3507'	RECORD: SPUD 7/14/35 COMP 11/24/35
	10" 120'

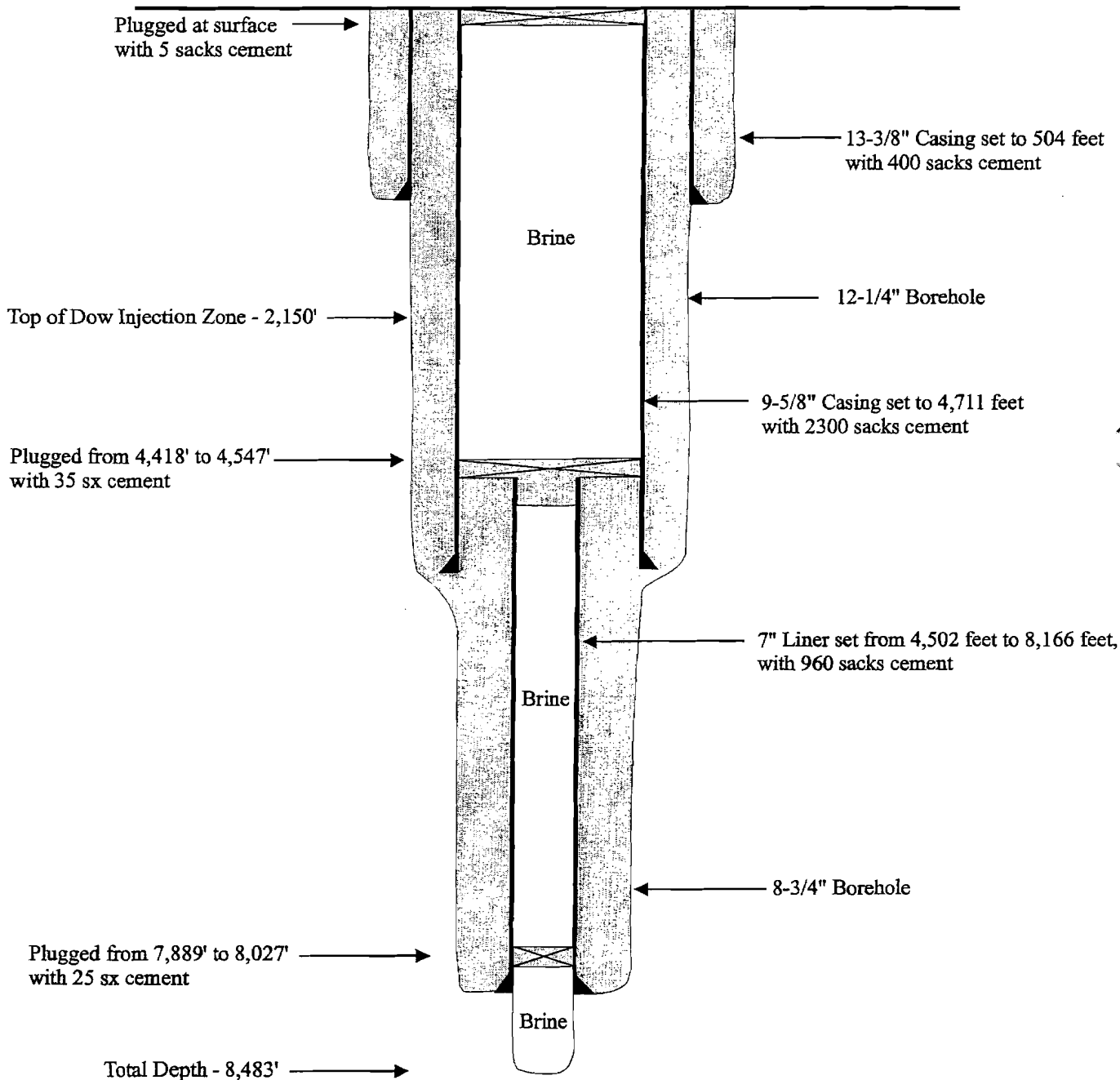
G. B. Smith
OIL REPORTS

Elevation is approximately 300' per top map

Map ID No. 79

Map ID No. - 79
Operator - Ethyl Corporation
Field - Kilgore Lodge
Well No. - 1
Sec. 12, T-17-S, R-22-W
Completion Date - 3/31/74

API No. - 03-027-10262
Serial No. - 23,010
Lease - D. R. Abbott SWS
Type - Brine Supply
Status - Plugged
County - Columbia
Date Plugged - 4/22/88



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ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

03 027 10,262

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 23010

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date February 21, 1974

Name of Operator The Dow Chemical Company

Send Permit to: Street P. O. Box 520

City Magnolia, Arkansas 71753

State _____

Lease Name D. R. Abbott Well No. 1

Acres in lease Not applicable

Number of acres in and description of drilling unit Not applicable

Location of proposed well (Must agree with Surveyor's Plat) 660' from the south line and 280' feet from the east line of the SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of

Section 12 Township 17 South Range 22 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 6 miles west of Magnolia

Distance from proposed location to nearest drilling, completed or applied for well
1500 feet northwest of the Dow Chemical Company Carter # 1.

Rotary or cable tools Rotary Date work will start March 4, 1974

Name of drilling or workover contractor Sawyer Drilling Company

Depth to be drilled 8900 feet

Formation you propose to complete in Smackover

Remarks: _____

RECEIVED

FEB 21 1974

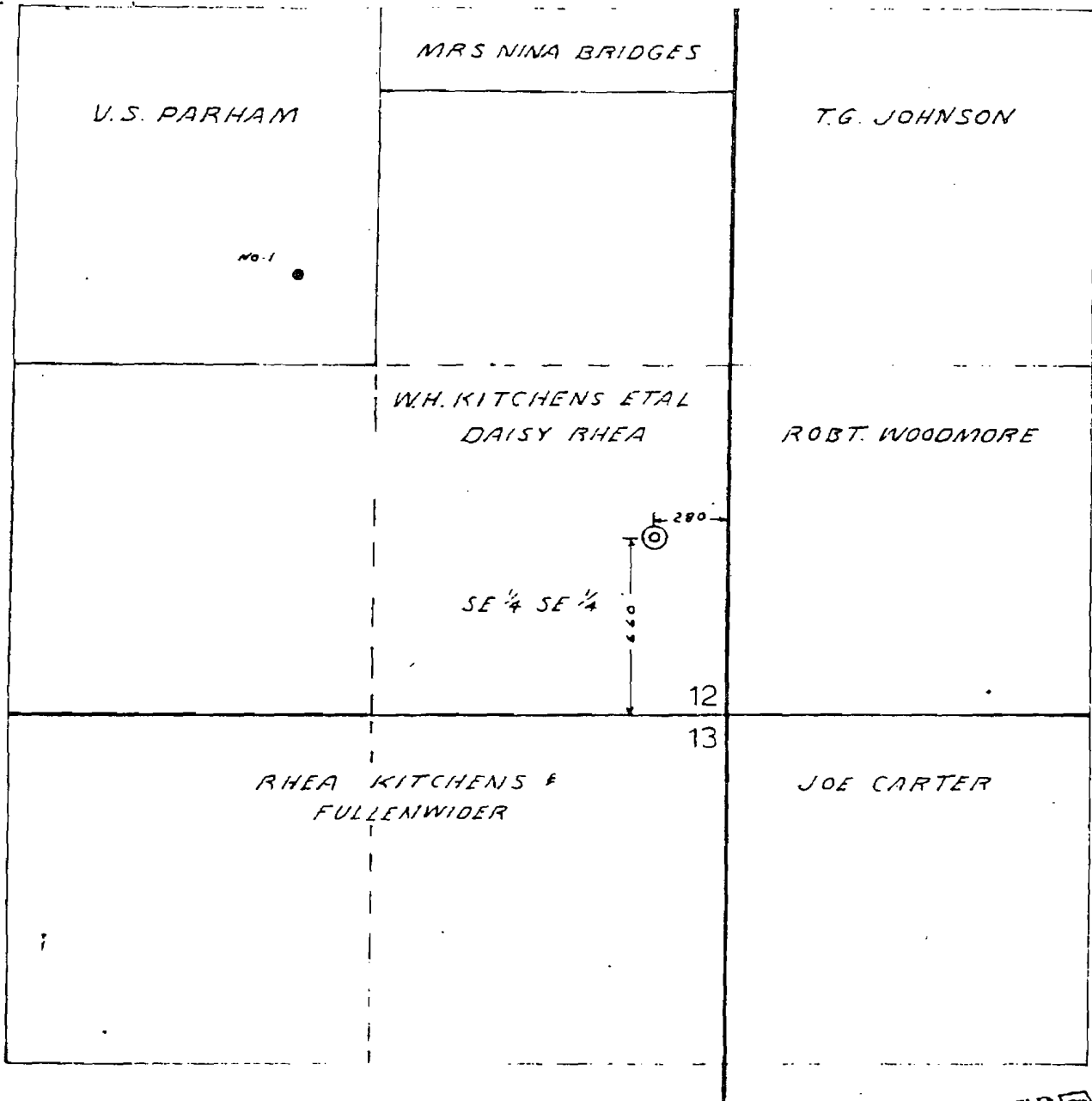
O.K.
12/6

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

M. D. Buckner
M. D. Buckner



WELL LOCATION PLAT

RECEIVED

11 2 1973

OPERATOR DOW CHEMICAL U.S.A
 WELL NAME D.R. ABBOTT
 LOCATION 660 FROM THE SOUTH LINE, AND 280 FROM THE EAST LINE OF THE SE 1/4 SE 1/4 SECT. 12 T-17S, R-22W COLUMBIA CO, ARK.

ARKANSAS OIL & GAS COMMISSION

The location shown hereon was staked from a ground survey made MAY 7 1973

Scale 1" = 600

Phil F. Cline
 R.L.S. 454

CRISP SURVEYING SERVICE
 216 S. Washington St.
 Magnolia, Ark.

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report
(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field KILGORE LODGE Name of Operator The Dow Chemical Co.
Pool Completed In Smackover Lime
Lease Name D. R. Abbott SWS No. 1 Address: Street P.O. Box 520
Exact Location 660' FSL - 280' FEL - SE 1/4
of SE 1/4 City Magnolia,
Sec. 2 Twp. 17S Rge. 22W State Arkansas 71753
County Columbia
Date Commenced 3/1/74
Date Completed 3/31/74
Elevation GL 309.31 - RKB 323.93
Total Depth Drilled 7473
Electric Log Run: Yes No
Electric Log Filed: Yes No

RECEIVED

APR 10 1974

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED BY WELL & GAS COMMISSION

Conductor: (Size & Wt.) 20" set at 40' ft. w/ cir. sks.
Surface: (Size & Wt.) 13-3/8 54# - 61# set at 504' ft. w/ 400 sks. cir
Intermediate: (Size & Wt.) 9-5/8" - 40# set at 4711' ft. w/ 2300 sks. cir
Production: (Size & Wt.) 7" 23# and 26# liner set at 8166 ft. w/ 960 sks. cir
Tubing: (Size & Wt.) 5 1/2" Top - 4502' set at ft.
Perforations: Size No. Per Foot Open hole
Perforated Intervals: 8166 - 8483
Acidized: Yes No ; Interval 8166 - 8483 w/ 20,000 gals.
Fractured: Yes No ; Interval w/ lbs.
of sand; bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well SWS
2. Tank battery to which this well is connected: Existing New
3. Liquid production from this well is sold to ()
(Address)
4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom
Address

PRODUCTION

Date of Test Actual Length of Time Tested
Type Well: Flowing Gas Lift Pump
Tubing Pressure Casing Pressure Choke Size
Net Oil Produced bbls. Gas Produced MCF % BSW GOR
Gravity Oil BHP Recorded
Net Oil in 24 Hours Open Flow Potential MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Handwritten initials and marks on the right margin.

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Abbott No. 1 (Sec.) 12 (Twp.) 17S (Rge.) 22W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % _____
(Name of Transporter) %

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

By Shirley Knight

No. 3547

ETHYL CORPORATION

(Company or Operator)

L. C. Reynolds
(Affiant)

L. C. Reynolds
Field Manager

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 23010

Date 4/18/88

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator Ethyl Corporation

Field Kilgore Lodge

County Columbia

Operator's Address: Street P. O. Box 729

City Magnolia

State Arkansas

Lease Name D. R. Abbott Brine Supply Well No. 1

Location 660' FSL - 280' FEL - SE 1/4 of SE 1/4

Section 12 Township 17S Range 22W

Character of well (Oil, Gas or Dry) Brine Well

Date you wish to plug 4/21/88

Total Depth of Well 8,483'

Name of party plugging well H&N Oil Well Cementing Co. / Gillespie Well Service

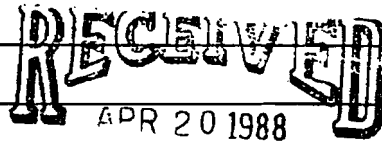
Address: Street P. O. Box 251 P. O. Box 847

City El Dorado Magnolia

State Arkansas 71730 Arkansas 71753

AOGC-2(56) filed by Dow Chemical U.S.A. Date filed ?

Well was drilled 3/1/74 to 3/31/74



ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green
Field Superintendent

[Handwritten signatures and initials: M, SWS, and another signature]

Arkansas Oil and Gas Commission.

EL DORADO, ARKANSAS

PLUGGING RECORD

RECEIVED
MAY 02 1988

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH. ARKANSAS OIL & GAS COMMISSION

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this Pool Smackover Lime

form to: Ethyl Corporation County Columbia

Street P. O. Box 729 City Magnolia State AR

Lease D. R. Abbott BSW Well No. 1 Sec. 12 Twp. 17-S Rge. 22-W

Date well was plugged 4/22/88 Total Depth of well 8483'

Was well filled with mud-laden fluid, according to regulations of the Commission? used water only

How much mud applied? full hole Were plugs used? yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of

cement and rock 25 sacks 7889' to 8027', 35 sacks 4418' to 4547', 5 sacks plug in top of 9-5/8"

Was notice given before plugging, to all available adjoining lease and land owners as required? yes

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
13-3/8"			504	
9-5/8"			4711	
7"			4502	

ME
SW
DJK

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

ARKANSAS OIL AND GAS COMMISSION

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

OF Ethyl Corporation WELL NAME & NO. D. R. Abbott #1
 LOCATION 660' FSL & 280' FEL SE SE SEC. 12 TWP 17 RGE 22
 COUNTY Columbia FIELD Kilgore Lodge CONTRACTOR Gillispie
 CASING PROGRAM PERFORATIONS Open hole
 SURFACE 8166-8483
 PRODUCTION

PRODUCTION PLUG SET AT 8027 FEET, WITH 25 SX WORK DONE BY
H&N
 DATE 4-22-88

WITNESSED BY S. W. Soubly

FRESH WATER PLUG SET AT — FEET, WITH — WORK DONE BY
—
 DATE —

PLUGGED IN TOP OF SURFACE CASING WITH 5 SX
 WITNESSED BY S. W. Soubly

MARKS:

20" @ 40'
 13 3/8" - 54-61" # @ 504'
 9 5/8" ^{40#} @ 4711'
 7" - 23" # d 26" # @ 8166'

4-22-88
 plug @ 4547' w/ 35 SX
 H&N

production casing
 NOT PULLED

Well: THE DOW CHEMICAL CO. #1 D. R. Abbott
Loc'n: Sec 12-17S-22W, 660' FSL, 280' FEL SE SE

Result: SWS
S

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REPRODUCTION PROHIBITED

Spud: 3-1-74; Comp: 3-31-74; Elev: 310' grd, 324' KB; TD: 7473'; C/ Sawyer Drig Co.
Casing: 20" 40', 13 3/8" 504'/400 sz, 9 5/8" 4711'/2300 sz, 7" 8166'/960 sz,
Prod Zone: (Smk) prod from OH 8166-8483',
IR: NA
Comp Info: Drid to 8483', ran logs to TD 8487', set csg, DP,
Tops: (Elec Log) TP 4800', CV 6020', Buckner 7976', Smk 8150',
API 03-027-10262



Petroleum Information

CORPORATION

A Subsidiary of A.C. Atlas Company

Date: 4-23-74

Card No.: 2 Ark.

Date: 5/1/2001
 Time: 2:15 PM

```

----- General Information -----
State          : ARKANSAS          Final Status   : SERVICE
County        : COLUMBIA         Drill Total Depth : 8483
Field         : KILGORE LODGE     Log Total Depth  :
Operator Name : DOW CHEMICAL CO THE
Lease Name    : D R ABBOTT
Well Number   : 1                 Spud Date      : MAR 01, 1974
API Number    : 03027102620000    Comp Date      : MAR 31, 1974
Regulatory API :
Init Lahee Class : U             Hole Direction  :
Final Lahee Class : U             Reference Elevation: 324   KB
Permit Number  : 23010           Ground Elevation : 309
Geologic Province : ARKLA BASIN      KB Elevation    : 324
Formation at TD : 553SMKV             SMACKOVER
Oldest Age Pen : 553             UPPER JURASSIC
Township      : 17 S           Section        : 12 SEC
Range         : 22 W           Spot           : E2 SE SE
Base Meridian : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 660 FSL 280 FEL CONGRESS SECTION
Latitude        : 33.2724000      Latitude (Bot)  :
Longitude       : -93.3272900     Longitude (Bot) :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Oil      Prod      Test
Form   Form     Form     Depth   Depth   GORGrav Method Method
001                                8166    8403                                PERF
UNDESIGNATED
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count Density Per
001   8166    8403                                PERF
    
```

```

----- Formations -----
Form Code Form Name          Top      Top      Base      Base
Depth    TVD    Depth    TVD    Source
Lithology
601TVPTP TRAVIS PEAK /TTP/         4800
553CNVL  COTTON VALLEY /GROUP/     6020
553BCKR  BUCKNER                   7976
553SMKV  SMACKOVER                 8150
    
```

```

----- Log Data -----
Run No   Log Type   Top      Base      Log      Max
         01     EL        0        8483     MD      Temp
    
```

```

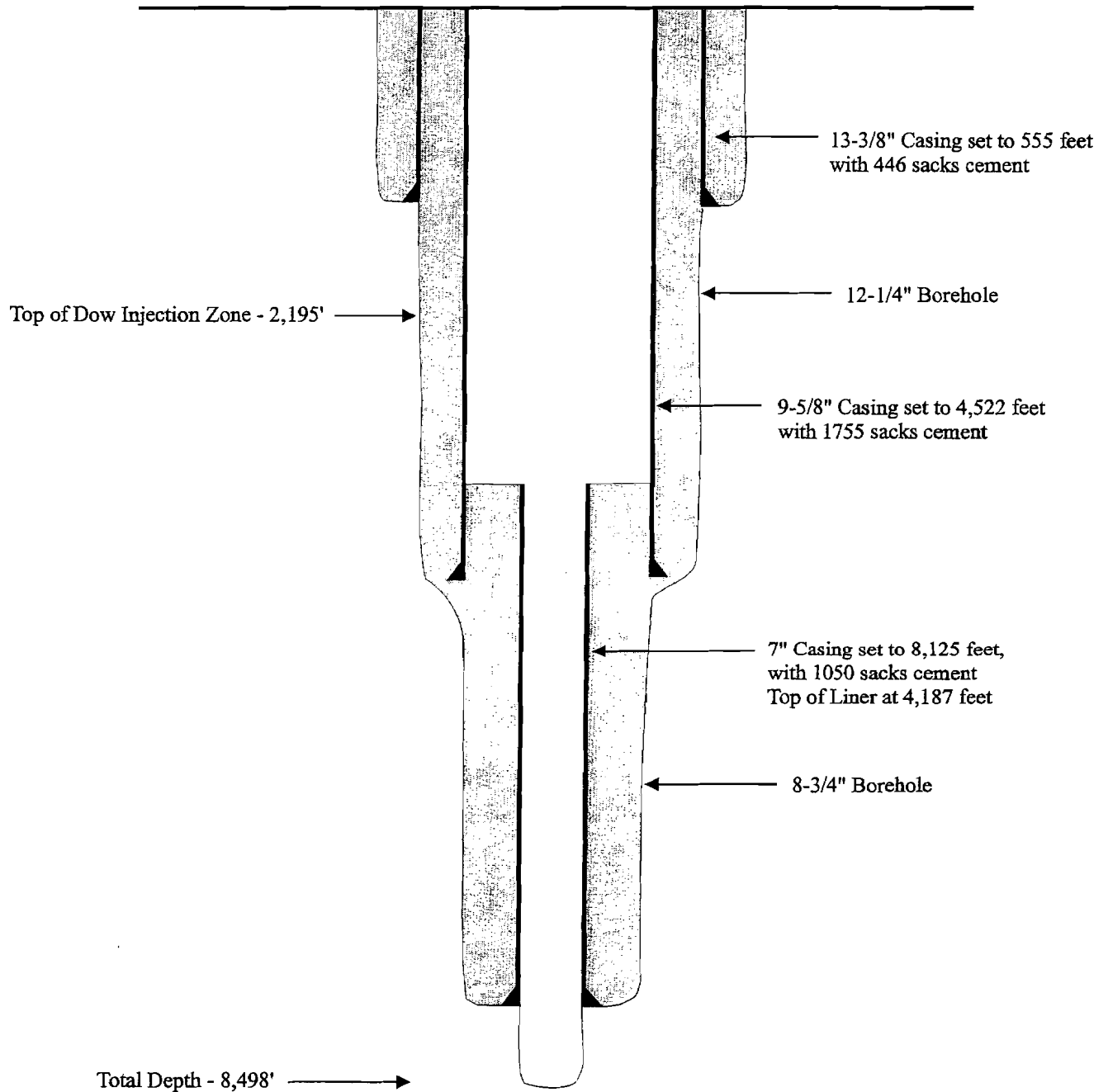
----- Casing Data -----
SizeBase Depth Cement Unit
20 IN      40
13 3/8 IN  504    400 SACK
9 5/8 IN   4711   2300 SACK
7 IN       8166   960 SACK
    
```



Map ID No. 80

Map ID No. - 80
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 1
Sec. 8, T-17-S, R-21-W
Completion Date - 8/7/68

API No. - 03-027-01300
Serial No. -
Lease - Whitehead Construction Co.
Type - Class V Injection
Status - Active
County - Columbia
Date Plugged - N/A



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ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

ARKANSAS OIL AND GAS COMMISSION

El Dorado, Arkansas

Serial No. BRINE SUPPLY WELL

3-12-68

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date March 11, 1968

Name of Operator The Dow Chemical Company

Send Permit to: Street Box 520

City Magnolia

State Arkansas 71753

Lease Name Whitehead Construction Co. Well No. 1

Acres in lease 160

Number of acres in and description of drilling unit 40 acres being SW/4 SE/4

Section 8, T-17-S, R-21-W.

Location of proposed well in drilling unit (give in feet) _____

385' North 532' West of SE Corner of SW SE

Section 8 Township 17-S Range 21-W

County Columbia Field Kilgore Lodge Area

Distance and direction from the nearest town 3 miles West Magnolia

Distance from proposed location to nearest drilling, completed or applied for well _____

1/2 mile

Rotary or cable tools Rotary Date work will start Approx. May 31, 1968

Name of drilling or workover contractor Not known at present

Depth to be drilled 8,500'

Formation you propose to complete in Smackover limestone

Remarks: Oil & Gas production is not contemplated in this well. It

is located for brine production well.

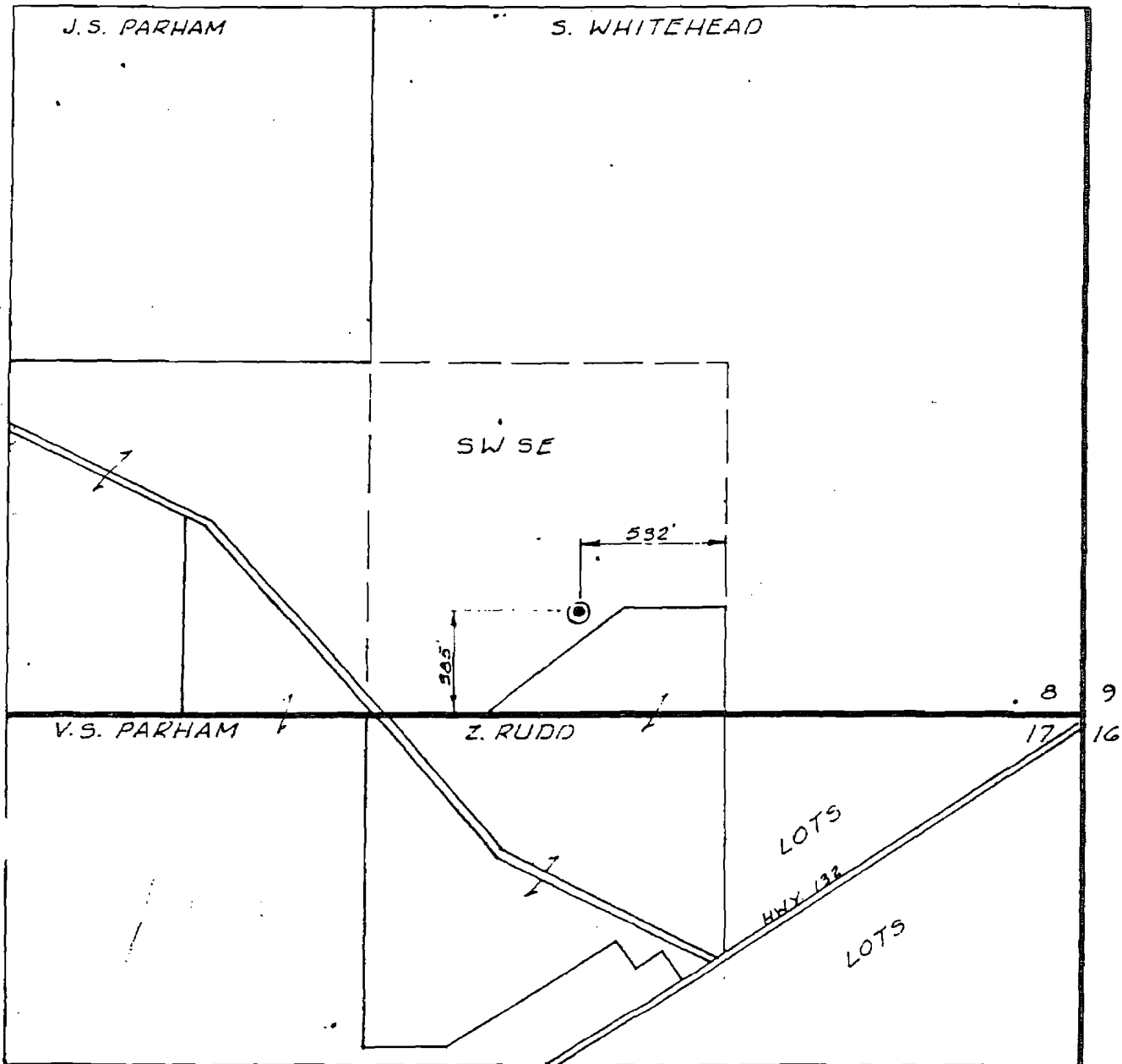
CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

RECEIVED

MAR 12 1968

[Signature] ARKANSAS OIL & GAS COMMISSION



LOCATION PLAT

RECEIVED

MAR 12 1968

WELL NAME Whitehead Construction Co. No. 1

ARKANSAS OIL & GAS COMMISSION

LOCATION 532 ft. from the East line and 385 ft. from the South line of the S. 1/4 SE 1/4 Sec. 8, T-17-S, R-21-W, Columbia County, Ark.

OPERATOR Dow Chemical Co.

The location shown hereon was staked from a ground survey made March 1, 1968

CRISP & GATES
Magnolia, Arkansas

Scale: 1" to 600'

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Name of Operator The Dow Chemical Company
 Pool Completed In Smackover Lime
 Lease Name Whitehead Const. Co. No. 1 Address: Street Box 520
 Exact Location 385' North 532' West of
SE corner S W S E City Magnolia
 Sec 8 8 Twp. 17-S Rge. 21-W State Arkansas 71753
 County Columbia
 Date Commenced 6-11-68
 Date Completed 8-7-68
 Elevation 276.33
 Total Depth Drilled 8498
 Electric Log Run: Yes No
 Electric Log Filed: Yes No (Will file within limit)

RECEIVED

AUG 15 1968

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.)	20" X 5/16" thick.	set at	30	ft. w/	30	skts.
Surface: (Size & Wt.)	13-3/8" ,48 lbs.	set at	555	ft. w/	446	skts.
Intermediate: (Size & Wt.)	9-5/8" ,40 lbs.	set at	4522	ft. w/	1755	skts.
Production: (Size & Wt.)	7" 26 lbs.	set at	4187-8125	ft. w/	1050	skts.
Tubing: (Size & Wt.)	5 1/2" ,17 lbs.	set at	2820	ft.		
Perforations: Size	none	No. Per Foot				
Perforated Intervals:	open hole					

Acidized: Yes No ; Interval 8125 - 8498 ft. w/ 20,000 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well one
- Tank battery to which this well is connected: Existing New
- Liquid production from this well is sold to (Used by producer)
(Address Magnolia, Arkansas)
- Disposition of gas from this well: Vented * Fuel _____ Sold _____ *Collected & flared
If sold, to whom _____
Address _____

PRODUCTION

Date of Test None (see remarks) Actual Length of Time Tested NA
 Type Well: Flowing _____ Gas Lift _____ Pump
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced none bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested NA

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Robert O. Wilson

Handwritten initials: usg, RD, LF

(over)

This well was completed for salt water production. No test was made as to flowing capacity.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.



THE DOW CHEMICAL COMPANY

BOX 520
PHONE 501 - CE 4-2677
MAGNOLIA, ARKANSAS 71753

September 13, 1968

RECEIVED

Arkansas Oil & Gas Commission
314 East Oak Street
El Dorado, Arkansas 71730

SEP 16 1968

ARKANSAS OIL & GAS COMMISSION

Attention: Mr. Ralph A. Dumas, Director

Gentlemen:

Enclosed is an Application To Dispose of Salt Water for the J. O. DeLoach No. 1 well located in Section 24, T-17-S, R-22-W, Columbia County, Arkansas. An application for permit to drill this well was filed August 8, 1968. The delay in filing the disposal application was due to ignorance on my part. I had assumed the disposal application would be filed after the well had been drilled.

I have also enclosed the electric log for the Whitehead Construction Co. No. 1 Well located in Sec. 8, T-17-S, R-21-W. The delay in filing this record was an oversight. However, we would like to keep the information contained in the log confidential for the next several months if possible, and we would appreciate any cooperation you may provide consistent with the practices of your commission.

Thank you for your help.

Very truly yours,

R. O. Vinson
R. O. Vinson

Comp. 8-1-68
Copy to 11-7-68
ROV:wvd

Enc.

September 16, 1968

The Dow Chemical Company
P. O. Box 520
Magnolia, Arkansas 71753

Attention: Mr. R. O. Vinson

Gentlemen:

I have received the application to dispose of salt water into your J. O. DeLoach No. 1 well and the electric log for the Whitehead Construction Company No. 1 well. The disposal application is being processed.

I shall place the electric log on the Whitehead Construction Company well in the confidential file until November 7, 1968. Our regulations permit us to hold the log confidential for a period of 90 days.

Yours truly,

R. A. Dumas, Director
Conservation and Production

RAD:vsq

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field Kilgore Lodge Area Name of Operator The Dow Chemical Company
 Pool/Completed In Smackover Lime
 Lease Name Whitehead Const. Co. No. 1 Address: Street Box 520
 Exact Location 385' North 532' West of
SE corner SW/4 SE/4 City Magnolia
 Sec. 8 Twp. 17-S Rge. 21-W State Arkansas 71753
 County Columbia
 Date Commenced 6-11-68
 Date Completed 8-7-68
 Elevation 276.33
 Total Depth Drilled 8498
 Electric Log Run: Yes No
 Electric Log Filed: Yes No (Will file within limit)

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" X 5/16" thick. set at 30 ft. w/ 30 sks.
 Surface: (Size & Wt.) 13-3/8" ,48 lbs. set at 555 ft. w/ 446 sks.
 Intermediate: (Size & Wt.) 9-5/8" ,40 lbs. set at 4522 ft. w/ 1755 sks.
 Production: (Size & Wt.) 7" 26 lbs. set at 4187-8125 ft. w/ 1050 sks.
 Tubing: (Size & Wt.) 5 1/2" ,17 lbs. set at 2820 ft.
 Perforations: Size none No. Per Foot _____
 Perforated Intervals: open hole

Acidized: Yes No ; Interval 8125 - 8498 ft. w/ 20,000 gals.
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil.

LEASE DATA

- Number of wells located on this lease, including this well one
- Tank battery to which this well is connected: Existing New
- Liquid production from this well is sold to (Used by producer)
(Address Magnolia, Arkansas)
- Disposition of gas from this well: Vented * Fuel _____ Sold _____ *Collected & flared
If sold, to whom: _____
Address _____

PRODUCTION

Date of Test None (see remarks) Actual Length of Time Tested NA
 Type Well: Flowing _____ Gas Lift _____ Pump
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced none bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHIP Recorded _____
 Net Oil in 24 Hours _____ Open Flow Potential _____ MCF
 Purpose of this test: Original Completion Workover _____ Recompletion _____
 Allowable Requested NA

REMARKS:

Please use reverse side of this page for all pertinent remarks.



CERTIFICATE

ARKANSAS OIL & GAS COMMISSION

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Robert O. Wilson

This well was completed for salt water production. No test was made as to flowing capacity.

RECEIVED
JUL 10 1985

ARKANSAS OIL & GAS COMMISSION

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

RECEIVED
JUL 31 1985

OPERATOR: DOW CHEMICAL U.S.A.

ADDRESS: P. O. Box 520

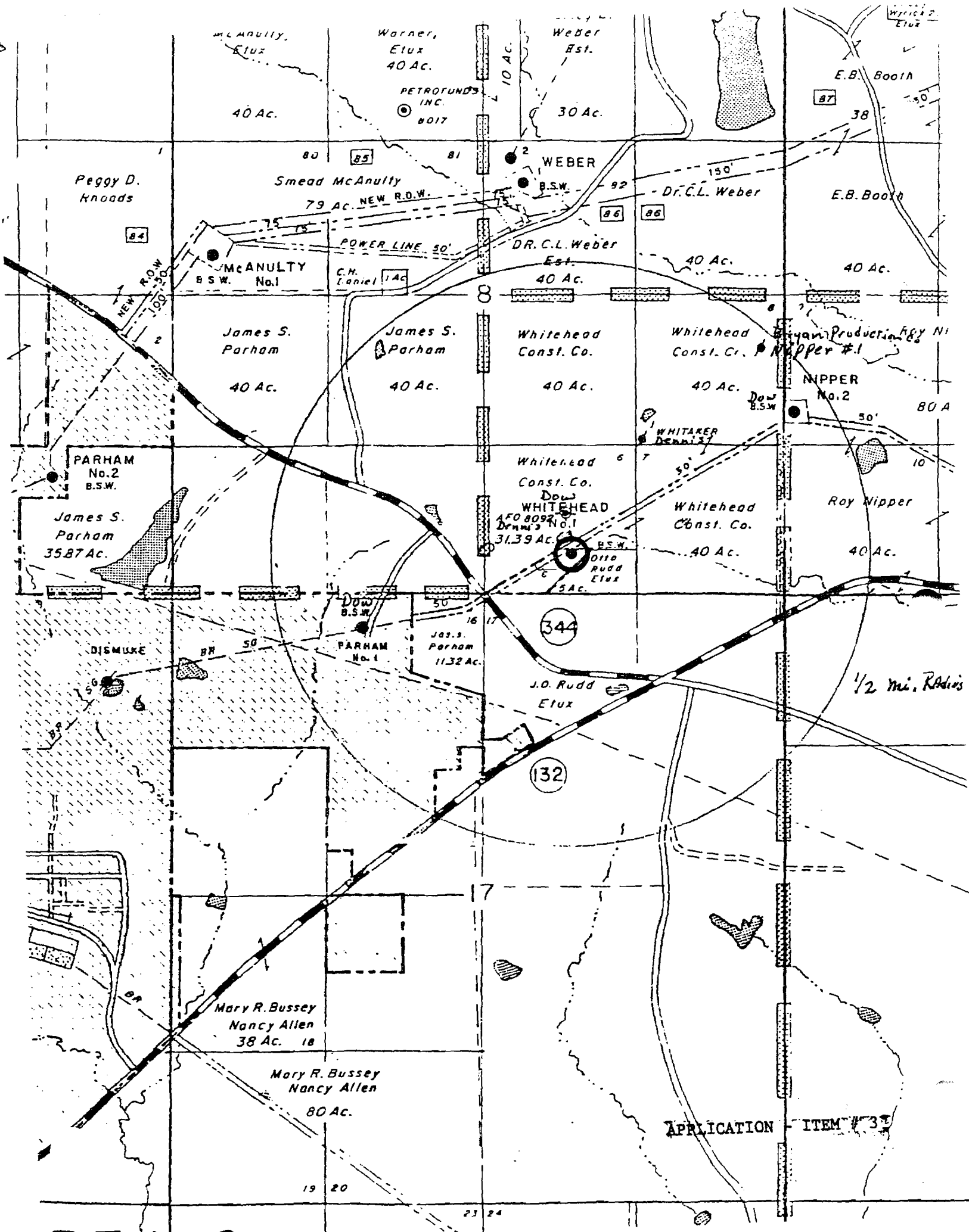
ARKANSAS OIL & GAS COMMISSION

CITY: Magnolia STATE Arkansas ZIP 71753

BRINE SUPPLY WELLS

<u>FIELD</u>	<u>LEASE</u>	<u>WELL NO.</u>
KILGORE LODGE	ABBOTT	1
KILGORE LODGE	CARTER	1
KILGORE LODGE	DOW FEE	2
KILGORE LODGE	ELLISON	1
KILGORE LODGE	FORD	1
KILGORE LODGE	HOLMES	1
KILGORE LODGE	JAMESON	1
KILGORE LODGE	KITCHENS	1
KILGORE LODGE	McANULTY	1
KILGORE LODGE	NIPPER	1
KILGORE LODGE	NIPPER	2
KILGORE LODGE	PARHAM	2
KILGORE LODGE	WEBER	1
KILGORE LODGE	WOODWARD	1
KILGORE LODGE	* MCCOWN	1
KILGORE LODGE	* SMITH	1
KILGORE LODGE	* WEBER	2

*DRILLED - NOT YET COMPLETED



APPLICATION ITEM # 33

DEAD

23 24

APPLICATION TO INJECT SALT WATER/ENHANCED RECOVERY FLUID

Arkansas Oil & Gas Comm.
314 East Oak St.
El Dorado, AR 71738-5896

Arkansas Dept. of Pollution
Control and Ecology
P.O. Box 851
El Dorado, AR 71738

NOTE: In an effort to reduce the amount of paperwork necessary to permit a Salt Water Injection System both regulatory agencies involved have combined their applications. Upon completion of this form send a copy to each agency listed above.

OWNER/OPERATOR Dow Chemical U.S.A.

address:

STREET P. O. Box 520 CITY Magnolia STATE AR ZIP 71753

A list of the names, addresses, and telephone numbers of supervisory and field personnel responsible for the disposal system.

<u>J. O. Ball</u>	<u>Rt. 4, Box 563</u>	<u>Magnolia, Ar 71753</u>	<u>234-6144</u>
	<u>P. O. Box 520</u>	<u>Magnolia, Ar 71753</u>	<u>235-2300</u>

1. This application is for approval to inject (X) Produced Salt Water () Enhanced Recovery Fluid

into the (ZONE) SMACKOVER, at a depth interval of 8125 - 8194 feet SUB-SURFACE, in the system known as WHITEHEAD CONST. CO.# 1 Located 385'N & 532'W of SEC of SW/4 SE/4 of Section 8 Township 17S Range 21W in Kilgore Lodge FIELD, Columbia County, Arkansas. The nearest city/town is Magnolia, Ar

This zone (X) is () is not known to be productive of oil or gas.

It is proposed to begin disposal operations on or about July 1, 1985. The estimated cost of the facilities is \$ 250,000.

2. (Complete either (A) or (B) as applicable.) See Attachment for construction requirements

A (X) This well is a COMPLETED well and will be converted to injection service; it is cased and cemented as indicated below

(SIZE) <u>13-3/8"</u> - <u>48#</u> Surface Casing set at <u>517.87</u> feet with <u>446</u> sacks.
<u>9-5/8"</u> - <u>40#</u> from surface to <u>4522.3</u> feet with <u>1755</u> sacks.
(SIZE) <u>7"</u> - <u>26#</u> Production Casing set at <u>8125</u> feet with <u>1050</u> sacks.

(SIZE) 7" & 4-1/2" injection tubing set at 8030 feet with PACKER set at 8050 feet.

(Note: The packer can be set no higher than 100 feet above injection interval)

All available logs are enclosed: () YES, (X) NO

Hole/bit size is 8-3/4 inches.

Total depth of the well is 8,498 feet.

RECEIVED
JUN 12 1985

B () This well WILL BE DRILLED for injection service and a regular Arkansas Oil & Gas Commission application will be submitted. We plan to case and cement the well as indicated below:

June 21, 1984

10, 1985 - AMENDED

OPERATOR DOW CHEMICAL U.S.A.

ADDRESS P. O. Box 520

CITY Magnolia STATE Arkansas ZIP 71753

FIELD	LEASE/UNIT	WELL NO.
KILGORE LODGE	SOUTER	1
KILGORE LODGE	BUTLER	1
KILGORE LODGE	SOUTER	3
KILGORE LODGE	SHARP	1
KILGORE LODGE	SOUTER	2
KILGORE LODGE	SOUTER	4
KILGORE LODGE	LOVELL	1
KILGORE LODGE	DOW FEE	1
KILGORE LODGE	* PARHAM	1
KILGORE LODGE	* WHITEHEAD CONSTRUCTION CO.	1

* APPLICATION FOR PERMIT PENDING



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street ■ El Dorado, Arkansas 71730

William E. Wright
Director

Ph. 501 862-4965

July 31, 1985

Dow Chemical Company
P.O. Box 520
Magnolia, AR 71753

RE: Whitehead Const. Co. #1
Section 8-17S-21W
Kilgore Lodge Field
Columbia County, Arkansas

Gentlemen:

Your application filed for authority to dispose of produced salt water into the referenced well has been reviewed and appears to meet the necessary requirements of the state. Please consider this letter as your authority to use the referenced well for disposal of produced water only, and in accordance with the provisions of the application as filed. Disposal shall be down the tubing string with a packer set immediately above the disposal zone as approved. Provisions to monitor the annulus between the tubing and casing strings shall also be required.

Only water from the applied for and approved brine wells shall be authorized for disposal into the Whitehead Const. Co. #1 BIW and volumes and pressures shall comply with the application as filed.

It is requested that upon completion of the referenced salt water disposal that this office be notified for inspection and running of a mechanical integrity test on the referenced well. Additionally, monthly disposal reports (AOGC-14) shall be required; whereas, both annulus pressure and injection pressure are shown. Further, a completion report shall be filed indicating the perforated interval and tubing and packer settings.

Yours very truly,

Martin T. Perdue
Petroleum Engineer

MTP:tml

cc: Department of Pollution Control & Ecology
Well File

COMMISSION MEMBERS ■ E. Boyd Alderson, Chairman, El Dorado
C. G. Davis, Vice Chairman, Magnolia ■ Ned R. Price, Smackover ■ James O. Staggs, Magnolia
Hayes C. McClerkin, Texarkana ■ Spence A. Leamons, Fort Smith ■ James D. Reynolds III, Camden

An Agency of the Arkansas Department of Commerce

Arkansas Oil and Gas Commission

311 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Whitehead No. 1 (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes N/A
(Name of First Purchaser)

Whose principal place of business is _____
(Street) (City) (State)

And whose field address is _____

To transport _____% of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

(Name of Transporter) % _____
(Name of Transporter) %

marks:

Change of operators from Dow Chemical U.S.A. to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 1987

APPROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

Churley Knight
No. 7545

ETHYL CORPORATION

L. C. Reynolds
(Company or Operator)
(Affiant)
L. C. Reynolds
Field Manager



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street ■ El Dorado, Arkansas 71730

William E. Wright
Director

Ph. 501 862-4965

April 30, 1982

FILE

Mr. J.O. Ball
Dow Chemical U.S.A.
Highway 132 South
Magnolia, Arkansas 71753

Dear Sir:

We have received your application to inject produced brine from your Parham No. 1 well into your Whitehead Construction Company No. 1 well in Section 8, Township 17 South, Range 21 West in the Kilgore Lodge Field, Columbia County, Arkansas. ✓

Disposal shall be required to be down the tubing string with a packer or other isolation equipment set immediately above the proposed disposal zone. Provisions to monitor the annulus between the tubing and casing strings shall also be required.

Injection pressures shall be confined to such pressures which will not fracture the confining beds of the authorized disposal zone.

Further, only water from the applied for and approved wells shall be authorized for disposal into the proposed SWD well.

This letter will be your authority to conduct the operations covered by your application for 30 days. Your attention is directed to the necessity of securing compliance with the provisions of Rule C-7, Section E, which is found on Page 19 of the General Rules and Regulations.

It is requested that upon completion of this system, that this office be notified for inspection purposes.

Yours truly,

John G. Ragsdale
Petroleum Engineer

JGR:mrt

cc: Dept. of Pollution
Control & Ecology
P.O. Box 851

El Dorado, AR 71730

COMMISSION MEMBERS ■ E. Boyd Alderson, Chairman, El Dorado
C. E. Davis, Vice-Chairman, Magnolia ■ Ned R. Price, Smackover ■ James O. Staggs, Magnolia
Hayes C. McClarkin, Texarkana ■ Spence A. Leamons, Fort Smith ■ James D. Reynolds III, Camden

1/11/73

SWD-1

ARKANSAS OIL AND GAS COMMISSION
EL DORADO, ARKANSAS

APPLICATION TO DISPOSE OF SALT WATER

OPERATOR Dow Chemical U.S.A. FIELD Kilgore Lodge

ADDRESS Highway 132 S. Magnolia STATE Arkansas
Street City

1. Application is hereby made to dispose of produced salt water in the section 8125' to 8494' subsurface by (Depth) Depth)

injecting said water into the Whitehead Construction Co. #1 (Name of Well)

Sec. 8 Twp. 17S Rge. 21W Smackover pool. (Injection Formation)

Exact Location 385' N & 532' W of SE/C SW SE of 8 Elevation 276'

Columbia County, Arkansas.

2. Applicant understands that this application must remain on file for 10 days prior to action being taken thereon.

Applicant will fill out a regular application for permit to drill (no fee charge) prior to commencement of operation and also file regular completion report when well is completed.

3. The location of all oil and gas wells, including abandoned and drilling wells and dry holes, and the names of the land owners and lessees within one-half mile of the disposal well are presented on Figure I.

4. Only water produced from wells listed below will be injected into the disposal well.

<u>Well Names and Numbers</u>	<u>Location:</u>	<u>Sec.</u>	<u>Twp.</u>	<u>Rge.</u>
Parham #1		17	17S	21W

Not Applicable

Pipeline Purchaser/s by Leases

Address

5. The proposed disposal well is cased and cemented as follows:

Size	13-3/8" - 48#	Surface	517.87	feet cemented with	446	sacks.
	9-5/8" - 40#		4522.3	feet cemented with	1755	sacks.
Size	7" - 26#	Production	3929	feet cemented with	1050	sacks.

6. The estimated minimum and maximum amounts of water to be injected are

5,000 to 10,000 barrels respectively.

water per day.

- 7. Upon commencement of operation, I will notify the Commission of the same.
- 8. Applicant agrees to keep accurate records of the amount of water disposed of and file such information with the Commission for each calendar month.
- 9. The operators listed below were notified of this Application and were mailed a copy of same by First Class Mail from Not Applicable (Where)

Arkansas, on _____ (Date)

NAME OF OPERATOR	ADDRESS
_____	_____

I, J. O. Ball, an employee of the Dow Chemical U.S.A. (Name of Company)

_____ Oil Company, do certify that the information presented above, as well as the other provisions of Rule C-7 of the General Rules and Regulations of the Arkansas Oil and Gas Commission, to the best of my knowledge and belief, is true, correct and complete.

Signed: J. O. Ball

Note: If more space is needed to list connected wells, use reverse side of this sheet. Send original (1 copy) to Arkansas Oil and Gas Commission.



DOW CHEMICAL U.S.A.

April 22, 1982

POST OFFICE BOX 520
MAGNOLIA, ARKANSAS 71753

501 - 235-2300

Mr. Bill Wright
Arkansas Oil and Gas Division
314 East Oak
El Dorado, AR 71730

Dear Mr. Wright:

Enclosed is permit application to reinject Cotton Valley brine from our Parham #1 well into the Smackover of our Whitehead Construction #1 per our telecon of 4/20. I will contact you before the reinjection is started. The duration of this Cotton Valley test should be a week to 10 days injection time. We will certainly record the quantity of brine reinjected and pay the appropriate taxes for this test. Your cooperation in this matter is certainly appreciated.

Respectfully yours,

A handwritten signature in cursive script that reads "Jim Ball".

Jim Ball

dl

Enclosures

Date: 5/1/2001
Time: 2:15 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : SERVICE
County         : COLUMBIA           Drill Total Depth : 8498
Field          : KILGORE LODGE       Log Total Depth  : 8498
Operator Name  : DOW CHEMICAL CO THE
Lease Name     : WHITEHEAD CONSTR CO
Well Number    : 1
API Number     : 03027013000000      Spud Date       : JUN 11, 1968
Regulatory API :
Init Lahee Class : U                    Hole Direction   :
Final Lahee Class : U                    Reference Elevation:
Permit Number   :
Geologic Province : ARKLA BASIN       Ground Elevation :
Formation at TD :
Oldest Age Pen : 553                UPPER JURASSIC  KB Elevation     :
Township       : 17 S                    Section          : 8 SEC
Range          : 21 W                    Spot             : SW SE
Base Meridian  : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 385 FSL 532 FEL CONGRESS QTR QTR
Latitude         : 33.2706600          Latitude (Bot)   :
Longitude        : -93.2996900        Longitude (Bot)  :
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test   Top      Base      Top      Base      Oil      Prod      Test
Form   Form     Form     Depth   Depth   GORGrav Method Method
001    553SMKV   553SMKV   8125    8498
UNDESIGNATED                                OPENHOLE
    
```

```

----- Production Volume -----
Test   Oil      Cond      Gas      Wtr
Amount Unit Desc Amount Unit Desc Amount Unit Desc Amount Unit Desc
001
    
```

```

----- Production Treatment -----
Test   Top      Base      Volume MeasAmount T/P PSI Inj Type Nbr Agent Add
001    8125    8498    20000 GAL ACID
    
```

```

----- Production Perforation -----
Test   Top      Base      Type      Method      Top Form      Base Form      Status Count Density Per
001    8125    8498
OPENHOLE 553SMKV 553SMKV
    
```

```

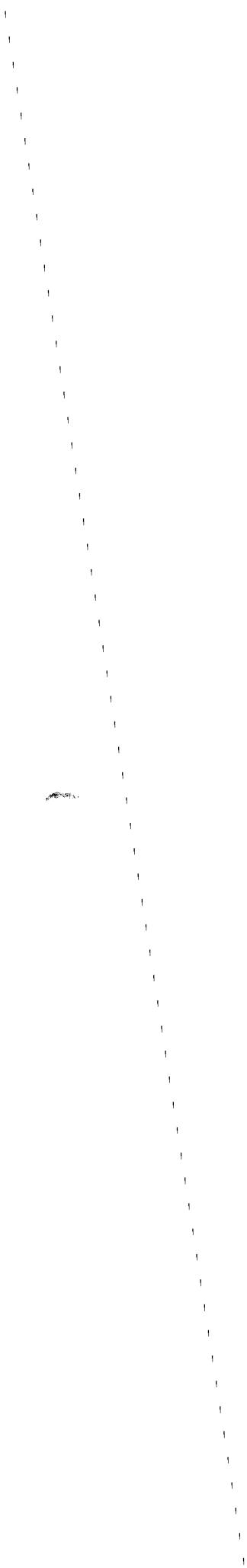
----- Log Data -----
Run No  Log Type  Top      Base      Log      Max
01      EL        0        8498     MD       Temp
    
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
13 3/8 IN 557
9 5/8 IN 4522
    
```

```

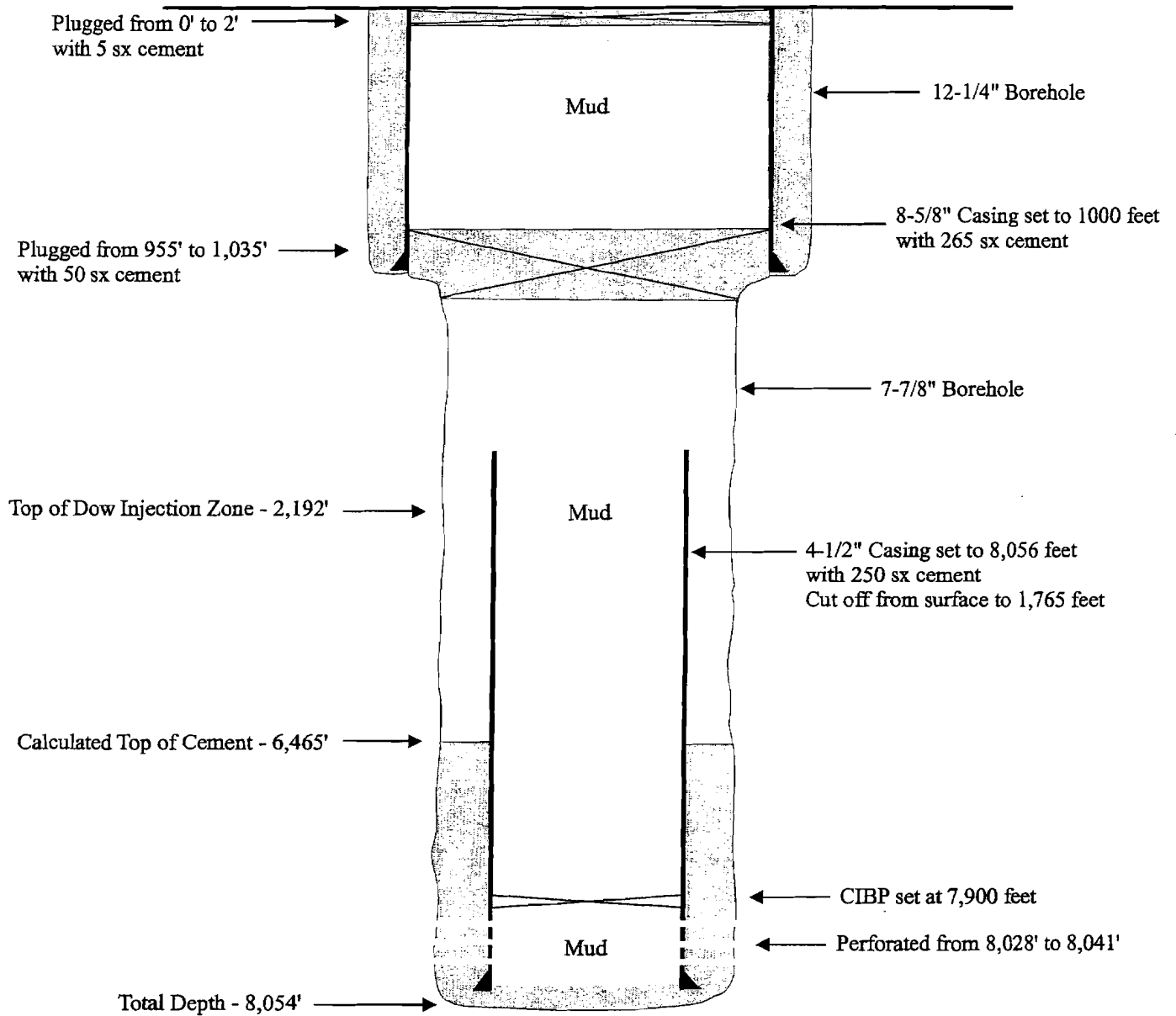
----- Liner Data -----
Size Type Cement Unit Top Depth Base Depth
7 IN
4121 8125
    
```

Map ID No. 81

Map ID No. - 81
Operator - Bryan Production Co.
Field - Kilgore Lodge
Well No. - 1
Sec. 8, R-17-S, T-21-W
Completion Date - 10/26/81

API No. - 03-027-10945
Serial No. - 27,552
Lease - Dennis
Type - Oil
Status - Plugged
County - Columbia
Date Plugged - 12/3/81



02 027 10,945

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

9/1

Serial No. 27,552

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)
150.

Date AUG. 21 1981

Name of Operator BRYAN PRODUCTION COMPANY

Send Permit to: Street 14110 DALLAS PARKWAY #110

City DALLAS

State TX. 75240

Lease Name DENNIS Well No. 1

Acres in lease 160

Number of acres in and description of drilling unit 80 ACRES RUNNING

NORTH - SOUTH FROM THE EAST LEASE LINE E/2 SE/4

Location of proposed well (Must agree with Surveyor's Plat) 460' FROM EAST

LEASE LINE AND 660' FROM NORTH LEASE LINE NE/4 SE/4

Section 8 Township 17 S Range 21 W

County COLUMBIA Field KILCORE LODGE

Distance and direction from the nearest town 3 MI. WEST NW MAGNOLIA

Distance from proposed location to nearest drilling, completed or applied for well

NONE ON THE LEASE

Rotary or cable tools ROTARY Date work will start AUG. 21, 1981

Name of drilling or workover contractor KERN DRILLING

Depth to be drilled 8200 FEET

Formation you propose to complete in SMACKOVER - OOLITE BAR

Remarks: _____

1000

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cary Blod

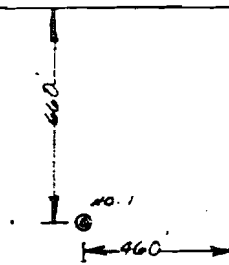
pg

pk

R-21-W

DR. C. L. WEBER

E. B. BOOTH



NE 1/4 SEC 8

C 004
05H

SE 1/4 WHITEHEAT

ROY NIPPEE

OTTC
RIDGE

8 S
17 16

T
17
S

WELL LOCATION PLAT

OPERATOR BRYAN PRODUCTION COMPANY

WELL NAME DENNIS NO. 1

LOCATION 660' FROM NORTH LINE AND 460' FROM EAST LINE OF NE 1/4 SECTION 8, TOWNSHIP 17S, RANGE 21W; COLUMBIA COUNTY, ARKANSAS

The location shown hereon was staked from a ground survey made 7 - 20 1981

Scale 1" = 600'

R.L.S. 454

CRISP SURVEYING SERVICE
216 S. Washington St.
Magnolia, Ark.



ARKANSAS
OIL AND GAS
COMMISSION

314 East Oak Street ■ El Dorado, Arkansas 71730

Ralph A. Dumas
Director

Ph. 501 862-4965

August 19, 1981

Mr. Garry Black
Bryan Production Company
14110 Dallas Parkway #110
Dallas, Texas 75240

Dear Sir:

We are returning your Notice of Intention to Drill, Form (AOGC-2) and the plat for your proposed Dennis #1 in Section 8, Township 17 South, Range 21 West, Kilgore Lodge Field, Columbia County, Arkansas.

Also, attached is a copy of Field Rules Order No. 23-69 for the Kilgore Lodge Field. Your location does not conform to the required distances in these rules.

We will retain your check and Organization Report, Form (AOGC-1) pending your review of these rules.

Yours truly,

John G. Ragsdale

JGR:mrt

Enclosure

COMMISSION MEMBERS ■ James D. Reynolds, Chairman, Camden
Thomas C. Mueller, Vice-Chairman, Fort Smith ■ E. Boyd Alderson, El Dorado ■ C. G. Davis, Magnolia
Ned R. Price, Smackover ■ James O. Staggs, Magnolia ■ Hayes C. McClerkin, Texarkana

An Agency of the Arkansas Department of Commerce

An equal opportunity employer

27532

STATE OF ARKANSAS
OIL AND GAS COMMISSION
El Dorado, Arkansas

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field KILGORE LODGE Name of Operator BRYAN PRODUCTION CO.
Pool Completed In SMACKOVER
Lease Name DEANIS No. 1 Address: Street 10110 DALLAS PARKWAY #110
Exact Location 660' FROM A LEASE LINE,
460' FROM EAST LEASE LINE City DALLAS
Sec. 8 Twp. 17S Rge. 21W State TX 75240
County COLUMBIA
Date Commenced 9-3-81
Date Completed 10-26-81
Elevation 299 KB
Total Depth Drilled 8054'
Electric Log Run: Yes No
Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Surface: (Size & Wt.) 2 3/8" 898" set at 1000 ft. w/ 265 sks.
Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
Production: (Size & Wt.) 4 1/2" set at 8056 ft. w/ 250 sks.
Tubing: (Size & Wt.) 2 3/8" set at 8013 ft.
Perforations: Size 3/8 No. Per Foot 2
Perforated Intervals: 8028 - 8041
Acidized: Yes No ; Interval 8028 - 8041 w/ 1000 gals.
Fractured: Yes No ; Interval _____ w/ _____ lbs.
of sand; _____ bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well ONE
2. Tank battery to which this well is connected: Existing _____ New _____
3. Liquid production from this well is sold to (NONE)
(Address _____)
4. Disposition of gas from this well: Vented Fuel _____ Sold _____
If sold, to whom _____
Address _____

PRODUCTION

Date of Test 10-21-81 Actual Length of Time Tested 12 HRS.
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours 566LS Open Flow Potential 30 MCF
Purpose of this test: Original Completion Workover _____
Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

DEC 18 1981

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Gary Brad

ARKANSAS OIL & GAS COMMISSION

THIS WELL WAS PLUGGED AND ABANDONED.

INSTRUCTIONS:

The Well Completion Test Form, WITH ALL INFORMATION REQUESTED THEREON FILLED IN, shall be filed not later than five (5) days after the test is completed, and should the operator fail to file a test form in an acceptable form within the five (5) days as specified, then the effective date of the allowable resulting from such test shall not extend back more than five (5) days prior to receipt and acceptance of the test form. This five-day provision shall govern regardless of whether the test is taken during the month in which it is received or any prior month.

Any test form resulting from a retest of an oil well which is received after the fifteenth (15th) of the month shall not be used as the basis for the establishing a new allowable before the issuance of the proration schedule for the next succeeding month.

2752

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

WELL DESCRIPTION

Field KILGORE LODGE Name of Operator BRYAN PRODUCTION CO.
 Pool Completed In SMACK OVER
 Lease Name DEANIS No. 1 Address: Street 14110 DALLAS PARKWAY #110
 Exact Location 660' FROM A LEASE LINE,
460' FROM EAST LEASE LINE NE/4 SE/4
 City DALLAS
 Sec. 8 Twp. 17S Rge. 21W
 County COLUMBIA State TX 75240
 Date Commenced 9-3-81
 Date Completed 10-26-81
 Elevation 299 KB
 Total Depth Drilled 8054'
 Electric Log Run: Yes No
 Electric Log Filed: Yes No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Surface: (Size & Wt.) 2000 890" set at 1000 ft. w/ 265 sks.
 Intermediate: (Size & Wt.) _____ set at _____ ft. w/ _____ sks.
 Production: (Size & Wt.) 4 1/2" set at 8056 ft. w/ 250 sks.
 Tubing: (Size & Wt.) 2 3/8" set at 8013 ft.
 Perforations: Size 3/8 No. Per Foot 2
 Perforated Intervals: 8028 - 8041

Acidized: Yes No ; Interval 8028 - 8041 w/ 1000 ga
 Fractured: Yes No ; Interval _____ w/ _____ lbs.
 of sand; _____ bbls. of oil

LEASE DATA

1. Number of wells located on this lease, including this well ONE
 2. Tank battery to which this well is connected: Existing _____ New _____
 3. Liquid production from this well is sold to (NONE)
 (Address _____)
 4. Disposition of gas from this well: Vented Fuel _____ Sold _____
 If sold, to whom _____
 Address _____

PRODUCTION

Date of Test 10-21-81 Actual Length of Time Tested 12 HRS.
 Type Well: Flowing _____ Gas Lift _____ Pump _____
 Tubing Pressure _____ Casing Pressure _____ Choke Size _____
 Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
 Gravity Oil _____ BHP Recorded _____
 Net Oil in 24 Hours 5665 Open Flow Potential 30 MCF
 Purpose of this test: Original Completion Workover _____
 Allowable Requested _____

REMARKS:

Please use reverse side of this page for all pertinent remarks.

DEC 18 1981

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Gary Blair

ARKANSAS OIL & GAS COMMISSION

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

APPLICATION TO PLUG

(Must be Accompanied by Remittance of Fifteen (\$15) Dollars)

Serial No. 21552

Date 12-1-81

File Original Three Full Days Prior To Beginning Plugging Operations
And Notify Offset Lease Holders

Operator BRYAN PRODUCTION COMPANY

Field KILGORE LEASE

County COLUMBIA

Operator's Address: Street 14110 DALLAS PARKWAY #110

City DALLAS TX

State TX 75240

Lease Name DENNIS # Well No. 1

Location 660' FROM N. LEASE LINE & 460' FROM EAST
LEASE LINE

Section 8 Township 17S Range 21W

Character of well (Oil, Gas or Dry) DRY

Date you wish to plug 12-3-81

Total Depth of Well 8056'

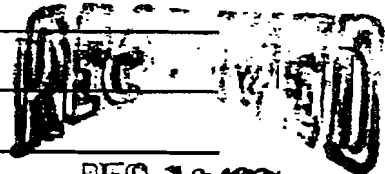
Name of party plugging well B+B WELL SERVICE

Address: Street BOX 106

City STEPHENS

State ARK.

AOGC-2(56) filed by BRYAN PRODUCTION CO. Date filed 8-19-81



ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cary Bell

Arkansas Oil and Gas Commission
EL DORADO, ARKANSAS

21552

PLUGGING RECORD

(Within five days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the Commission, setting forth in detail the method used in plugging the well.)

SEE — REVERSE SIDE FOR PLUGGING REQUIREMENTS AND COMPLY THEREWITH.

Operator BRYAN PRODUCTION CO. Field KILGORE LODGE
Address all correspondence concerning this Pool SMACKOVER
form to: BRYAN PRODUCTION CO. County COLUMBIA
Street 1410 DALLAS PARKWAY #110 City DALLAS State TEXAS
Lease DENNIS Well No. #1 Sec. _____ Twp. _____ Rge. _____
Date well was plugged 12-03-81 Total Depth of well _____

Was well filled with mud-laden fluid, according to regulations of the Commission? _____

How much mud applied? _____ Were plugs used? YES If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of

1002 - 8 7/8
cement and rock 4 1/2" BAKER PLUG SET @ 7900' - CEMENT PLUG 35' IN 7 7/8" HO.
4 1/2" IN 8 7/8" CASING 24# - 2' PLUG @ TOP - WELDED PLATE ON TOP,
CEMENT

Was notice given before plugging, to all available adjoining lease and land owners as required? YES

INFORMATION ON CASING RECLAIMED FROM WELL

SIZE	RECOVERED FROM WELL		LEFT IN WELL	
	Feet	Inches	Feet	Inches
4 1/2"	1765'			

RECEIVED
DEC 18 1981

ARKANSAS OIL & GAS COMMISSION

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

B. D. Allen
B & B Well Service, Inc.

PLUGGING REPORT FOR ABANDONED PRODUCING WELL

FIELD Kilgore Lodge COMPANY & WELL Bryan Prod. Co. Dennis

LOCATION 460' FEL #660 FNL NE/4 of SE/4 Sec. 8
feet. 7028-P

PRODUCING INTERVAL _____ SIZE CASING 1000' surface 4 1/2" Prod. Cas.

PLUGGED AT 7900 feet, by bailer, or pump, with Bridge Plug sacks of cement.

LENGTH OF PLUG Bridge Plug feet. Mustang

DATE PLUGGED 12-3-81

FRESH WATER PLUG AT 1100-1600 feet, by bailer, or pump, with 50 sacks of cement.

LENGTH OF PLUG 100 + feet.

DATE PLUGGED 12-3-81

PLUGGED AT TOP OF SURFACE CASING. YES 5. SKE. NO _____

REMARKS: Steel B.P. Mustang
~~50~~ cement Halliburton

ARKANSAS OIL AND GAS COMMISSION

WITNESS

[Signature]

COMPANY BRYAN PRODUCTION Co. WELL NAME & NO. DENNIS #1
LOCATION 460' FEL, 660' FNL NE/4 SE/4 SEC. 8 TWP. 17S RGE. 21W
County COLUMBIA Field KILGORE LODGE

Depth to be drilled 8200 feet. Surface casing required 1000 feet.

Date to start drilling ~~AUG.~~ SEP. 1 Contractor KERN

Date permitted SEP. 1, 1981.

To be inspected during drilling operation:

Size Surface Casing _____ inches. Amount of Casing set _____ feet.

Size Hole _____ inches.

Sacks of Cement _____. Returns on Cement _____ Date Set _____

Cemented by _____ Witnessed by _____

To be witnessed upon completion of Dry Hole:

lug above any show or sand producing in offset well set at _____ feet with _____ sacks of cement.

Plug below base of fresh water sands set at _____ feet with _____ sacks of cement.

Plugged in top of surface casing with _____ sacks of cement.

DATE PLUGGED _____ CEMENTED BY _____

TOTAL DEPTH _____

WITNESSED BY _____

ARKANSAS OIL AND GAS COMMISSION

REMARKS: SPD ~~9~~ 9-10-81
Long string
✓

Columbia County

Arkansas

Bryan Prod 1 Dennis DO
Kilgore Lodge Eld 8-17S-21W

Well: BRYAN PROD CO
Loc'n: 1 Dennis API 03-027-10945

Result: OIL

Sec 8-17S-21W 660 FNL, 460 FEL NE SE

Spud: 9/14/81, Comp: 10/26/81, Elev: 290 CR, 299 KB, TD: 8054, Contr: Transcontinental Oil Kern Div

Casing: 8 5/8 @ 1000 w/500, 4 1/2 @ 8056 w/250, 2 3/8" tbg @ 8013

Prod Zone: (Smackover) prod thru perf 8028-41

TPP: 5 BOPD

Comp Info: DTD 8407 (Smackover), LTD 8054, ran DIL, CFD, GRN, set csg, Rel Rig 9/28/81, perf 46 sh/8028-41 (Smackover), acid w/1000 gals

Tops: No Info

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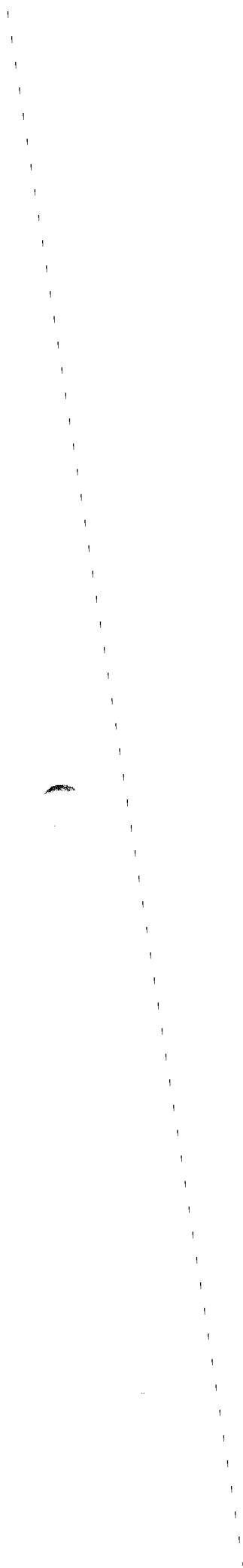
Petroleum Information.

Corporation

A Subsidiary of A. C. Nielsen Company

Date: 2/16/82

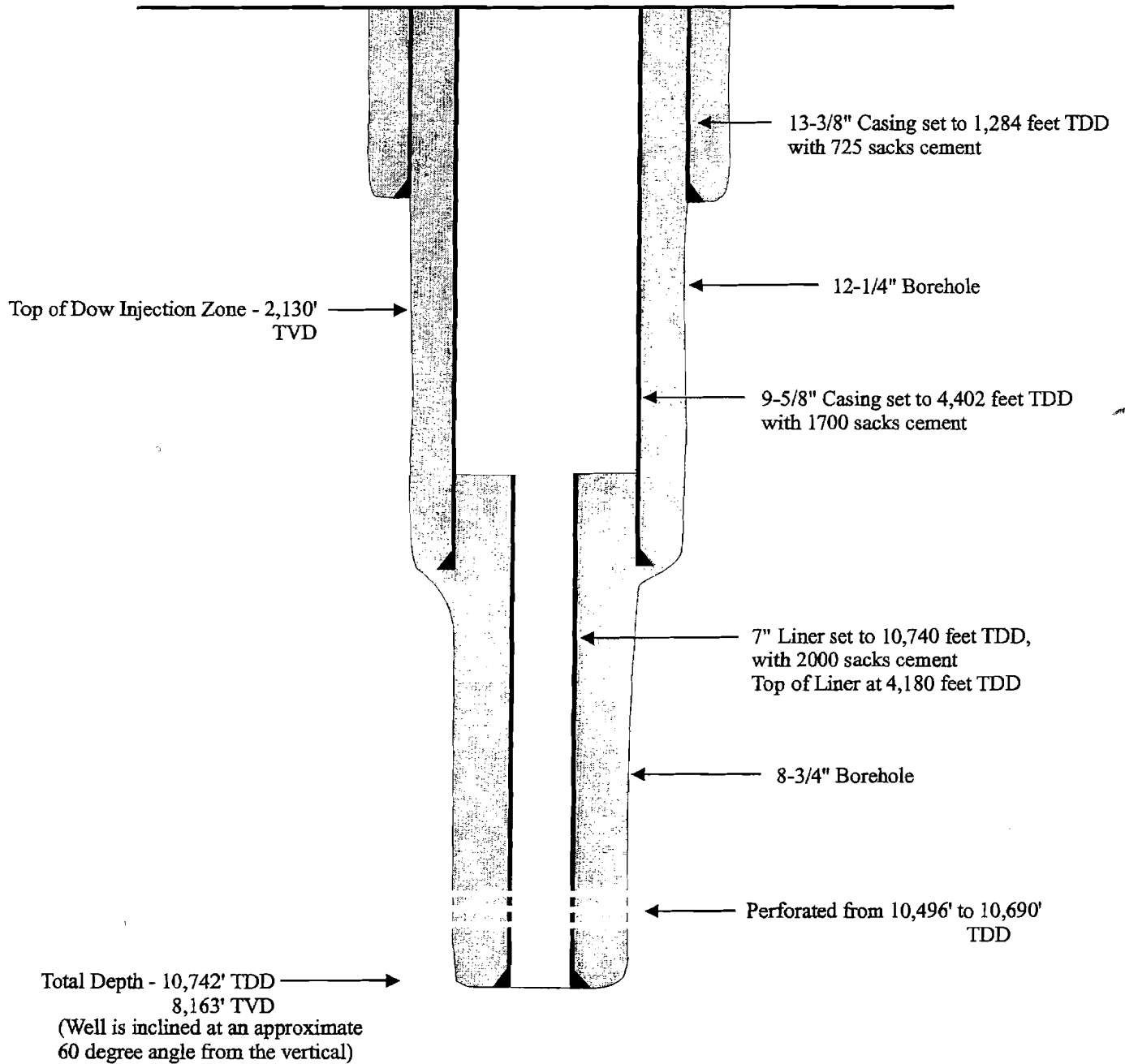
Card No. 1 Ark.



Map ID No. 106

Map ID No. - 106
Operator - Dow Chemical
Field - Kilgore Lodge
Well No. - 2
Surface Location - Sec. 8, T-17-S, R-21-W
Bottom Hole Location - Sec. 5, T-17-S, R-21-W
Completion Date - 3/2/85

API No. - 03-027-11218
Serial No. - 30,510
Lease - Weber BSW
Type - Brine Supply with Oil
Status - Active
County - Columbia
Date Plugged - N/A



Note: TDD - Total Drilled Depth
 TVD - True Vertical Depth

TERRA
 DYNAMICS INC
 ENVIRONMENTAL SERVICES

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Do Not Scale This Drawing

ARKANSAS OIL AND GAS COMMISSION

314 East Oak Street
El Dorado, Arkansas 71730

Serial No. 30,510

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$150.00)

Date August 13, 1984

Name of Operator Dow Chemical U.S.A.

Send Permit to: Street P. O. Box 520

City Magnolia

State Arkansas 71753

Lease Name Weber (Brine Supply) Well No. 2 - BS

Acres in lease N/A

Number of acres in and description of drilling unit N/A

Location of proposed well (Must agree with Surveyor's Plat) _____

location 150' FNL and 200' FWL of SW/4 NE/4 *(Bottom location 330' FNL & 330' FEL of NE/4 SE/4, Sec. 5 T17S, R 21W)*

Section 8 Township 17 South Range 21 West

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town 3 miles Northwest of Magnolia, Ark

Distance from proposed location to nearest drilling, completed or applied for well _____

Bottom Hole - 3/4 mile Northeast of Weber BSW No. 1

Well Head - 180' North & 130' West of Weber BSW No. 1

Rotary or cable tools Rotary Date work will start September 15, 1984

Name of drilling or workover contractor Sawyer Drilling Company

Depth to be drilled TVD - 8200'; TDD - 10,742'

*500'
4,500'*

Formation you propose to complete in Smackover

LF

Remarks: This well will be inclined at a 60 degree angle from the vertical -

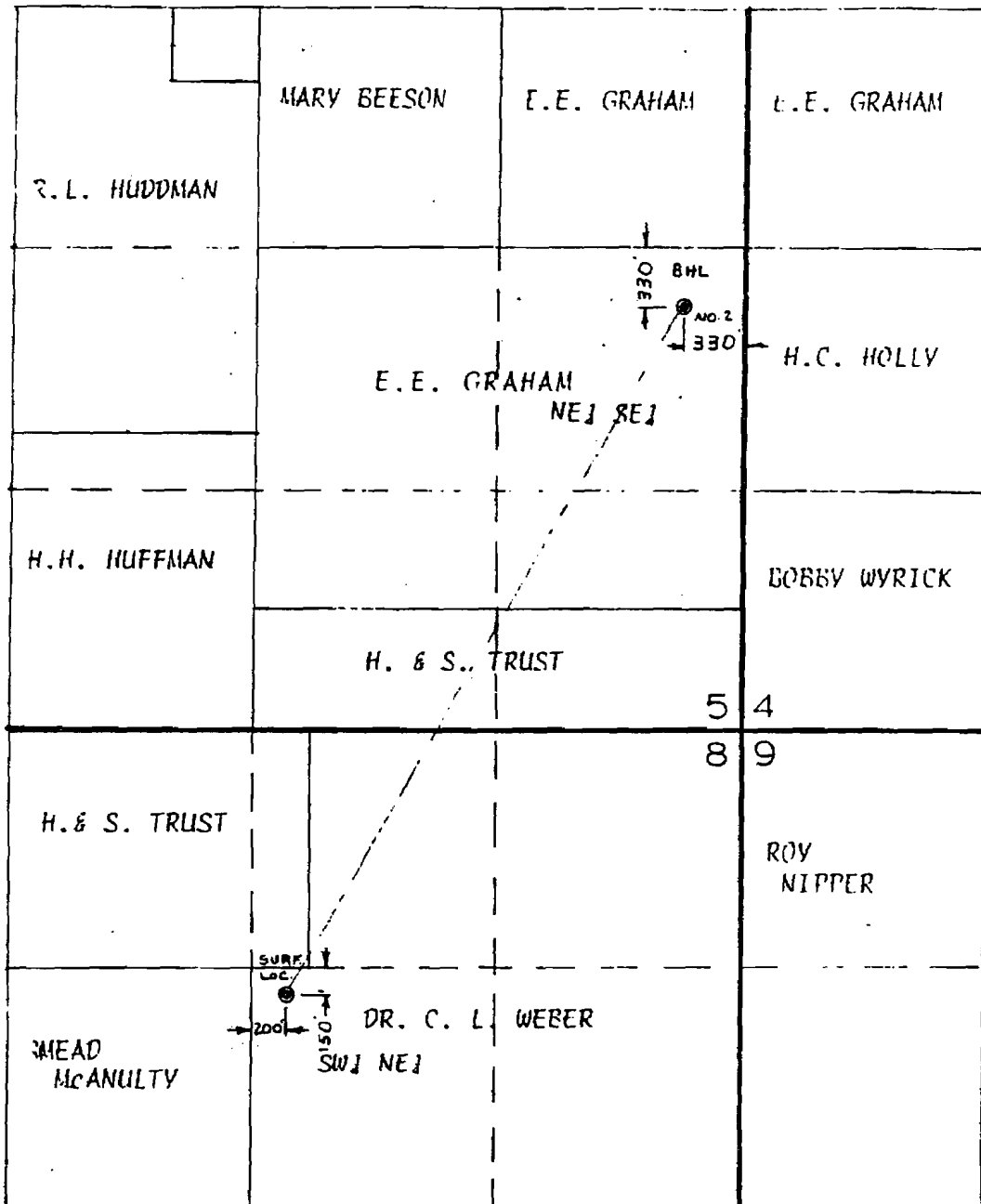
Bottom Hole location - 330' FNL & 330' FEL of NE/4 SE/4 Section 5-T17S-R21W

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Cecil R. Becker
Land Administrator

R - 21 - W



T
17
S

WELL LOCATION PLAT

OPERATOR DOW CHEMICAL COMPANY
 WELL NAME WEBER NO. 2 - BRINE SUPPLY WELL
 LOCATION SURF. LOC. 150' FNL AND 200' FWL OF THE SW 1/4 NE 1/4 OF SECT. 8
BHL 330' FNL AND 330' FEL OF THE NE 1/4 SE 1/4 OF SECT. 5, T-17S; R-21W,
 COLUMBIA COUNTY, ARK.

The location shown hereon was staked from a ground survey
 made 8 - 15 1984

Scale 1" = 1000'

[Signature]
 RLS 454

Crisp Surveying Service
 P O Box 812
 Magnolia, Ark

STATE OF ARKANSAS
314 EAST OAK STREET
OIL AND GAS COMMISSION
El Dorado, Arkansas 71730 - 5896

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

50510

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Dow Chemical U.S.A.
Pool Completed In Smackover
Lease Name Weber BS No. 2 Address: Street P. O. Box 520
Exact Location 150' FNL & 233' FWL of SW/4NE/4 of Sec 8-17 City Magnolia
BHL-10' FNL & 400' FEL of NE/4SE/4 21 State Arkansas 71753
Sec. 5 Twp. 17S Rge. 21W
County Columbia
Date Commenced 10/3/84 Date Completed 3/2/85
Elevation 276.5 GL Total Depth Drilled 10,742
Electric Log Run: Yes X No _____ Electric Log Filed: Yes X No _____

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 18 set at 70 ft. w/ _____ sks.
Surface: (Size & Wt.) 13-3/8" - 54.5#/Ft. set at 1,284 ft. w/ 725 sks.
Intermediate: (Size & Wt.) 9-5/8" - 40.0#/Ft. set at 4,402 ft. w/ 1,700 sks.
Production: (Size & Wt.) Liner 7" - 26#/Ft. set at TOP = 4,180 ft. w/ 2,000 sks.
Bottom = 10,740
Tubing: (Size & Wt.) 5-1/2 17# set at 3,800 ft.
Perforations: Size 3/8 No. Per Foot. 4
Perforated Intervals: 10,496 - 10,536; 10,570 - 10,690 4 shots per Foot

Graded: Yes _____ No X Interval _____ w/ _____ gals.
Produced: Yes _____ No X Interval _____ w/ _____ lbs.
of sand: _____ bbls. of oil.

LEASE DATA

- 1. Number of wells located on this lease, including this well 2
- 2. Tank battery to which this well is connected: Existing _____ New _____
- 3. Liquid production from this well is sold to (_____
(Address _____
- 4. Disposition of gas from this well: Vented _____ Fuel _____ Sold _____
If sold, to whom _____
Address _____

MAR 18 1985

PRODUCTION

Date of Test _____ Actual Length of Time Tested _____
Type Well: Flowing _____ Gas Lift _____ Pump _____
Tubing Pressure _____ Casing Pressure _____ Choke Size _____
Net Oil Produced _____ bbls. Gas Produced _____ MCF % BSW _____ GOR _____
Gravity Oil _____ BHP Recorded _____
Net Oil in 24 Hours _____ Open Flow Potential _____ MCF _____
Purpose of this test: Original Completion _____ Workover _____ Recompletion _____
Allowable Requested _____

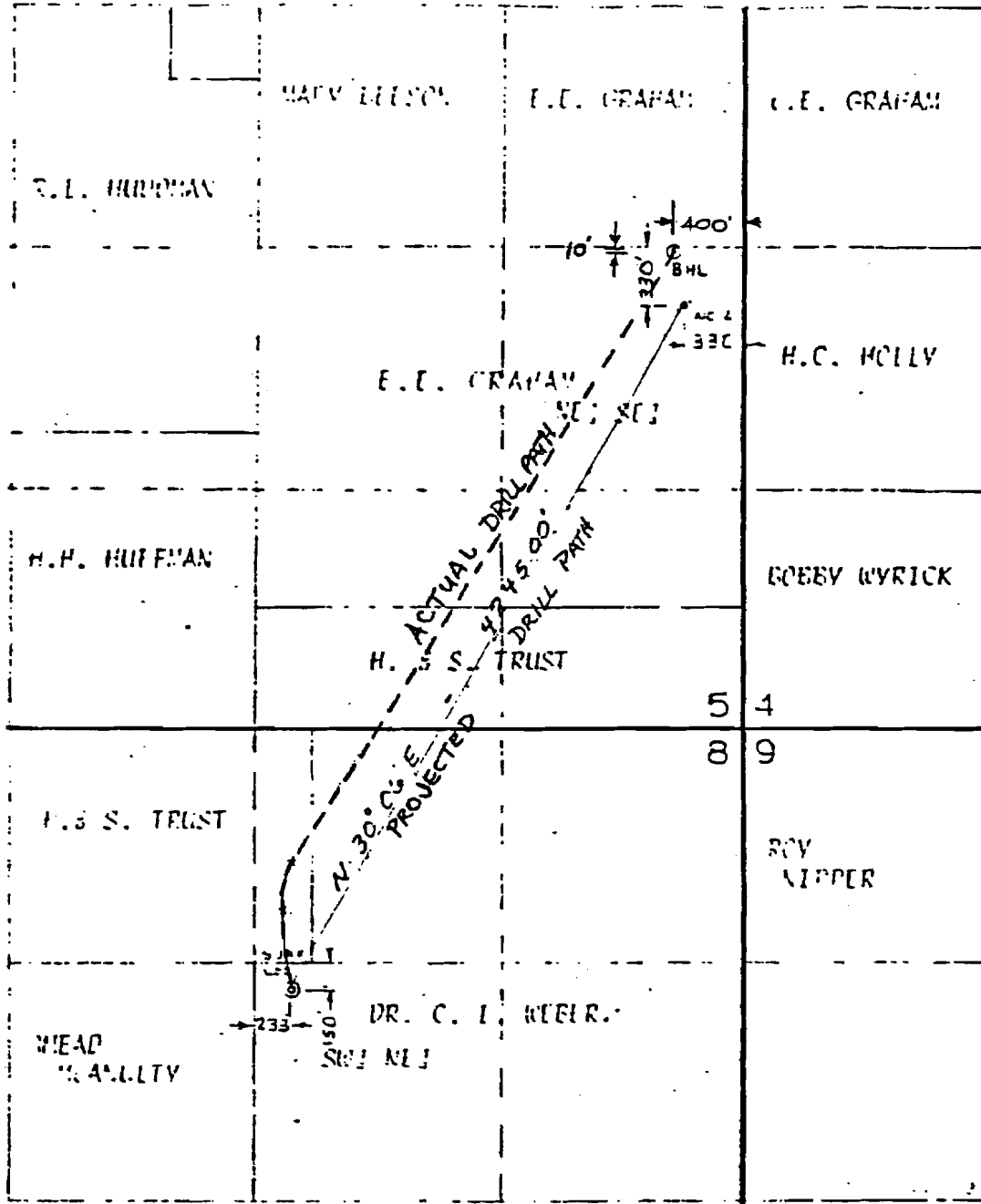
REMARKS:
Please use reverse side of this page for all pertinent remarks. Brine Production Well

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

C. P. Ball

R. 21. W



WELL LOCATION PLAT

MAR 18 1985

ARKANSAS GAS COMMISSION

OPERATOR DOW CHEMICAL COMPANY
 WELL NAME WELL NO. 2 - BRINE SUPPLY WELL
 LOCATION SURF. LOC. 150' FNL AND 25' FEL OF THE SW 1/4 SEC. 8
BHL 330' FNL AND 550' FEL OF THE NE 1/4 SEC. 5, T-17S; R-21W,
 (As completed) BHL 10' FNL & 400' FEL NE/4 SE/4 Sec. 5-17-21 COLUMBIA COUNTY, ARK.

The location shown hereon was staked from a ground survey
 made 8 - 15 1984
 PLAT REVISED 8-28-84

Scale 1" = 1000'

R. S. 454

Crisp Surveying Service
 P.O. Box 812
 Magnolia, Ark

TOTAL DRILLED DEPTH	DIRECTION N-E POSITIVE	DRIFT ANGLE	DEPTH BETWEEN SURVEYS	AVERAGE DRIFT ANGLE	AVERAGE CHANGE IN EAST	AVERAGE CHANGE IN NORTH	CHANGE IN DEPTH	FEET EAST	FEET NORTH	TRUE VERTICAL DEPTH	CLOSURE DISTANCE
4515	0	0						0	0	4515	
4515	12.6	3.2	1	1.6	6.8	0.003306	0.027725	0.999610	0.003306	0.027725	4515.999
4570	12.6	4.2	62	3.7	13.6	0.940804	3.888818	61.87076	0.944110	3.916544	4577.870
4608	8.9	5.5	30	4.85	11.25	0.494831	2.487685	29.89258	1.438941	6.404230	4607.762
4639	6.8	7.7	31	6.6	7.85	0.486641	3.529662	30.79455	1.925583	9.938892	4638.557
4739	0.8	10.7	100	9.2	3.8	1.059594	13.95296	98.71362	2.985178	25.88684	4737.271
4839	-0.5	13	94	11.85	0.15	0.050534	19.30285	91.99672	3.035713	45.18971	4829.267
4925	-1.6	15.6	92	14.3	-1.05	-0.41641	22.72009	89.14944	2.619299	67.90980	4918.417
5018	-5.8	18	93	16.8	-3.7	-1.73462	26.82392	89.03071	0.884673	94.73373	5007.448
5110	-5.6	20.4	92	19.2	-5.7	-3.00499	30.10613	86.88262	-2.12031	124.8398	5094.330
5202	-6.7	23.2	92	21.8	-6.15	-3.66024	33.96921	83.42069	-5.78056	158.8090	5179.751
5295	-8.2	25.8	93	24.5	-7.45	-5.00056	38.24090	84.62639	-10.7811	197.0499	5264.377
5390	-10.3	28.7	95	27.25	-9.25	-6.99198	42.93238	84.45662	-17.7731	239.9823	5348.834
5452	-9.3	30	62	29.35	-9.8	-5.17247	29.94544	54.04179	-22.9455	269.9278	5402.876
5545	-11.4	31.9	93	30.95	-10.35	-8.59298	47.05071	79.75832	-31.5385	316.9785	5482.634
5595	-10.4	33.4	50	32.63	-10.9	-5.10090	26.48861	42.09909	-36.6394	343.4671	5524.733
5688	-4.5	33.8	63	33.6	-7.45	-4.52045	34.36936	52.47403	-41.1599	378.0365	5577.207
5719	-0.6	34.5	61	34.15	-2.55	-1.52351	34.20913	50.48181	-42.6834	412.2456	5627.689
5751	1.9	35.1	32	34.8	0.65	0.207180	18.26165	26.27677	-42.4762	430.5073	5653.966
5781	4.1	35.3	30	35.2	3	0.905044	17.26927	24.51434	-41.5712	447.7765	5678.400
5802	4.5	35.6	21	35.45	4.3	0.913228	12.14353	17.10706	-40.6579	459.9221	5695.587
5895	8.7	37.4	93	36.5	6.6	6.358152	54.95191	74.75068	-34.2998	514.8740	5770.346
5978	8.4	39.4	83	38.4	8.55	7.664846	50.98230	65.04655	-26.6349	563.8563	5835.392
6074	6.5	42.7	76	41.05	7.45	8.174457	62.51266	72.39713	-18.4605	628.3690	5907.790
6092	6.9	43.5	18	43.1	6.7	1.434924	12.21493	13.14292	-17.0256	640.5839	5920.932
6123	9.9	43	31	43.25	8.4	3.102901	21.01290	23.57950	-13.9237	661.5967	5943.512
6135	11.1	42.7	32	42.85	10.3	3.965917	21.39818	23.46037	-9.95679	682.9949	5966.972
6194	12.5	42.3	41	42.5	11.8	5.664373	27.11384	30.23837	-4.29241	710.1087	5997.201
6217	14.9	42.8	21	42.55	13.7	3.363314	13.79687	15.47643	-0.92910	723.9056	6012.671
6248	16.5	42.6	31	42.7	15.7	5.688817	20.23062	22.78235	-4.759717	744.1442	6035.453
6278	19.1	43.6	30	43.1	17.8	6.266207	19.31695	21.90486	11.02592	763.6612	6057.358
6310	20.9	43.7	32	43.65	20	7.554554	20.75396	23.15423	18.58047	784.4172	6080.513
6341	23.5	43.4	31	43.55	22.3	8.307013	19.77530	22.46797	26.65063	804.1925	6102.981
6400	26.4	44.9	107	44.15	24.95	31.43865	67.57430	76.77450	58.08928	871.7668	6179.755
6541	35	46.7	93	45.8	25.7	28.91321	60.07722	64.33635	87.00250	931.8440	6244.391
6572	24.3	47.7	31	47.2	24.65	9.486611	20.67287	21.06268	96.48911	952.5169	6265.654
6600	25	48.3	31	48	24.65	9.608340	20.93814	20.74304	106.0974	973.4550	6286.397
6664	25.4	49.5	61	48.9	25.2	19.57195	41.59251	40.09988	123.6694	1015.047	6326.497
6725	26.1	49.7	61	49.6	25.75	20.18164	41.84088	39.53531	145.8510	1056.888	6366.032
6788	26	51.6	63	50.63	26.05	21.39437	43.76797	39.94552	167.2454	1100.656	6405.978
6848	25	54	60	52.6	25.5	20.57489	43.13617	36.27594	187.8203	1143.792	6442.254
6880	25.2	55.1	32	54.55	25.1	11.05798	23.60627	18.55975	193.8783	1167.398	6460.814
6910	24.2	56.1	30	55.6	24.7	10.34363	22.48867	16.94901	209.2217	1189.887	6477.763
6948	25	56	38	56.05	24.6	13.12198	28.66090	21.22183	222.3439	1218.548	6498.984
7011	29.5	57.25	63	56.625	27.25	24.08899	46.77167	34.65333	246.4329	1265.320	6533.642
7076	34.5	57.25	65	57.25	32	28.96938	46.36069	35.16334	275.4023	1311.680	6568.805
7194	33.7	59	118	58.125	34.1	56.17931	82.97649	62.31200	331.5816	1394.657	6631.117
7207	32.4	63.2	93	61.1	33.05	44.40310	68.24432	44.94526	375.9847	1462.901	6676.062
7399	32.7	65.5	112	64.35	32.55	54.32165	83.10393	48.48172	430.3063	1548.003	6724.544
7463	31.5	67.5	64	66.5	32.1	31.18876	49.71914	25.51494	461.4931	1597.724	6750.064

7355	31.2	70.1	92	68.8	31.35	44.62506	73.25125	33.26746	506.1202	1670.976	6783.333	1745.943
7622	31.4	71.6	67	70.85	31.3	32.88162	34.08076	21.97884	539.0018	1725.036	6805.312	1807.302
7723	32	71	101	71.3	31.7	50.27094	81.39539	32.38191	589.2727	1806.452	6837.694	1900.134
7841	31.5	69.75	118	70.375	31.75	58.48630	94.51282	39.63178	647.7590	1900.965	6877.326	2008.297
8031	30.5	69.75	190	69.75	31	91.80800	152.7955	65.76224	739.5678	2053.760	6943.088	2162.863
8123	31.1	68.1	91	68.925	30.8	43.47912	72.93691	32.72266	783.0470	2126.697	6975.811	2266.275
8265	30.6	69.6	143	65.85	30.85	66.91132	112.0224	58.50314	849.9583	2238.720	7034.316	2374.639
8294	31	63.3	31	63.45	30.8	14.19940	23.81971	13.85633	864.1577	2262.539	7048.172	2421.952
8390	31	60.3	94	61.8	31	42.66703	71.00990	44.41977	906.8247	2333.549	7092.592	2503.554
8540	31.5	59.25	150	59.775	31.25	67.23731	110.8036	75.50955	974.0621	2444.353	7168.102	2631.284
8693	31.5	59.25	153	59.25	31.5	68.70290	112.1129	78.22784	1042.765	2556.466	7246.330	2760.950
8880	31	59.5	187	59.375	31.25	83.47954	137.5700	95.26096	1126.244	2694.036	7341.591	2919.975
9002	31.5	59.25	122	59.375	31.25	54.46259	89.75157	62.14086	1100.707	2780.787	7403.739	3023.829
9095	32	59.75	93	59.5	31.75	42.16631	68.14000	47.20106	1222.873	2821.927	7450.940	3103.048
9247	31.5	61	154	60.375	31.75	70.44374	113.8353	76.12546	1293.317	2963.763	7527.066	3235.494
9475	30.5	63.5	246	62.25	31	112.1273	186.6112	114.5411	1405.444	3152.374	7641.607	3431.484
9774	29	63.75	279	66.125	29.75	126.5978	221.5002	112.9231	1532.042	3373.875	7754.530	3705.426
9805	29	69	31	68.875	29	14.01908	25.29110	11.17251	1546.061	3399.166	7765.703	3734.251
9963	29.3	68.5	158	68.75	29.25	71.95301	123.4813	57.26521	1618.014	3527.647	7822.968	3881.013
10026	30	67.75	63	68.125	29.75	29.01076	50.75031	23.47272	1647.025	3570.403	7846.441	3937.248
10116	30.5	66.3	90	67.125	30.25	41.77393	71.63093	34.98497	1668.799	3650.036	7881.426	4021.792
10267	31	63.75	231	65.125	30.75	116.4206	195.6739	105.5806	1805.227	3845.733	7987.006	4248.056
10393	31	63.75	26	63.75	31	12.01001	19.98801	11.49950	1817.237	3865.723	7998.506	4271.554
10486	31	63.25	93	63.5	31	42.36603	71.34108	41.49639	1840.103	3937.065	8040.002	4334.061
10517	31	62.25	31	62.75	31	14.19420	23.62312	14.19409	1874.298	3960.688	8054.196	4381.735
10610	31	60	93	61.125	31	41.94356	69.80582	44.90973	1916.241	4030.493	8099.106	4462.831
10703	31	61.75	93	60.375	31	41.94224	69.63719	45.26464	1953.083	4100.131	8144.371	4540.695
10757	31	62.25	34	62	31	15.46153	25.73234	15.96203	1973.545	4125.863	8160.333	4573.579
10742	31	62.25	5	62.25	31	2.279011	3.792912	2.328072	1975.824	4129.656	8162.661	4577.984
0	0	0	-10742	31.125	13.5	-1433.87	-5350.66	-9195.59	491.9529	-1221.01	-1032.93	1316.391
			0	0	0	0	0	0	491.9529	-1221.01	-1032.93	1316.391
			0	0	0	0	0	0	491.9529	-1221.01	-1032.93	1316.391
			0	0	0	0	0	0	491.9529	-1221.01	-1032.93	1316.391
			0	0	0	0	0	0	491.9529	-1221.01	-1032.93	1316.391



DOW CHEMICAL U.S.A.

POST OFFICE BOX 520
MAGNOLIA, ARKANSAS 71753

November 8, 1985

501 · 235-2300

Arkansas Oil & Gas Commission
314 E. Oak Street
Eldorado, AR 71730

Attention: Shirley Knight, Statistician II

Re: Weber BSW No. 2 - Kilgore Lodge Field
10' FNL & 400' FEL NE/4 SE/4
Section 5-T17S-R21W
Columbia County, Arkansas

Gentlemen:

Enclosed in triplicate is Producers Certificate of Compliance and Authorization to Transport Oil or Gas From Lease (AOGC-4) regarding the captioned well.

Please issue Authority to Produce (AOGC-4a) and return to us with copy to Lion Oil Company.

Should you have questions, please call us.

Sincerely,

Cecil R. Acker
Land Administrator

psh

Encis.

Arkansas Oil and Gas Commission

EL DORADO, ARKANSAS

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Lease Weber BSW No. 2 (Sec.) 5 (Twp.) 17S (Rge.) 21W County Columbia

Producer Dow Chemical U.S.A. Field Kilgore Lodge

Address all correspondence concerning this form to: Dow Chemical U.S.A.

Street P. O. Box 520 City Magnolia State AR 71753

The above named producer hereby authorizes LION OIL COMPANY
(Name of Transporter)

Whose principal place of business is ElDorado AR 71730
(Street) (City) (State)

And whose field address is _____

To transport 100 % of the Oil { x } produced from the lease designated above until further notice.
Gas { }

Other transporters transporting oil from this lease are:

N/A %
(Name of Transporter) (Name of Transporter)

Remarks:

Dow is in the process of forming a voluntary pooling unit consisting of the NE/4 SE/4 and SE/4 NE/4 of Section 5-T17S-R21W due to the bottom hole location of this well. We expect to have the unitization completed within the next few weeks. In the meantime, it is necessary to Dow's operations to operate this brine supply well and transport the incidental oil produced.

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 8th day of November 19 85

PROVED: Nov 13, 1985
ARKANSAS OIL & GAS COMMISSION

By Shirley Knight
No. 56 1861

DOW CHEMICAL U.S.A.
(Company of Operator)
BY: Cecil R. Acker
(Affiant)
Cecil R. Acker, Land Administrator

Arkansas Oil and Gas Commission

314 EAST OAK STREET
EL DORADO, ARKANSAS 71730-5896

Producers Certificate of Compliance and Authorization to Transport Oil or Gas from Lease

Well Weber No. BSW #2 (Sec.) 8 (Twp.) 17S (Rge.) 21W County Columbia

Operator Ethyl Corporation Field Kilgore Lodge

Address all correspondence concerning this form to: Ethyl Corporation

Street P. O. Box 729 City Magnolia State AR 71753

The above named operator hereby authorizes Lion Oil Company
(Name of First Purchaser)

Whose principal place of business is 1001 School Street El Dorado AR 71730
(Street) (City) (State)

And whose field address is _____

To transport 100 % of the Oil () produced from the lease designated above until further notice.
Gas ()

Other transporters transporting oil from this lease are:

N/A % _____ %
(Name of Transporter) (Name of Transporter)

Remarks:

Change of operators from Dow Chemical to Ethyl Corporation.

RECEIVED
JUN 08 1987

ARKANSAS OIL & GAS COMMISSION

The undersigned certifies that this report has been examined by me and to the best of my knowledge is true, correct, complete and that the rules and regulations of the Arkansas Oil and Gas Commission have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil produced from the above described property and that this authorization will be valid until further notice of the transporter named herein or until cancelled by the Arkansas Oil and Gas Commission.

Executed this the 13th day of May 19 87

PROVED: June 11, 1987
ARKANSAS OIL & GAS COMMISSION

By Shirley Knight

No. 3559

ETHYL CORPORATION

(Company or Operator)

L. C. Reynolds
(Affiant)

L. C. Reynolds
Field Manager

PI/Dwights PLUS Online Summary Report

Well No. 106

Date: 5/3/2001
Time: 3:16 PM

```

----- General Information -----
State           : ARKANSAS           Final Status    : D&A
County         : COLUMBIA           Drill Total Depth : 10742
Field          : KILGORE LODGE       Log Total Depth  :
Operator Name  : DOW CHEMICAL U S A
Lease Name     : WEBER
Well Number    : 2-BS                Spud Date       : SEP 29, 1984
API Number     : 03027112180000      Comp Date       : MAR 02, 1985
Regulatory API :
Init Lahee Class : D                Hole Direction   :
Final Lahee Class : D                Reference Elevation:
Permit Number  : 30510              Ground Elevation : 276
Geologic Province : ARKLA BASIN          KB Elevation     :
Formation at TD : 553SMKV                SMACKOVER
Oldest Age Pen : 553                UPPER JURASSIC
Township       : 17 S                Section          : 8 SEC
Range          : 21 W                Spot             : NW SW NE
Base Meridian  : 5TH PRINCIPAL MRD
    
```

```

----- Additional Location Information -----
Footage Location : 150 FNL 200 FWL CONGRESS QTR QTR
Latitude         : 33.2800500        Latitude (Bot)   : 33.2902600
Longitude        : -93.3005000      Longitude (Bot)  : -93.2932800
Lat./Long. Source : TB
    
```

```

----- Production Tests -----
Test Form      Top Base Top Base Oil Prod Test
001 553SMKV    553SMKV 10496 10690 GORGrav Method Method
UNDESIGNATED   PERF
    
```

```

----- Production Volume -----
Test Amount Unit Desc Amount Unit Desc Amount Unit Desc
001 Oil Cond Gas Wtr
    
```

```

----- Production Perforation -----
Test Top Base Type Method Top Form Base Form Status Count Density Per
001 10496 10536 PERF 553SMKV 553SMKV 4
001 10570 10690 PERF 553SMKV 553SMKV 4
    
```

```

----- Casing Data -----
SizeBase Depth Cement Unit
18 IN 70
13 3/8 IN 1284 725 SACK
9 5/8 IN 4402 1700 SACK
    
```

```

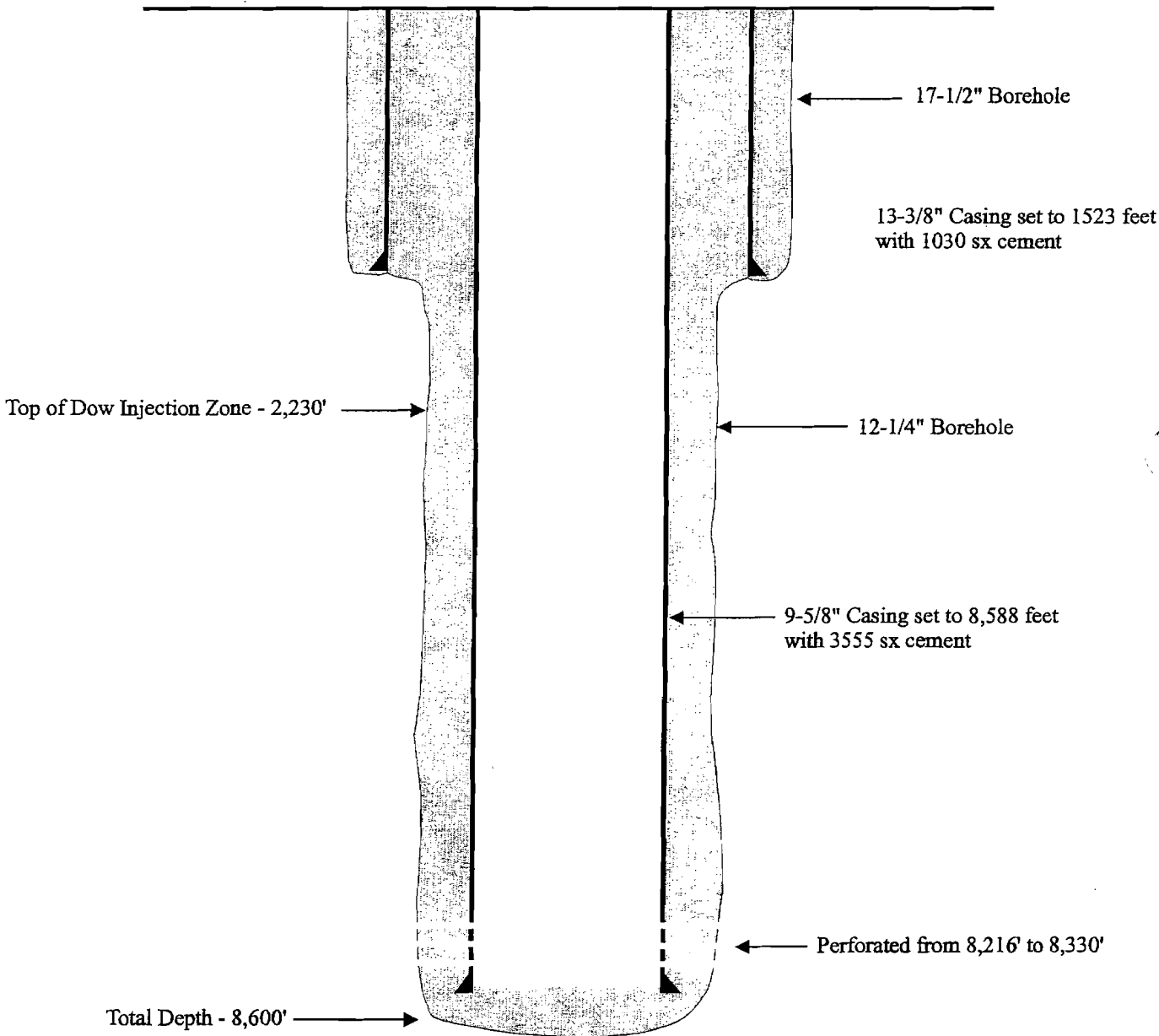
----- Liner Data -----
Size Type Cement Unit Top Depth Base Depth
7 IN 2000 S 4180 10740
    
```

```

----- Tubing Data -----
Size Base Depth Mixed String
5 1/2 IN 3800
    
```

Map ID No. 107

Map ID No. - 107	API No. - 03-027-11565
Operator - Albemarle Corporation	Serial No. - 35,726
Field - Kilgore Lodge	Lease - Souter
Well No. - 5	Type - Class V Injection
Sec. 17, R-17-S, T-21-W	Status - Active
Completion Date - 12/21/95	County - Columbia
	Date Plugged - N/A





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55 JUN 26 11:16

P. O. Box 729
Magnolia, Arkansas 71753

Telephone: 501-235-6000
Facsimile: 501-235-6001

June 23, 1995

Arkansas Oil and Gas
P.O. Box 1472
El Dorado, AR 71731-1472

Re: Request for drilling permit
Smackover Well
Kilgore Lodge Field
Columbia County

Gentlemen:

Please find attached the following items for proposed drilling of the Souter No. 5 (BIW No. 632), SE/4 of SW/4, Section 17, Township 17 South, Range 22 West.

- 1) Notice of intention to drill a Brine Injection Well (AOGC-2).
- 2) A certified well location plant.
- 3) Albemarle check No. 2200 for \$150.00 for drilling fee.
- 4) An affidavit of responsibility.

Sincerely,

ALBEMARLE CORPORATION

A handwritten signature in cursive script, appearing to read 'F. A. Green'.

F. A. Green
Field Supervisor

03 027 11,565

RECEIVED AOGC-2-(56)

95 JUN 26 AM 11:16

ARKANSAS OIL AND GAS COMMISSION
El Dorado, Arkansas

Serial No. 35,726

Brine Injection

6-28-95

Notice of Intention to Drill For Oil or Gas

(This application to drill must be accompanied by a remittance of \$50.00)

Date June 7, 19 95

Name of Operator Albemarle Corporation

Send Permit to: Street P.O. Box 729

City Magnolia

State Arkansas

Lease Name Souter (BIW No. 632) Well No. 5

Acres in lease 40

Number of acres in and description of drilling unit 40 Acres SE 1/4 of SW 1/4, Section 17, Township 17 South, Range 21 West

Location of proposed well (Must agree with Surveyor's Plat) 567' FSL
306' FWL of SE/4 of SW/4

Section 17 Township 17 S Range 21 W

County Columbia Field Kilgore Lodge

Distance and direction from the nearest town _____

Distance from proposed location to nearest drilling, completed or applied for well 3/4
Mile North West of Albemarle BIW Souter No.1

Rotary or cable tools Rotary Date work will start Soon as possible

Name of drilling or workover contractor NA

1500'
1500'

Depth to be drilled 9100

Formation you propose to complete in Smackover Lime

Remarks: _____

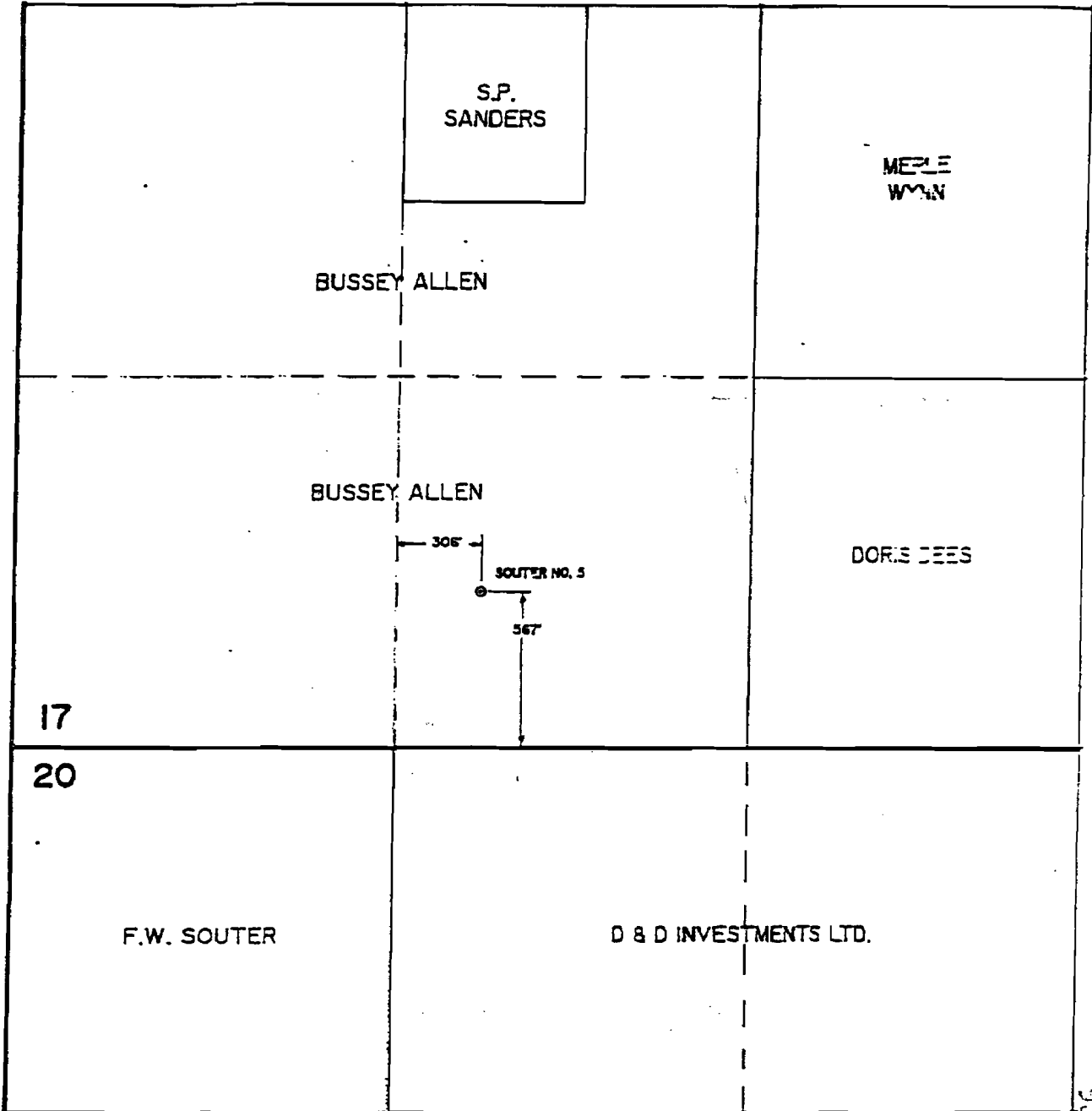
CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge is true, correct and complete.

Floyd Green

6-27-95
MGP
MGP

R 21 W



T
17
S

Well Location Plat

Operator ALBEMARLE CORPORATION SURVEY

Well Name SOUTER NO. 5

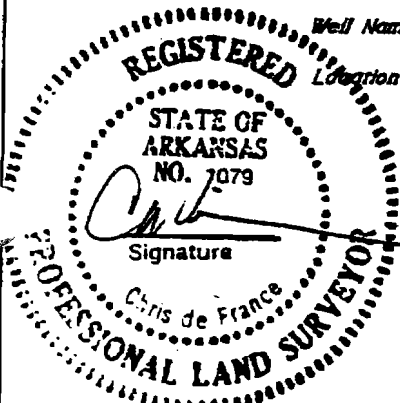
Location 567' FROM SOUTH LINE, 306' FROM WEST LINE, SE 1/4 SW 1/4
SECTION 17-T17S-R21W, COLUMBIA COUNTY, ARKANSAS.

The Location shown hereon was staked from a ground survey made 5-30-95.

Job No. 7774

Scale 1" = 600'

Crisp Surveying, Inc.
 P.O. Box 812
 Magnolia, Arkansas 71753
 (501) 234-4622
 Fax 234-3370



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JUN 26 11:16

RECEIVED

STATE OF ARKANSAS
314 EAST OAK STREET
OIL AND GAS COMMISSION
El Dorado, Arkansas 71730 - 5896

AOGC-3 (56)
Revised (83)

95 DEC 22 AM 10:26

Well Completion and Recompletion Report

(Instructions: See Reverse Side)

Notice: This form must be completed and filed prior to allowable being granted.

35,726

03 027 11,565

WELL DESCRIPTION

Field Kilgore Lodge Name of Operator Albemarle Corporation
Pool Completed In Smackover
Lease Name BIW No. 632 (Soutex) 5 Address: Street P. O. Box 729
Exact Location 567' FSL 306' FWL City Magnolia
SE/4 of SW/4 State Arkansas
Sec. 17 Twp. 17S Rge. 21W
County Columbia
Date Commenced December 4, 1995 Date Completed 12/21/95
Elevation G.L. 281.72, K.B. 303.42 Total Depth Drilled 8,600'
Electric Log Run: Yes x No Electric Log Filed: Yes x No

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

Conductor: (Size & Wt.) 20" set at 70 ft. w/ sks.
Surface: (Size & Wt.) 13-3/8", 75#, K55 set at 1,523 ft. w/ 1,030 sks.
Intermediate: (Size & Wt.) set at ft. w/ sks.
Production: (Size & Wt.) 9-5/8", 47#, 53.5# N80 set at 8,588 ft. w/ 3,555 sks.
Tubing: (Size & Wt.) 7" FRP on Packer set at 8,180 ft.
Perforations: Size 0.49" No. Per Foot. 4 SPF
Perforated Intervals: 8,330' - 8,216'

Acidized: Yes x No ; Interval 8,330' - 8,216' w/ 20,000 gals.
Fractured: Yes No x; Interval w/ lbs.
of sand: bbls. of oil.

LEASE DATA

1. Number of wells located on this lease, including this well
2. Tank battery to which this well is connected: Existing New
3. Liquid production from this well is sold to (
(Address)
4. Disposition of gas from this well: Vented Fuel Sold
If sold, to whom
Address

PRODUCTION

Date of Test Actual Length of Time Tested
Type Well: Flowing Gas Lift Pump
Tubing Pressure Casing Pressure Choke Size
Net Oil Produced bbls. Gas Produced MCF % BSW GOR
Gravity Oil BHP Recorded
Net Oil in 24 Hours Open Flow Potential MCF
Purpose of this test: Original Completion Workover Recompletion
Allowable Requested

REMARKS:

Please use reverse side of this page for all pertinent remarks.

CERTIFICATE

I declare under the penalties of perjury that this report has been examined by me and to the best of my knowledge true, correct and complete.

Floyd Green

Handwritten initials/signature

WELL DATA SHEET

T F WELL: SALT WATER DISPOSAL
COMMENCE DATE: 12/04/95
ZONE: SMACKOVER
COUNTY: COLUMBIA
LEASE: SOUTER HW 632
UNIT DESCRIPTION: SE SW
PLUGGED BACK TOTAL DEPTH: 0

API: 03-027-11,565
COMPLETION DATE: 12/21/95
OPERATOR:
NUMBER: 5
TOTAL DEPTH: 8,600

SERIAL: 35,726
FIELD: KILGORE LODGE
UNIT SIZE: 40
ELEVATION: 282 GL

CASING, TUBING, PERFORATING AND COMPLETION PROGRAM USED IN WELL

	CASING SIZE	WEIGHT	DEPTH	CEMENT
CONDUCTOR:	20 in	lbs	70 ft	
SURFACE:	13 3/8 in	75 lbs	1,523 ft	1030 sks
INTERMEDIATE:	in	lbs	0 -	0 ft
PRODUCTION:	9 5/8 in	47 53 lbs	8,588 ft	3555 sks
LINER:	in	lbs	0 -	0 ft
TUBING:	7 fbgl in	lbs	8,180 ft	

PACKER: 8180
 PERFORATIONS: SIZE: .49 NO. PER FOOT: 4
 PERFORATED INTERVALS: 8216-8330
 ACIDIZED: 20000 GALS
 FRACTURED:

INITIAL PRODUCTION DATA

DATE TESTED: / /	LENGTH OF TEST:	PRODUCING METHOD:
FLOWING WELLHEAD PRESSURE: 0 psia	CHOKE SIZE:	SHUT-IN WELLHEAD PRESSURE: 0
OIL: 0 Bbls	GAS: 0 MCFD	BSW: 0 %
BBR: 0 CP/Bbls	GRAVITY: API	OPEN FLOW: 0 MCFD
psia @ 0 ft		

TEST DATA

DATE TESTED: / /	MAXIMUM DELIVERABILITY: 0 MCFD
ABSOLUTE OPEN FLOW: 0 MCFD	SHUT-IN WELLHEAD PRESSURE: 0 psia
ALLOWABLE: 0 MCFD	

OIL PURCHASER:
 GAS PURCHASER: 0 %
 0 %
 0 %
 0 %
 0 %

ABANDONED DATE: / /
 REMARKS: Drilled as SWD. MIT on 12-21-95, Passed.
 30,000 bswpd allowable.

ARKANSAS OIL AND GAS COMMISSION

314 EAST OAK STREET
EL DORADO, ARKANSAS 71730

INJECTION WELL INSPECTION

Date 12-21- 19 95

OPERATOR Albermarle Corp.

FIELD Kilgore Lodge COUNTY Columbia

LEASE Souter (B.I.W #632) WELL NUMBER #5

LOCATION 567' FSL + 306' FWL SE, SW SEC. 17 T. 17 R. 21

DIRECTIONS TO WELL _____

WELL PRESSURE TEST

SHUT IN () NUMBER OF HOURS _____
OPERATING () TUBING PRESSURE _____ PSIG/VACUUM _____ INCHES
ANNULUS PRESSURE _____ PSIG/VACUUM _____ INCHES

PRESSURE TEST:

TIME		CASING ANNULUS	REMARKS
Hour	Minutes	psig	
<u>10</u>	<u>06</u>	<u>600 #</u>	<u>Packer 8,180'</u>
<u>10</u>	<u>36</u>	<u>600 #</u>	<u>Perfs. 8,216' - 8,330'</u>
_____	_____	_____	_____

ANNULUS MONITOR INSPECTION

STATUS: Shut In () Tubing Pressure _____ psig/vacuum _____ inches.
Operating () Annulus Pressure _____ psig/vacuum _____ inches.
Time Observed _____ A.M./P.M.

RESULTS OF TEST (Indicate with X)

- well mechanical integrity satisfactory
- well mechanical integrity not verified
- casing annulus not holding pressure for test period
- annulus pressure monitored not in agreement with monitored pressures reported by operator
- _____ reschedule test for date of _____
- _____ well should be repaired and retested
- _____ well should be shut in

WITNESS Albermarle INSPECTOR Dennis R. Endel
for Charlie C Povich 12-21-95 for A.O.G.C.



No. 31857
INV 2275

P.O. BOX 7667
SHREVEPORT, LOUISIANA 71137-7667
(318) 424-1462 • FAX (318) 424-1484

DATE 12-9-95
CUST. NO. POZZD19021492203152.2

CUSTOMER INFORMATION

CUSTOMER NAME Albion Corp
ADDRESS P.O. Box 1490
CITY Magnolia STATE AR
ZIP 71755 PHONE _____

WELL INFORMATION

WELL NAME NO. Baker (Section #5)
FIELD Kellyville Lodge
OPERATOR Chambers, A & K
APPROXIMATE NO. OF FEET TO BE DRILLED 17-115-21W

As Well Operator, Owner, Drilling Contractor, or Landowner, I understand that a sealed radioactive source will be used in the service of the above noted well and agree that in the event the sealed radioactive source is dropped downhole, a reasonable effort in recovery will be made, subject to the terms and conditions of this service contract and in the event a decision is made to abandon the sealed radioactive source downhole, the following actions will be taken:
The radioactive sealed source will be immobilized and sealed in place with a cement plug and

Warning or other detection device will be set and appropriate identification provided and posted at the well containing specific warnings and information as required under Section 296 AB of the Louisiana Department of Environmental Quality, LOUISIANA RADIATION REGULATIONS, No. 296-1987. I hereby acknowledge and agree to the above and conditions contained herein.

As customer, I agree to pay to the contractor the below specified services (including rental equipment and any other services requested). If your present address shown above in consideration of the services to be provided or performed, or attempted to be provided or performed, I formally set forth, customer agrees to be bound by the terms and conditions set forth on the reverse hereof, including all liabilities therein assumed.

The undersigned, as agent on behalf of customer, represents that he has full authority to act for and bind customer to this contract and that he has read and understands all of the terms and conditions contained on the reverse hereof.
A. Chamberlain 12-9-95
Customer Agent

SERVICE SUMMARY

Run Frank Catcher - 6.25" Gauge at 2000'
Set Baker Parker at 2180'
Set Baker Parker - Change (2180')

SERVICE PRICING

SERVICE NO.	DESCRIPTION	AMOUNT
	<u>Frank Catcher</u>	<u>1000.00</u>
	<u>Baker Parker</u>	<u>1180.00</u>
	<u>Baker Parker - Change</u>	<u>0.00</u>

JOB INFORMATION

ZERO 21.7 CASING SIZE/AWT 9 5/8 53 RT MILES _____
TUBING SIZE/AWT _____ PKR DEPTH _____
COLLARS _____ FLUID TYPE _____
FLUID LEVEL _____ TRUCK NO.'S 40
OPERATOR J. George CREW G. Pierce
DISPATCH 1030 AM RETURN 500 RU 12:00 RD 4:30

WAITING _____ TO _____ : _____ TO _____
JST _____ TO _____ : _____ TO _____
PERF _____ JTA _____ LST _____ DSC _____
C1 _____ GL _____ AM _____
C2 _____ EP _____ APP _____



HALLIBURTON SUMMARY

HALLIBURTON LOCATION

Bossier City

BILLED ON TICKET NO.

807436

WELL DATA

FIELD Magnolia SEC. _____ TWP. _____ RNG. _____ COUNTY Columbia STATE AR

FORMATION NAME _____ TYPE _____
 FORMATION THICKNESS _____ FROM _____ TO _____
 INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
 PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
 COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____
 PACKER TYPE _____ SET AT _____
 BOTTOM HOLE TEMP. _____ PRESSURE _____
 MISC. DATA _____ TOTAL DEPTH _____

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWED
CASING	u	54.5	13 3/8	0	1525	
LINER						
TUBING						
OPEN HOLE			17 1/2	0	1520	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE 7-23-95	DATE 7-23-95	DATE 7-23-95	DATE 7-24-95
TIME 1430	TIME 1830	TIME 1830	TIME 6230

TOOLS AND ACCESSORIES		
TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE	1	
GUIDE SHOE		
CENTRALIZERS	5	
BOTTOM PLUG		
TOP PLUG <u>Plastic</u>	1	
HEAD <u>Spck</u>	1	
PACKER		
OTHER		

PERSONNEL AND SERVICE UNITS			
NAME	UNIT NO. & TYPE	LOCATION	
Hartline	D4542	6457	Bossier
Banks	G3648	7504	Kilgore
BBOX	C9267	Bulk	"
		Bin	"

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB/GAL. °API
 DISPL. FLUID _____ DENSITY _____ LB/GAL. °API
 PROP. TYPE _____ SIZE _____ LB.
 PROP. TYPE _____ SIZE _____ LB.
 ACID TYPE _____ GAL. _____ %
 ACID TYPE _____ GAL. _____ %
 ACID TYPE _____ GAL. _____ %
 SURFACTANT TYPE _____ GAL. _____ IN.
 NE AGENT TYPE _____ GAL. _____ IN.
 FLUID LOSS ADD. TYPE _____ GAL.-LB. _____ IN.
 GELLING AGENT TYPE _____ GAL.-LB. _____ IN.
 FRIC RED. AGENT TYPE _____ GAL.-LB. _____ IN.
 BREAKER TYPE _____ GAL.-LB. _____ IN.
 BLOCKING AGENT TYPE _____ GAL.-LB. _____
 PERFPAC BALLS TYPE _____ QTY. _____
 OTHER _____
 OTHER _____

DEPARTMENT Cont
 DESCRIPTION OF JOB Cement Surface Cas.
 JOB DONE THRU: TUBING CASING ANNULUS TBG/ANN.
 CUSTOMER REPRESENTATIVE X Floyd Green
 HALLIBURTON OPERATOR Hartline COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
1	680	HCC (STD)		B	4% AddGel & 3% SALT	2.30	12.0
1	350	STD		B	Neat	1.18	15.6

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____
 BREAKDOWN _____ MAXIMUM _____
 AVERAGE _____ FRACTURE GRADIENT _____
 SHUT-IN: INSTANT _____ 5-MIN. _____ 15-MIN. _____
 HYDRAULIC HORSEPOWER _____
 ORDERED _____ AVAILABLE _____ USED _____
 AVERAGE RATES IN BPM _____
 TREATING _____ DISPL. _____ OVERALL _____
 CEMENT LEFT IN PIPE _____
 FEET _____ REASON _____

SUMMARY

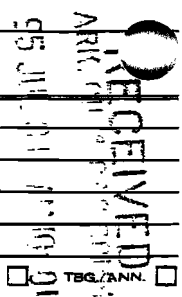
VOLUMES

FRESHWASH: BBL-GAL 24 TYPE Med Flush
 LOAD & BKDN: BBL-GAL _____ PAD: BBL-GAL _____
 TREATMENT: BBL-GAL _____ DISPL: BBL-GAL 235.6
 CEMENT SLURRY: BBL-GAL 278.5 + 73.5
 TOTAL VOLUME: BBL-GAL 611.6

REMARKS

See Job Log

CUSTOMER: Ableman/bie LEASE: Souter WELL NO: 5 JOB TYPE: Surface DATE: 7-23-95



PROCEDURES AND REQUIREMENTS FOR SURFACE CASING AND THE PLUGGING OF WELLS

You are REQUIRED to set a minimum of 1500 feet of surface casing on the well listed below to comply with the Minimum Casing Requirements adopted by the Arkansas Oil and Gas Commission.

ALBEMARLE CORP.
OPERATOR

SOUTER (BLW #632) #5
LEASE AND WELL NO.

If you anticipate the need to pump the reserve pit down the well bore you should set a minimum of 1500 feet of surface casing. Permission must be obtained from a Commission engineer prior to the commencement of pumping operations.

Surface casing will be cemented to the surface of the earth. ALL cementing will be done by the pump and plug method.

You are REQUIRED to notify the Commission in ample time for an engineer of the Commission to be present to witness the running and cementing of the casing.

In the event that the well is to be abandoned, the Commission must be notified of same in ample time for an engineer of the Commission to be present to witness the plugging of the well. ALL wells will be plugged in accordance with Rules B-7 & B-8 of the General Rules and Regulations.

The Commission engineer for your area is GARY LOONEY

<u>ENGINEERS</u>	<u>AREA COUNTIES</u>	<u>HOME PHONE</u>
Steve Saulsbury	Hempstead, Lafayette, & Miller	862-6496
Kirk Hudson	Columbia, Nevada, & Ouachita	863-0134
Dennis Endel	Ashley, Bradley, Calhoun, & Union	862-8434

In the event that the engineer of your area cannot be contacted, contact the office of the ARKANSAS OIL AND GAS COMMISSION, 2215 West Hillsboro, P.O. Box 1472, El Dorado, Arkansas 71731-1472. PHONE (501) 862-4965 between the hours of 8:00 A.M. to 5:00 P.M., Monday through Friday.

Gary Looney	UIC Engineering Technician	862-7848
Marty Perdue	Petroleum Engineer	863-4456
Hampton Bussey	Deputy Director	693-5757
W.E. "Bill" Wright	Director	863-8784

ARKANSAS OIL AND GAS COMMISSION

UI-2
(REV. 98)

P. O. BOX 1472 2215 WEST HILLSBORO
EL DORADO, AR 71731-1472

INJECTION WELL INSPECTION

OPERATOR Albemarle DATE 12-20- 2000
19

LEASE Souter WELL NO. 5 FIELD Kilgore Lodge

COUNTY Columbia SEC. _____ TWP _____ RGE _____

LOCATION _____

DIRECTIONS TO WELL _____

ANNULUS MONITOR INSPECTION

STATUS: SHUT IN _____ TUBING PRESSURE _____ psig/vacuum _____ in.

OPERATING _____ ANNULUS PRESSURE _____ psig/vacuum _____ in.

TIME OBSERVED _____ A.M./P.M.

RESULTS _____

WELL PRESSURE TEST

STATUS: SHUT IN _____

OPERATING X

TIME	
HOUR	MINUTES
<u>10</u>	<u>56</u>
<u>11</u>	<u>26</u>

CASING ANNULUS

PSIG

600

600

REMARKS: _____

RESULTS OF TEST

X WELL MECHANICAL INTEGRITY SATISFACTORY

_____ WELL MECHANICAL INTEGRITY NOT VERIFIED

_____ CASING ANNULUS NOT HOLDING PRESSURE FOR TEST PERIOD

_____ RESCHEDULE TEST FOR DATE OF _____

_____ WELL SHOULD BE REPAIRED AND RETESTED

_____ WELL SHOULD BE SHUT IN

Jimmy J. Franks
OPERATOR REPRESENTATIVE

St. Hubert
INSPECTOR

WELL DATA

FIELD: MORGENTHAU, COUNTY: Columbia, STATE: ARK. FORMATION NAME, TYPE, THICKNESS, INITIAL PROD., PRESENT PROD., COMPLETION DATE, MUD TYPE, MUD WT: 9.3, PACKER TYPE, SET AT, BOTTOM HOLE TEMP, PRESSURE, MISC DATA, TOTAL DEPTH: 8593.

JOB DATA

Table with columns: CALLED OUT, ON LOCATION, JOB STARTED, JOB COMPLETED. Includes dates and times for 8-13-75.

PERSONNEL AND SERVICE UNITS

Table with columns: NAME, UNIT NO. & TYPE, LOCATION. Lists personnel like T. DEAN, S. LINDA, F. WALKER, N. WALKER, B. CUX, H. JOHNSON.

TOOLS AND ACCESSORIES

Table with columns: TYPE AND SIZE, QTY, MAKE. Lists items like FLOAT COLLAR, FLOAT SHAPE, GUIDES, CENTRALIZERS, BOTTOM TAIL, TOP TAIL, HEAD, PACKER, OTHER.

MATERIALS

Form for MATERIALS with fields for TREAT FLUID, DISPL FLUID, PROP. TYPE, ACID TYPE, SURFACTANT TYPE, NE AGENT TYPE, FLUID LOSS ADD. TYPE, GELLING AGENT TYPE, FRIC. RED. AGENT TYPE, BREAKER TYPE, BLOCKING AGENT TYPE, PERFPAC BALLS TYPE, OTHER.

DEPARTMENT: Cement

DESCRIPTION OF JOB: CEMENT 9 5/8 Prod. CSG. (D.V.)

JOB DONE THRU: TUBING [] CASING [X] ANNULUS [] TBG/ANN. []

CUSTOMER REPRESENTATIVE: X Floyd Green

HALLIBURTON OPERATOR: T. DEAN, COPIES REQUESTED

CEMENT DATA

Table with columns: STAGE, NUMBER OF SACKS, CEMENT, BRAND, BULK SACKED, ADDITIVES, YIELD CLFT/SK, INDEXED LBS/GAL. Lists stages 1 and 2 with cement types like Premium and additives like 65% retard, 322, 107, salt, 75% retard, 322, 1/2 HR-S.

PRESSURES IN PSI

SUMMARY

VOLUMES

Form for PRESSURES IN PSI, SUMMARY, and VOLUMES. Includes fields for CIRCULATING, BREAKDOWN, AVERAGE, SHUT-IN INSTANT, HYDRAULIC HORSEPOWER, AVERAGE RATES IN BPM, CEMENT LEFT IN PIPE, FEET, PRESURUSH, LOAD & BKDN, TREATMENT, CEMENT SLURRY, TOTAL VOLUME, REMARKS.

96 JAN -3 4 10:10

CUSTOMER: Halliburton, DATE: 9/5/75, PROD: CSG DATE: 8-13-75



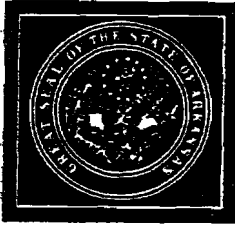
JOB LOG

CUSTOMER NO.	ARTICLE NO.	LEASE NO.	MEASURE (SQ. FEET)	REMARKS
100				1000
			1100	1000
			1200	1000
			1300	1000
			1400	1000
			1500	1000
			1600	1000
			1700	1000
			1800	1000
			1900	1000
			2000	1000
			2100	1000
			2200	1000
			2300	1000
			2400	1000
			2500	1000
			2600	1000
			2700	1000
			2800	1000
			2900	1000
			3000	1000
			3100	1000
			3200	1000
			3300	1000
			3400	1000
			3500	1000
			3600	1000
			3700	1000
			3800	1000
			3900	1000
			4000	1000
			4100	1000
			4200	1000
			4300	1000
			4400	1000
			4500	1000
			4600	1000
			4700	1000
			4800	1000
			4900	1000
			5000	1000
			5100	1000
			5200	1000
			5300	1000
			5400	1000
			5500	1000
			5600	1000
			5700	1000
			5800	1000
			5900	1000
			6000	1000
			6100	1000
			6200	1000
			6300	1000
			6400	1000
			6500	1000
			6600	1000
			6700	1000
			6800	1000
			6900	1000
			7000	1000
			7100	1000
			7200	1000
			7300	1000
			7400	1000
			7500	1000
			7600	1000
			7700	1000
			7800	1000
			7900	1000
			8000	1000
			8100	1000
			8200	1000
			8300	1000
			8400	1000
			8500	1000
			8600	1000
			8700	1000
			8800	1000
			8900	1000
			9000	1000
			9100	1000
			9200	1000
			9300	1000
			9400	1000
			9500	1000
			9600	1000
			9700	1000
			9800	1000
			9900	1000
			10000	1000

TO THE CURRENT POINT TO SURFACE

STAGE 2 3 8 15

Now Released Thank You



**ARKANSAS
OIL AND GAS
COMMISSION**

2215 West Hillisboro St. ■ P.O. Box 1472
El Dorado, Arkansas 71731-1472

William E. Wright
Director

Phone: (501) 862-4965
FAX Number: (501) 862-8823

January 8, 1996

Albemarle Corporation
Attn: Judy Thompson
P.O. Box 729
Magnolia, AR 71753

Re: F.W. Souter #5 SWD
Sec. 17-17S-21W
Kilgore Lodge Field
Columbia County, AR

Gentlemen:

Your application filed for authority to dispose of produced salt water into the referenced well has been reviewed and appears to meet the necessary requirements of the state. Please consider this letter as your authority to use the referenced well for disposal of produced water only, and in accordance with the provisions of the application as filed. Disposal shall be down the tubing string with a packer set immediately above the disposal zone as approved. Provisions to monitor the annulus between the tubing and casing strings shall also be required.

Only water from the applied for and approved wells shall be authorized for disposal in the above referenced SWD well and pressures and volumes shall comply with the application as filed.

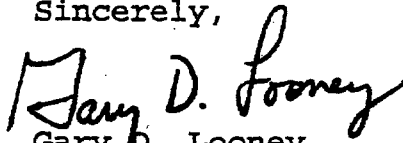
It is requested that upon completion of the referenced salt water disposal that this office be notified for inspection and running of a mechanical integrity test on the referenced well.

COMMISSION MEMBERS ■ E. Boyd Alderson, Chairman, El Dorado
Ned R. Price, Vice Chairman, Smackover ■ Spence A. Leamons, Fort Smith
J. David Reynolds III, Camden ■ Chris Weiser, Magnolia ■ Kent Dotlar, Russellville
Phillip E. Norvell, Fayetteville ■ Lowell D. Boynton, Fayetteville ■ Chad White, Magnolia

An equal opportunity employer

Additionally, monthly disposal reports (AOGC-14) shall be required; whereas, both annulus pressure and injection pressure are shown. Further, a completion report shall be filed indicating the perforated interval and tubing and packer settings.

Sincerely,

A handwritten signature in cursive script that reads "Gary D. Looney". The signature is written in dark ink and is positioned above the typed name.

Gary D. Looney
Oil & Gas Technician/UIC

GL:gm

cc: DPC&E



JOB SUMMARY

HALLIBURTON DIVISION

SOUTHEAST NW 1/4

HALLIBURTON LOCATION

Barren City, La -

BILLED ON TICKET NO.

904305

WELL DATA

FIELD Brine SEC _____ TWP. _____ RNG. _____ COUNTY Columbia STATE LAFORMATION NAME 2 med cover TYPE Lime

FORMATION THICKNESS _____ FROM _____ TO _____

INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____

PACKER TYPE 9 5/8" RTTS SET AT 7599 below

BOTTOM HOLE TEMP. _____ PRESSURE _____

MISC. DATA _____ TOTAL DEPTH _____

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIM/ALLOW
CASING	4	27.53	9 7/8	0	70	1000
Drill pipe	4		4 1/2	7599	7892	5500
Tool joint	4	6.5	2 7/8	0	7584	5500
OPEN HOLE						SHOTS/FT.
PERFORATIONS				8216	8330	
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLER OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>12/7/95</u>	DATE <u>12/7/95</u>	DATE <u>12/7/95</u>	DATE <u>12/8/95</u>
TIME <u>0900</u>	TIME <u>1300</u>	TIME <u>1700</u>	TIME <u>1530</u>

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
<u>Mike Posey</u>	<u>40541 94887</u>	<u>Barren City</u>

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD		
PACKER		
OTHER		

MATERIALS

TREAT. FLUID _____	DENSITY _____	LB/GAL. °API
DISPL. FLUID _____	DENSITY _____	LB/GAL. °API
PROP. TYPE _____	SIZE _____	LB.
PROP. TYPE _____	SIZE _____	LB.
ACID TYPE _____	GAL. _____	%
ACID TYPE _____	GAL. _____	%
ACID TYPE _____	GAL. _____	%
SURFACTANT TYPE _____	GAL. _____	IN
NE AGENT TYPE _____	GAL. _____	IN
FLUID LOSS ADD. TYPE _____	GAL.-LB. _____	IN
GELLING AGENT TYPE _____	GAL.-LB. _____	IN
FRIC. RED. AGENT TYPE _____	GAL.-LB. _____	IN
BREAKER TYPE _____	GAL.-LB. _____	IN
BLOCKING AGENT TYPE _____	GAL.-LB. _____	
PERFAC BALLS TYPE _____	QTY. _____	
OTHER _____		
OTHER _____		

DEPARTMENT Special Tests
 DESCRIPTION OF JOB 9 5/8" RTTS to Ball off
Well job

JOB DONE THRU: TUBING CASING ANNULUS TBG/ANN.

CUSTOMER REPRESENTATIVE X Charlie C. Deibel 12-8-95
 HALLIBURTON OPERATOR Posey COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING _____	DISPLACEMENT _____	FRESHISH: BBL.-GAL. _____	TYPE _____
BREAKDOWN _____	MAXIMUM _____	LOAD & BKDN: BBL.-GAL. _____	PAD: BBL.-GAL. _____
AVERAGE _____	FRACTURE GRADIENT _____	TREATMENT: BBL.-GAL. _____	DISPL: BBL.-GAL. _____
SHUT-IN INSTANT _____	3-MIN. _____	CEMENT SLURRY: BBL.-GAL. _____	
	15-MIN. _____	TOTAL VOLUME: BBL.-GAL. _____	
	HYDRAULIC HORSEPOWER _____		
ORDERED _____	AVAILABLE _____	REMARKS _____	
	USED _____		
	AVERAGE RATES IN BPM _____		
TREATING _____	DISPL. _____		
	OVERALL _____		
	CEMENT LEFT IN PIPE _____		
FEET _____	REASON _____		

UIC SWD CHECKLIST

OPERATOR Albemarle Corp
WELL NAME Souter 5
FIELD Kilgus Lodge
DATE RECEIVED _____

- | Y | N | |
|-------------------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS APPLICATION SIGNED AND DATED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS APPLICATION FILED UNDER PROPER RULE |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS A PLAT OF 1/2 MILE AREA BEEN INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS PACKER SET WITHIN 100' OF INJECTION ZONE |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS PERSON FILING APPLICATION THE OPERATOR OF RECORD |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS A SUBSURFACE SCHEMATIC INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS A NOTICE OF PUBLICATION BEEN RECEIVED AT LEAST 10 AND NOT MORE THAN 30 DAYS PRIOR TO RECEIVING APPLICATION |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS APPLICATION BEEN HELD FOR 10 DAYS FOR POSSIBLE OBJECTIONS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | IS THIS INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS FINANCIAL RESPONSIBILITY BEEN INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAVE NAMES AND ADDRESSES OF EJECTS BEEN INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS A LIST OF INJECTION WELL STIMULATION BEEN INCLUDED |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAS A COMPLETION REPORT BEEN FILED ON THIS WELL |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | HAVE EXISTING PERFS BEEN ISOLATED FROM INJECTION INTERVAL |

EEOLOGY WORKSHEET FOR SWD APPLICATION

8/20/95

DATE Aug 17, 1995

OPERATOR Albunark Corp.

WELL NAME Souten #5

LOCATION 567' FSL & 300' RWL SE SW SEC 17 TWP 17s RGN 21w

FIELD Kilgore Lodge

INJECTION ZONE Smackover TOP 8070 BASE 8540 THICKNESS _____

IS INJECTION ZONE CORRECT? Y N

log TD

DOES WELL TOTALY PENETRATE PROPOSED ZONE? Y N

DEEPEST FORMATION CONTAINING LESS THAN 10,000 mg/l TDS

- CANE RIVER
- WILCOX
- WACATOCH

estimate from nearest logs

TOP 900 BASE 1300

(Souten #5 log passed to 1500)

IS PERMIT CORRECTLY FILED UNDER C-7 Y N C-8 Y N

COMMENTS:

DIC
RA



RECEIVED
95 JUN 26 11:16

P. O. Box 729
Magnolia, Arkansas 71753

Telephone: 501-235-6000
Facsimile: 501-235-6001

June 23, 1995

Arkansas Oil & Gas Commission
P.O. Box 1472
El Dorado, Arkansas 71731-1472

Attn: Martin T. Perdue

Dear Sirs:

Please find attached an 'Application To Inject Salt Water' for our proposed Brine Injection Well No. 632 (Souter 5) located 567' from S line and 306' from W line of SE 1/4 SW 1/4, Sec. 17 T17S, R21W, Columbia County.

If you have any questions, please let us know.

Sincerely,

ALBEMARLE COPORATION

A handwritten signature in cursive script that reads 'Dave Williams'.

Dave Williams
Unit Technical Support

FG/rad

Attachments

xc: (W/O Attachments)
L. Becnel
R. E. Williams
D. Williams
L. T. Polk
J. Thompson

RECEIVED

55 JUN 26 11:16 AM '92

APPLICATION TO INJECT SALT WATER/ENHANCED RECOVERY FLUID

Arkansas Oil & Gas Commission
2215 West Hillsboro
P.O. Box 1472
El Dorado, AR 71731-1472

Arkansas Department of Pollution
Control and Ecology
P.O. Box 851
El Dorado, AR 71731-0851

Note: In a effort to reduce the amount of paperwork necessary to permit a Salt Water Injection System both regulatory agencies involved have combined their applications. Upon completion of this form send a copy to each agency listed above. Any modifications, alterations, additions or changes in the permitted system, well connected thereto, and quantities of salt water injected will require permit revision by both the ADPC&E and the AOSGC. Both regulatory agencies must be notified in writing, and approval granted before modifications can be enacted. All applications for disposal of oil field wastes by other than injection wells shall be submitted to the ADPC&E's office in Little Rock.

PERMIT FEES--ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

In accordance with Act 817 of 1983 and regulations promulgated thereto, effective October 1, 1991 a fee is required to be paid by the applicant prior to the issuance, modification, or renewal/reissuance of a permit. In addition, the permittee will be assessed an annual review fee in accordance with the permit fee regulations. The purpose of the permit fees is to help defray the administrative cost of issuance, renewal, inspection, modification, and monitoring associated with these permits. The initial permit application fee for salt water injection permits is \$300.00 also there will be a fee of \$120.00 for the modification or renewal of a permit. The required fees should be submitted along with the permit application. This fee is payable by cash, check or money order and must be received by the Department of Pollution Control and Ecology before the permit can be issued.

PERMIT FEES--ARKANSAS OIL AND GAS COMMISSION

In accordance with Order Reference Number 185-84 a fee on one hundred dollars (\$100.00) is required to be submitted with each application. In addition to the application fee a non-transferrable fee of one hundred dollars (\$100) per injection/enhanced recovery well per year is required to be paid to the Arkansas Oil and Gas Commission by July 1 of each year.

OWNER/OPERATOR Albemarle Corporation
STREET Hwy 79 S
CITY Magnolia STATE Arkansas ZIP 71753

A list of the names, addresses and telephone numbers of supervisory and field personnel responsible for the disposal system.

- L. Becnel 235-6623(O), 234-5445(H), P.O. Box 729, Magnolia, AR 71753
- J. I. Braswell 235-6636(O), 234-1287(H), 2310 Carson, Magnolia, AR 71753

1. This application is for approval to inject () Produced Salt Water () Enhanced Recovery Fluid into the (Zone) Smackover Lime of the Kilgore Lodge Field, at a depth interval of 8100 to 9100 feet SUB-SURFACE in the system known as the Souter No. 5 (BIW No. 632) at a location described as being 567' FSL, 306' FWL, SE/4 of SW/4 of Section 17 Township 17S Range 21W of Columbia County, Arkansas. The nearest city/town is Magnolia, AR.

It is proposed to begin disposal operations on or about Oct.1/95.
The estimated cost of the facilities is \$ 700,000.

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53 JUN 26 1976

This application is being filed under the requirements of Rule C-7 (C-7, C-8, or C-9 indicate which) of the General Rules and Regulations of the Arkansas Oil and Gas Commission.

- C-7 If there is NO production within a 1/2 mile radius of the proposed inject well in the proposed injection zone.
- C-8 If there IS production within a 1/2 mile radius of the proposed injection well in the proposed injection zone.
- C-9 Using gas to maintain or repressure a reservoir.

II. (Complete either (A) or (B) as applicable.) See Attachment for construction requirements.

A. () This well is a COMPLETED well and will be converted to injection service; it is cased and cemented as indicated below:

(SIZE) 13 3/8" Surface Casing set at 1600 feet with _____ sacks.

(SIZE) _____ Production Casing set at _____ feet with _____ sacks.

(SIZE) _____ Injection Tubing set at _____ feet with PACKER set at _____ feet.

(Note: All injection wells must have tubing and a packer or other installation to protect the casing. The packer can be set no higher than 100 feet above injection interval.)

All available logs are enclosed: () Yes () No

Hole/bit size is _____ inches. Total depth of the well is _____ feet.

B. (X) This well WILL BE DRILLED for injection service and a regular fee drilling application will be submitted. We plan to case and cement the well as indicated below:

(SIZE) 13 3/8" Surface Casing set at 1600 feet with 1000 sacks.

(SIZE) 9 5/8" Production Casing set at 8500 feet with 3100 sacks.

(SIZE) 7" Injection Tubing set at 8050 feet with Packer set at 8057 feet.

(Note: All injection wells must have tubing and a packer or other installation to protect the casing. The packer can be set no higher than 100 feet above injection interval.)

Hole/Bit size proposed is 12 1/4 inches. Total depth of well proposed is 9100 feet.

III. Each of the operators listed below owning leases within the one-half (1/2) mile radius of the proposed injection well have received a copy of this application by certified mail and copies of the return receipts have been attached to this application as proof thereof.

<u>LEASE</u>	<u>OPERATOR</u>	<u>ADDRESS</u>
--------------	-----------------	----------------

N/A

(If additional space is needed, attach a separate sheet.)

IV. A plat is attached which indicates the location of the proposed injection well with distances to nearest lease lines. Also shown on the plat are all wells of public record and fresh water wells of public record within a one-half (1/2) mile radius from the proposed injection well. A separate list of all wells which have penetrated the injection zone is included to indicate: (Information submitted MUST agree with AOGC records.)

- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Exact Legal Location 2. Current Operator 3. Lease Name 4. Name of Zone Currently Completed 5. Perforated Intervals 6. Total Depth 7. Drilling Date 8. Cementing Records | <ul style="list-style-type: none"> 9. Record of Completion/Plugging 10. Current Status-Specify <ul style="list-style-type: none"> a. Producing b. Shut In c. Injection (disposal or enhanced rec.) d. Municipal Water Supply e. Permanently Abandoned f. Specify Other Status |
|---|--|

V. A schematic drawing of the sub-surface installation is attached to show casing, approximate top and bottom of cement, tubing, packers, perforations, and well head of the injection well. Equipment must be installed and used to assure that injection will be confined to the proposed injection zone.

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95 JUN 26 AM 11:16

VI. A record of injection well stimulation is listed: (Indicate if no stimulation attempted.)

<u>DATE</u>	<u>STIMULATION</u>	<u>RESULTS</u>
-------------	--------------------	----------------

(If additional space is needed, attach a separate sheet.)

VII. A sign will be maintained at the well site to indicate the operator, well name, well number and location description.

VIII. To insure mechanical integrity of the injection well an initial mechanical integrity test and periodic tests at intervals not greater than once every five (5) years will be conducted to confirm that the packer and tubing are containing the injection fluids. To facilitate pressure testing of each casing annulus, a valve and standard one-half (1/2) inch female connection to receive a pressure gauge must be maintained at the well head.

IX. Within fifteen (15) days after completion of the well, a completion report, well logs, and injectivity test performed on the well, which were not previously filed, will be filed with the Oil and Gas Commission.

X. The Oil and Gas Commission will be notified in writing before the beginning of injection to allow inspection of the well and conduct the initial mechanical integrity testing.

XI. Attached is evidence of financial responsibility to plug and abandon the disposal/enhanced recovery well or wells by the method and procedure required by the Oil and Gas Commission. If required by the Commission, a bond of an amount not to exceed one hundred thousand (\$100,000) dollars will be furnished to provide for adequate plugging of the injection well or wells.

XII. Attached is a notarized copy of the proof of publication of this application as it ran in one (1) publication in a legal newspaper having a general circulation in the county or in each county, if there shall be more than one, in which the lands embraced within the application are situated, and by mailing or delivering a copy of the application to each operator of producing or drilling wells within a one-half (1/2) mile radius of the injection well. Such notice shall be published, mailed or delivered at least ten (10) days, but not more than thirty (30) days, prior to the date on which the application is mailed or filed with the Commission.

For information on how to complete Sections XIII through XVIII, please refer to ADPC&E's Guide for SWD Applications. This guide is available from the El Dorado office.

XIII. Produced salt water to be injected in this well will be received from the following wells:

OPERATOR Albemarle Corporation

LEASE BSW No. 602-Dow Fee WELL NO. 2

EXACT LEGAL LOCATION 380.5' SNL and 95.7' FWL, Sec. 15, T17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBLs/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 609-Woodward WELL NO. 2

EXACT LEGAL LOCATION 660'N, 710'E, SW/4 of NE/4, Sec. 11, TWP. 17S, RGE. 22W

STOCK TANK NO. _____ INJ. VOL. (BBLs/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 610-Ford WELL NO. 1

EXACT LEGAL LOCATION 660' FWL, 455' FNL, SE/4 of NW/4, Sec. 12, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBLs/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 612-Carter WELL NO. 1

EXACT LEGAL LOCATION 405' FNL, 330' FEL, NW/4 of NW/4, Sec. 18, TWP. 17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBLs/DAY) _____

RECEIVED

XIII. Produced salt water to be injected in this well will be received from the following wells:

95 JUN 26 AM 11:16

OPERATOR Albemarle Corporation

LEASE BSW No. 614-Kitchens WELL NO. 1

EXACT LEGAL LOCATION 250' FSL, 450' FWL, SW/4 of NW/4, Sec.12, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 620-Ellison WELL NO. 1

EXACT LEGAL LOCATION 330' FSL, 430' FEL, NE/4 of SE/4, Sec. 10, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 622-Holmes WELL NO. 1

EXACT LEGAL LOCATION 280' FNL, 280' FEL, SE/4 of SW/4, Sec. 11, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 625-Smith WELL NO. 1

EXACT LEGAL LOCATION 280' FSL, 520' FWL, NE/4 of SE/4, Sec. 3, TWP. 17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 626-McCown WELL NO. 1

EXACT LEGAL LOCATION 280' FSL, 280' FWL, SW/4 of NE/4, Sec. 4, TWP. 17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 627-Weber WELL NO. 1

EXACT LEGAL LOCATION 150' FNL, 233' FWL, SW/4 of NE/4, Sec. 8, TWP. 17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 628-Ham WELL NO. 1

EXACT LEGAL LOCATION 280' FSL, 280' FWL, SW/4 of SW/4, Sec. 9, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR Albemarle Corporation

LEASE BSW No. 629-McDaniel WELL NO. 1

EXACT LEGAL LOCATION 930' FNL, 362' FWL, NE/4 of SE/4, Sec. 9, TWP. 17S, R22W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

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95 JUN 26 AM 11:17

XIII. Produced salt water to be injected in this well will be received from the following wells:

OPERATOR Albemarle Corporation

LEASE BSW No.630-Magale WELL NO. 1

EXACT LEGAL LOCATION 280' FNL, 660' FWL, NW/4 of SW/4, Sec. 11, TWP. 17S, R21W

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

OPERATOR _____

LEASE _____ WELL NO. _____

EXACT LEGAL LOCATION _____

STOCK TANK NO. _____ INJ. VOL. (BBL/DAY) _____

RECEIVED

XIV. A. The estimated maximum amounts of produced salt water to be injected are 30,000 barrels per day. NO other fluid or product may be injected into the proposed injection well without prior permission of the appropriate regulatory agency. 90 JUN 25 AM 11:17

B. The maximum injection pressure at the injection well head will be less than 0.5 pig for each foot of sub-surface depth to the injection zone. An exception for this maximum pressure may be granted if the applicant presents sufficient evidence to justify the exception. The injection pressure shall be limited to that pressure which will not fracture the confining beds of the proposed injection zone, or cause movement of injection or formation fluids into fresh water zones. Estimated injection pressure is 400 psig. The actual volumes of salt water injected and well head pressure will be reported monthly on AOGC Form 14.

XV. A description of the method to be used for monitoring disposal system flows and pressures is to be included. This should contain a description of how such flow rates and pressures can be verified or checked for accuracy.

XVI. A drawing is attached showing the locations of the items below. The scale of the drawings should be clearly indicated and the approximate direct distance between producing wells and disposal wells specified on the drawing.

- | | |
|-------------------------------------|---|
| 1. Connected | 6. Separators |
| 2. Holding Tanks (Show size) | 7. Pumps |
| 3. Tank Batteries | 8. Production Cut-Off Switches |
| 4. Treaters, Gunbarrels | 9. Emergency Storage Facilities |
| 5. Piping (Show size and materials) | (Show length, depth, width or tank size in Bbls.) |

(NOTE: See ADPC&E Guide for information on storage facilities.)

XVII. HOLDING TANK REQUIREMENTS FOR TRANSFER STATIONS

(See terminology list at end of Section XVIII for meanings of abbreviations.)

A. For $DTV/DIV < 0.4$

1. If salt water can be transferred to the Main Disposal Station without the addition of mechanical head (pumps):
 - a. $MSR=100$ BBL, or
 - b. $MSR=DTV$ (If DTV is < 100 BBL/Day)
2. If salt water cannot be transferred to the Main Disposal Station without the addition of mechanical head (pumps):
 - a. Automatic cut-off switches to producing wells connected to the Transfer Station are required. The cut-off switch must be situated on the Transfer Station salt water storage vessel to provide a storage capacity of equal to $DTV/24$ (BBLs.) above the cut-off level, or;
 - b. $MSR=DTV/4$ (BBLs.) with a minimum storage capacity of 100 BBLs, or DTV (if DTV is < 100 BBLs/Day.)

B. For $DTV/DIV \geq 0.4$

1. Automatic cut-off switches to producing wells connected to the Transfer Station are required. The cut-off switch must be situated on the Transfer Station salt water storage vessel to provide storage capacity equal to $DTV/24$ (BBLs) above the cut-off level, or;
 2. $MSR=DTV/2$ (BBLs) with a minimum storage capacity of 100 BBLs or DTV (if DTV is < 100 BBLs/Day.)
- C. If the Transfer Station is not connected to the Main Disposal Station by pipeline, i.e. salt water must be transported by truck, $MSR=3$ DTV (BBLs)
- D. The Transfer Station salt water storage vessels shall be surrounded by an impermeable dike or firewall with a capacity equal to 1.5 times the volume of the largest vessel contained within the walls.
- E. Any alternate system or design which meets the approval of the ADPC&E.

XVIII. HOLDING TANK REQUIREMENTS FOR MAIN DISPOSAL STATIONS

A. For $IP/MP < 0.4$

1. If salt water can be disposed into the disposal well without the addition of mechanical head (pumps):
 - a. $MSR=100$ BBLs, or;
 - b. $MSR=DIV$ if $DIV < 100$ BBLs/Day

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95 JUN 26 AM 11:17

- 2. If salt water cannot be disposed into the disposal well without the addition of mechanical head (pumps):
 - a. Automatic cut-off switches to producing wells connected to the Main Disposal Station are required. The cut-off switch must be situated on the Main Disposal Station salt water storage vessel to provide a storage capacity equal to DIV/24 (BBLs) above the cut-off level, or;
 - b. MSR=DIV/2 with a minimum storage capacity of 100 BBLs, or DIV (if DIV < 100 BBLs/Day).
- B. For IP/MP \geq 0.4
 - 1. Automatic cut-off switches to producing wells connected to the Main Disposal Station are required. The cut-off switch must be situated on the Main Disposal Station storage vessel to provide a storage capacity equal to DIV/24 (BBLs) above the cut-off level, or;
 - 2. MSR=DIV/2 with a minimum storage capacity of 100 BBLs, or DIV (if DIV is < 100 BBLs/Day).
- C. The Main Disposal Station salt water storage vessels shall be surrounded by an impermeable dike or firewall with a capacity of 1.5 times the volume of the largest vessel contained within the walls.
- D. Any alternative system or design which meet the approval of the ADPC&E.

TERMINOLOGY

D--Sub-surface depth to the top of the injection one as listed in Section I of the permit application.

DIV--Estimated maximum amounts of salt water to be injected daily as reported in Section XIV (A) of the permit application (BBLs.).

DTV--Amounts of salt water transferred daily from production separators to the Transfer station. (BBLs)

IP--Estimated injection pressure as listed in Section XIV (B) of the permit application (psig). If this pressure is less than or equal to 1 psig, a value of 1 psig shall be used in the calculation of the minimum required storage.

Main Disposal Station--The site, in the construction and operation of a SWD system, utilized for the final collection and storage of produced salt water prior to the disposal by sub-surface injection.

MP--Maximum allowable well head pressure, equal to 0.5 psi per foot of sub-surface depth to the injection zone (0.5 D, psig)

MSR--Minimum required storage, as calculated by the appropriate formula (BBLs)

Transfer Station--A site shall be considered a Transfer Station if produced salt water cannot be transferred directly to the Main Disposal Station from the production separator, i.e. a salt water storage vessel is connected at the site.

< -- Less than

\geq -- Greater than or equal to

XIX. A copy of the Spill Prevention Control and Countermeasures (SPCC) plan for this system must be available for inspection upon request.

I, Laurel J. Becnel, S

do certify that the information presented within this application and all attachments are to the best of my knowledge and belief, true, correct and complete.

Laurel J. Becnel
Signature of Applicant

Unit Leader
Title

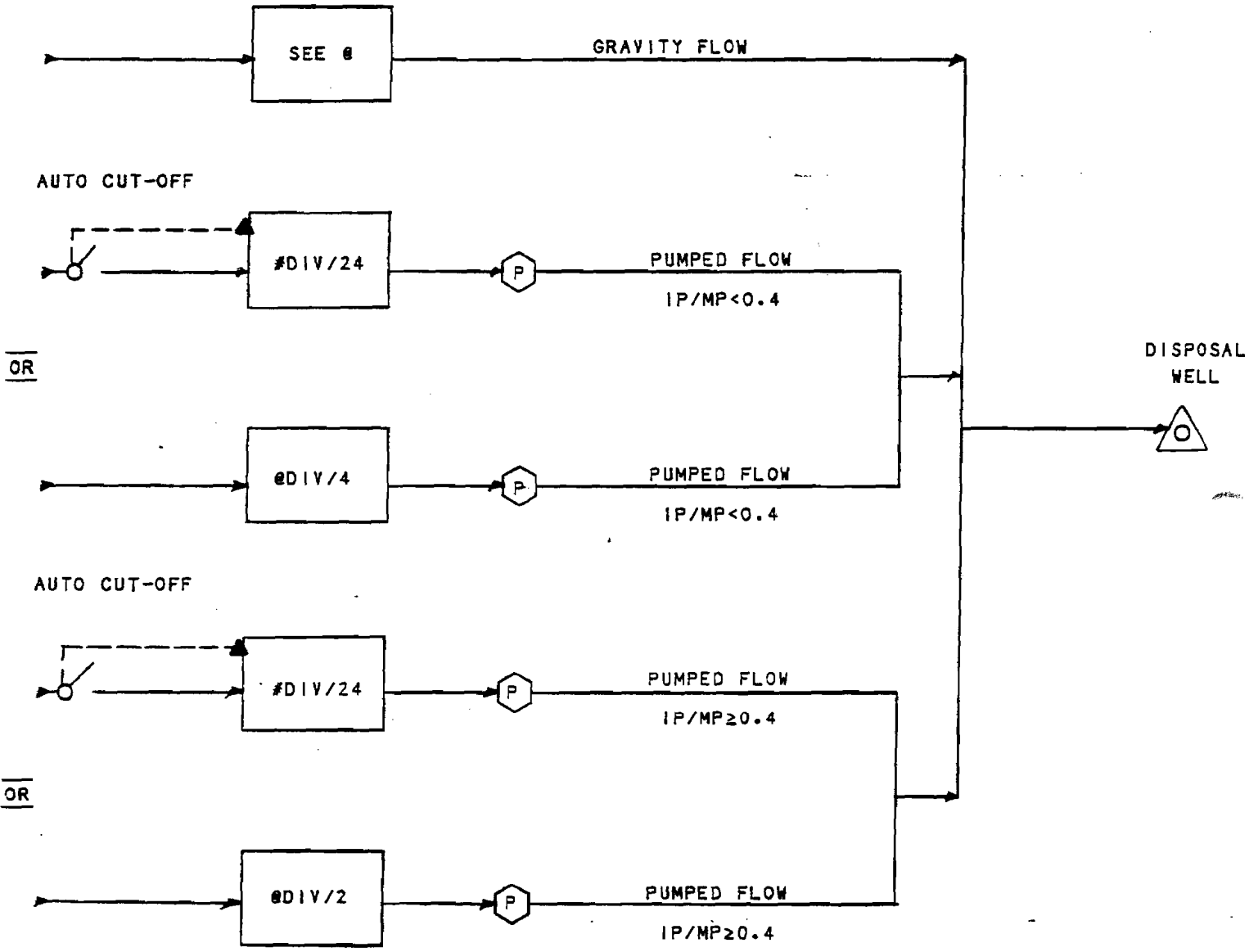
6-23-95
Date Application

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MAIN DISPOSAL STATION REQUIREMENTS

INCOMING SALT WATER *SALT WATER STORAGE TANK



@ 100 barrel minimum or DIV if < 100 BBL/Day.

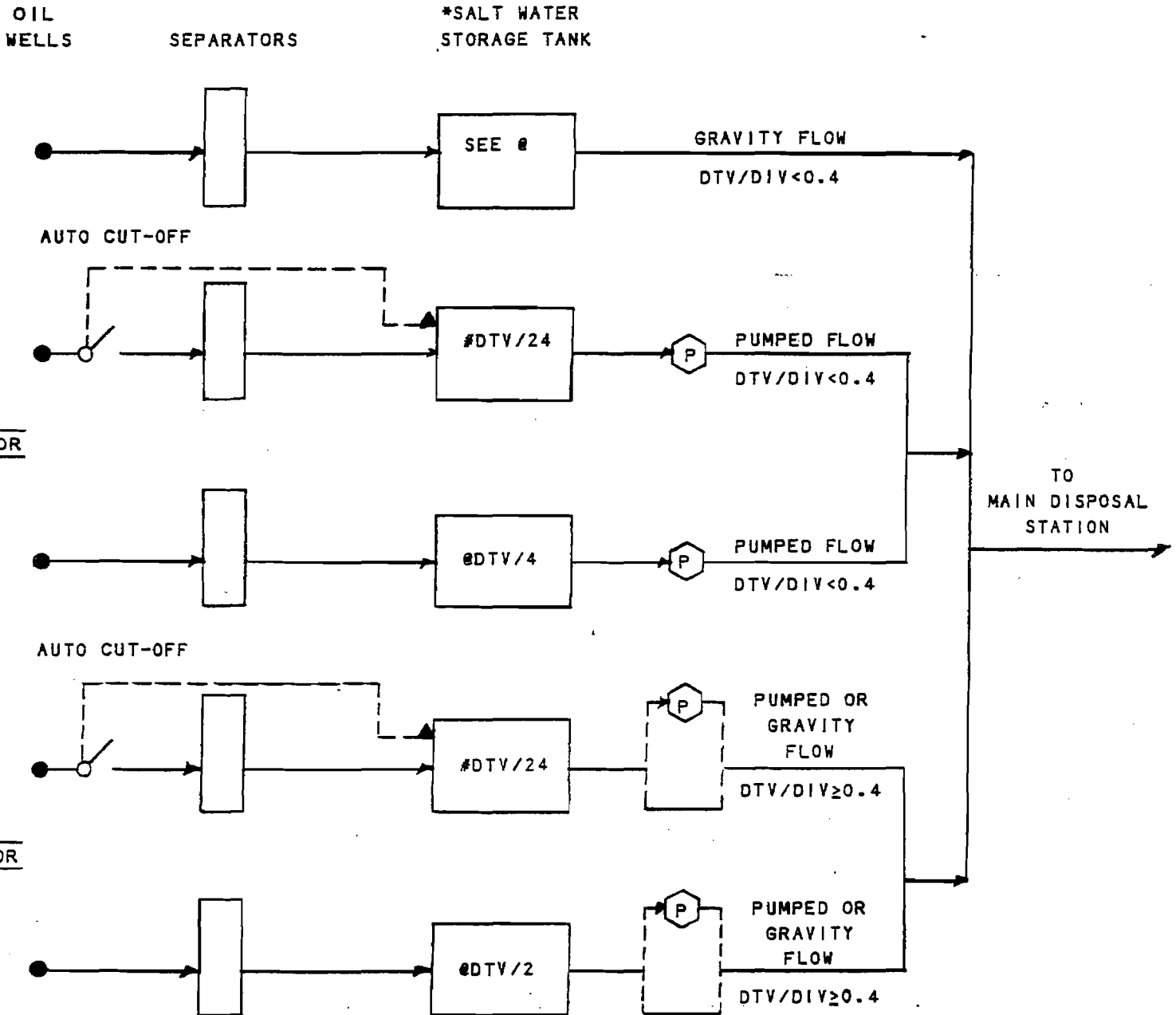
* Salt Water Storage Tanks must be surrounded by impermeable firewalls capable of holding 1.5 times the volume of the largest tank enclosed within the dike walls.

The cut-off switch must be situated on the salt water storage tank to provide a storage capacity equal to DIV24 (BBLs) above the cut-off level.

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TRANSFER STATION REQUIREMENTS

95 JUN 25 AM 11:17



@ 100 barrel minimum or DTV if < 100 BBL/Day.

* Salt Water Storage Tanks must be surrounded by impermeable firewalls capable of holding 1.5 times the volume of the largest tank enclosed within the dike walls.

The cut-off switch must be situated on the salt water storage tank to provide a storage capacity equal to DTV24 (BBLs) above the cut-off level.

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55 JUN 26 AM 11:17

ATTENTION: Answer all questions and submit complete form with permit application

STATUS OF APPLICANT

1. Is the applicant organized as a solely owned proprietorship?

Yes No

If yes, please list his/her name and address:

2. Is the applicant organized as a corporation?

Yes No

If yes, is it a foreign or domestic corporation? Domestic

Is the corporation currently registered to do business with the Arkansas Secretary of State?

Yes No

(Please note, no permit will be issued to a corporation, until the proper documents have been filed with the Secretary of State. Also, note that the name of the applicant must be identical to the name of the registered corporation.)

3. Is the applicant organized as a partnership?

Yes No

If yes, is it a general or limited partnership?

Please list the names and addresses of all of the partners involved:

Attach an additional sheet if necessary

4. Is the applicant organized as a joint venture?

Yes No

If yes, please list the names and addresses of all of the principals involved:

Attach an additional sheet if necessary

SIGNATORY REQUIREMENTS

1. Has the application been signed by the individual owner, a corporate officer, a partner or a principal?

If not, then the applicant must also submit a document signed by the individual owner, a corporate officer, a partner or a principal that delegates the signatory authority to whomever has signed the application.

RECEIVED
95 JUN 26 AM 11:17

ARKANSAS OIL AND GAS COMMISSION
314 EAST OAK STREET
EL DORADO, ARKANSAS 71730

REQUIREMENTS FOR COMPLETION OF SALT WATER DISPOSAL WELLS

I. New Wells Drilled For Disposal

- A. Casing and Cement. Disposal wells shall be cased and the casing cemented in such manner that damage will not be caused to oil, gas or fresh water resources. Newly constructed wells shall be completed as follows:
1. Set and cement surface casing through the base of fresh water and cement the long-string casing for at least 250 feet above the injection zone; or
 2. Set and cement surface casing (if desired) in fresh water and cement the long-string casing back to the surface.
- B. The mechanical integrity of each new disposal well shall be established by pressure testing or such other method as the Commission first approves and the mechanical integrity of each disposal well shall be re-tested periodically thereafter at least every five(5) years.
- C. An induction log shall be required if there are no logs in the immediate vicinity of the proposed injection well to be used for correlation.

II. Old Wells Converted To Disposal Wells

- A. A cement bond log shall be required to be sure the cement behind the casing is a minimum of 250 feet above any producing zone or 250 feet above the zone to be injected into.
- B. A Gamma Ray log shall be required if there are no logs in the immediate vicinity of the proposed injection well to be used for correlation.

III. Completion or Recompletion Reports Shall be Filed no later than 10 Days After Completion of the Well.

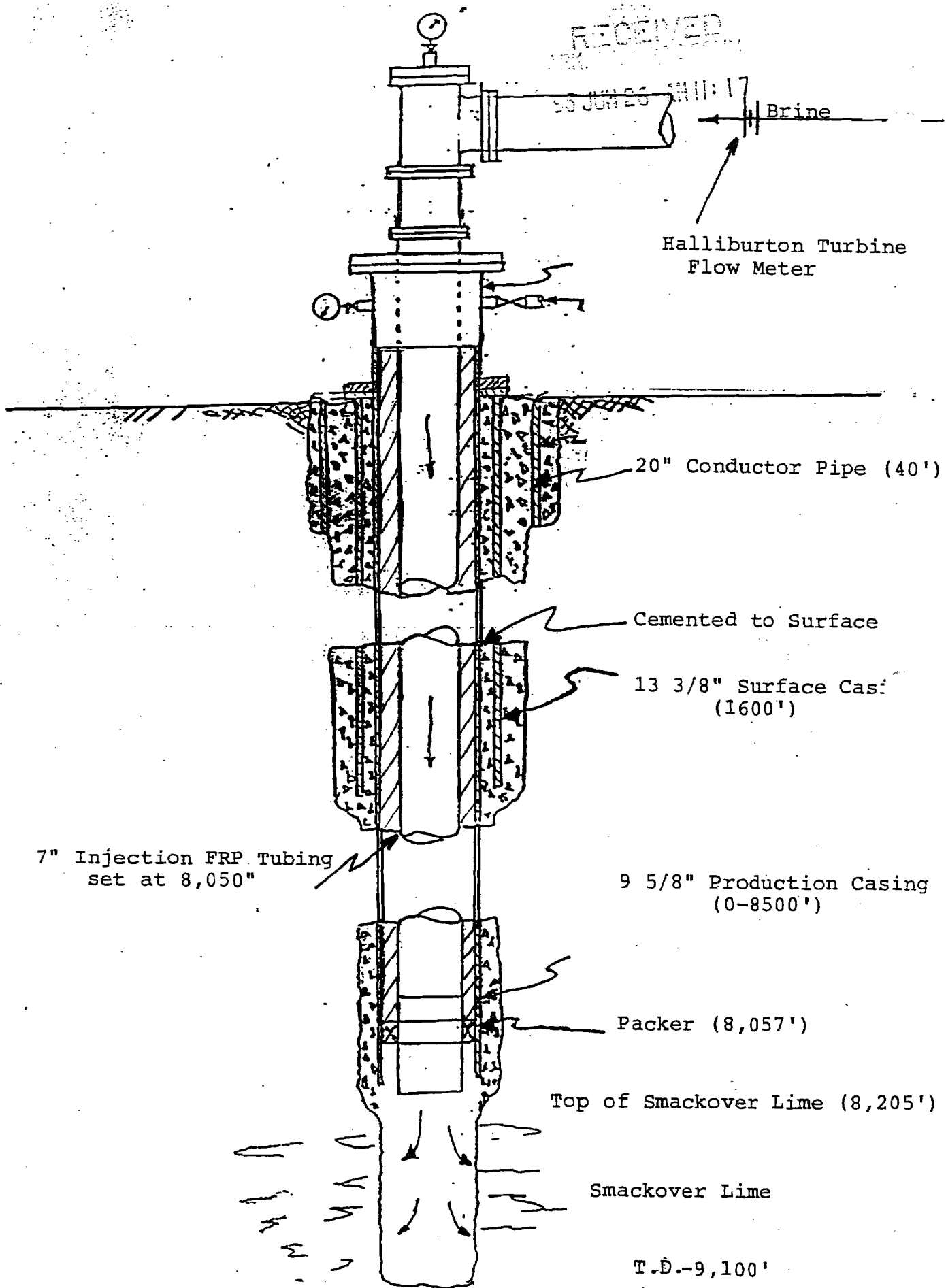
THE REQUIREMENTS SHALL BE IN EFFECT ON AND AFTER FEBRUARY 25, 1986.

ARKANSAS OIL AND GAS COMMISSION

W. E. Wright, Director of
Production and Conservation

RECEIVED

93 JUN 26 11:17



Halliburton Turbine Flow Meter

20" Conductor Pipe (40')

Cemented to Surface

13 3/8" Surface Cas: (1600')

7" Injection FRP Tubing set at 8,050"

9 5/8" Production Casing (0-8500')

Packer (8,057')

Top of Smackover Lime (8,205')

Smackover Lime

T.D.-9,100'

Brine Injection Well No.632
Souter No. 5

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95 JUN 26 AM 11:17

Attachment

Application to Inject - Class 5 Brine Injection Well

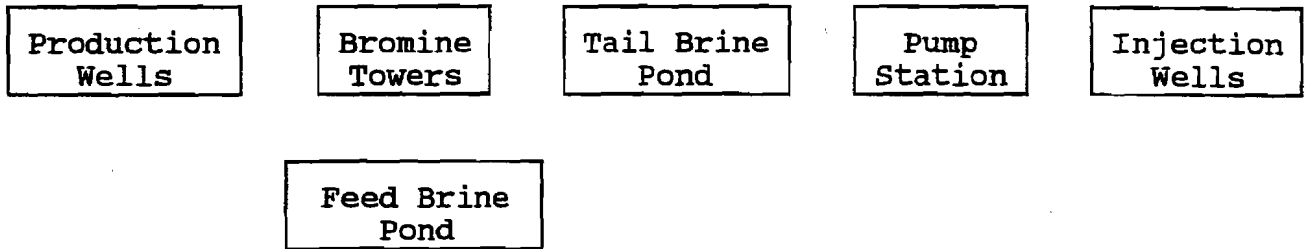
Each injection well in the disposal system is individually metered with turbine flow meters. Pressure/vacuum of the tubing and annulus is monitored with pressure/vacuum gauges. All wells are checked approximately four times daily. Volumes and pressures are recorded daily.

RECEIVED
95 JUN 26 01:17

Attachment

Application to Inject - Class 5 Brine Injection Well

The proposed brine injection well will be added to the existing SWD System (ADPCE Permit #2189-W, revised), which currently consists of 21 injection wells, approximately 30 miles of connecting pipelines, a pump station, and presently a tail brine pond.



WATER WELL RECORDS

MAP ID. NO. 1

STATE OF ARKANSAS
Report of Water Well Construction

County in which well is located:

Columbia

(Please print or type)

OWNER OF WELL Open Chemical
WELL CONTRACTOR Boring Water Well
CONTRACTOR LICENSE NO. 91028
NAME OF DRILLER James McNamee
DRILLER REGISTRATION NO. 02046
DATE WELL WAS COMPLETED Sept. 9 21
MO. DAY YR.

Well is near Avy. 132 road, approximately
2 miles N NE E SE S SW W NW of Magalia
Section 7, Township 17N, Range 21 West
Directions for reaching well:
(use permanent landmarks) Go 2 mi West Magalia
Turn right on Black Top
Go 1/2 mile to Parkers Farm

1. Total Depth of Well 81 ft.
2. Water Producing Formation: From 30 ft. To 81 ft.
3. Method of Construction: Rotary Cable Driven Jetted Bored Dug
4. Water Level Below Land Surface 30 ft.
5. Gallons per Hour 90 gal
6. Well disinfected with HTH Tablets

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
<u>Clay</u>	<u>0</u>	<u>12</u>
<u>Sandy Shell</u>	<u>12</u>	<u>30</u>
<u>Sandy Shell</u>	<u>30</u>	<u>81</u>

Cased to 81 ft. with 30" Diameter Cement Casing
8. Cemented from 30 ft. to 81 ft.
9. Casing Perforated from 30 ft. to 81 ft.
10. Well Backfilled with: Clay from 0 ft. to 10 ft.
11. Gravel Pack from 10 ft. to 81 ft.
 Screen Diameter: _____ inches from _____ ft. to _____ ft.
 Type Screen _____ Fittings _____ Slot Size _____

Remarks: _____
Signed: James McNamee
Date: Sept. 9 21
MO. DAY YR.

14. Use of Well: _____
DOMESTIC IRRIGATION MUNICIPAL OTHER Sub Water Line

Mail to: Committee on Water Well Construction - Room 151, State Capitol - Little Rock, Arkansas 72203

COMMITTEE COPY

Received Time May-16 1:17PM

①

STATE OF ARKANSAS
Report of Water Well Construction

County in which well is located:

Polk

(Please print or type)

OWNER OF WELL John Thomas
WELL CONTRACTOR John Thomas
CONTRACTOR LICENSE NO. 97250
NAME OF DRILLER John Mc Gill
DRILLER REGISTRATION NO. 02046
DATE WELL WAS COMPLETED Aug 7 1957
MO. DAY YR.

Well is near Highway 132 road, approximately
2 miles 11 HE E SE S SW (W/NW of Section 7
Section 7 Township 16 Range 11 ETC.)

Directions for reaching well
(use permanent landmarks) Go N on Hwy 132 to
turn right on road to
the well

1. Total Depth of Well 81 ft
2. Water Producing Formation: From 30 ft. To 81 ft.
3. Method of Construction:
Rotary _____ Cable _____ Driven _____ Jetted _____ Bored _____ Dug _____
4. Water Level Below Land Surface 30 ft
5. Gallons per Hour 20 gph
6. Well disinfected with 1174 tablets
7. Cased to 81 ft. with 30 Diameter Cement Casing
8. Cemented from _____ ft. to _____ ft.
9. Casing Perforated from 20 ft. to 81 ft.
10. Well Backfilled with: Gravel from 0 ft. to 10 ft.
11. Gravel Pack from 10 ft. to 81 ft.
12. Screen Diameter: _____ inches from _____ ft. to _____ ft.
13. Type Screen _____ Fittings _____ Slot Size _____
14. Use of Well: _____ DOMESTIC _____ IRRIGATION _____ MUNICIPAL _____ OTHER Subsidence

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
<u>Gravel</u>	<u>0</u>	<u>10</u>
<u>Clay shale</u>	<u>10</u>	<u>81</u>

Remarks: _____
Signed: John Thomas
Date: Aug 7 1957
MONTH DAY YEAR

MAP ID. NO. 2

**WATER SUPPLY WELL FOR DRILLING
CARTER NO. 1 BRINEWELL**

NEW WELL

REPLACEMENT WELL

STATE OF ARKANSAS
Report of Water Well Construction

County in which well is located: COLUMBIA

(Please print or type)

OWNER OF WELL DOW CHEMICAL #
WELL CONTRACTOR HAMBIN # NOLTE
CONTRACTOR LICENSE NO. 01054
NAME OF DRILLER CONRAD L. HAMBIN
DRILLER REGISTRATION NO. D 3096
DATE WELL WAS COMPLETED JUNE 14 74
MO. DAY YR.

Well is near 172 road, approximately
4 miles N NE E SE S SW NW of _____
(TOWN, ETC.)
Section 19, Township 17S, Range 21W.
Directions for reaching well:
(use permanent landmarks) BY JOE CARTER BAINE
WELL #1

1. Total Depth of Well 430
2. Water Producing Formation: From 425 ft. To 430 ft.
3. Method of Construction: Rotary Cable _____ Driven _____ Jetted _____ Bored _____ Dug _____
4. Water Level Below Land Surface 181 ft.
5. Gallons per Hour _____ Gallons per Minute 5
6. Well disinfected with HTH
7. Cased to 425 ft. with 4" Diameter CAHU Casing
8. Cemented from 0 ft. to 20 ft.
9. Casing Perforated from _____ ft. to _____ ft.
10. Well Backfilled with: CEMENT MILD GRAVEL from 0 ft. to 430 ft.
(SAND, CLAY, CEMENT, MUD)
11. Gravel Pack from 400 ft. to 425 ft.
12. Screen Diameter: 4" inches from 425 ft. to 430 ft.
13. Type Screen STAINLESS Fittings _____ Slot Size .018
14. Use of Well: OTHER
DOMESTIC _____ IRRIGATION _____ MUNICIPAL _____ OTHER

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
CLAY	0	8
FINE SAND	8	44
BROWN CLAY	44	168
SANDY SHALE	168	190
GRAY CLAY	190	332
SANDY SHALE	332	358
FINE SAND	358	365
SANDY CLAY	365	405
SAND	405	411
GRAY CLAY	411	424
FINE SAND	424	430
Remarks: <u>BROWN CLAY</u>	<u>430</u>	<u>485</u>

Signed: Conrad L Hambin
Date: JUNE 14 74
MONTH DAY YEAR

Mail to: Committee on Water Well Construction — 3815 W. Roosevelt Road — Little Rock, Arkansas 72204

GEOLOGY COPY

FORM NO. WD-1

MAP ID. NO. 3

**WATER SUPPLY WELL FOR
DOW NO. 1 BRINE WELL**

NEW WELL

REPLACEMENT WELL

STATE OF ARKANSAS
Report of Water Well Construction

County in which well is located:

COLUMBIA

(Please print or type)

OWNER OF WELL DOW CHEMICAL CO.
WELL CONTRACTOR HAMLIN & NGATE
CONTRACTOR LICENSE NO. C1054
NAME OF DRILLER CONRAD L. HAMLIN
DRILLER REGISTRATION NO. D2096
DATE WELL WAS COMPLETED JUNE 13 74
MO. DAY YR.

Well is near 132 road, approximately
5 miles N NE E SE S SW NW of MAGNOLIA
(TOWN, ETC.)
Section 18, Township 175, Range 21W

Directions for reaching well:
(use permanent landmarks) BY DOU #1 BRINE WELL

- Total Depth of Well 434
- Water Producing Formation: From 433 ft. To 434 ft.
- Method of Construction: Rotary Cable Driven Jetted Bored Dug
- Water Level Below Land Surface 184 ft.
- Gallons per Hour 5 Gallons per Minute
- Well disinfected with H7H
- Cased to 433 ft. with 4 Diameter 6.750 Casing
- Cemented from 0 ft. to 20 ft.
- Casing Perforated from 0 ft. to 0 ft.
- Well Backfilled with: CEMENT MUD GRAVEL from 0 ft. to 434 ft.
(SAND, CLAY, CEMENT, MUD)
- Gravel Pack from 415 ft. to 433 ft.
- Screen Diameter: 4 inches from 433 ft. to 438 ft.
- Type Screen STAINLESS Fittings Slot Size .018
- Use of Well: DOMESTIC IRRIGATION MUNICIPAL OTHER

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
WHITE RED CLAY	0	28
GRAY CLAY	28	130
SANDY SHALE	130	157
GRAY CLAY	157	295
SAND	295	310
GRAY CLAY	310	320
MED SAND	320	340
SANDY CLAY	340	395
SANDY CLAY	395	419
SAND	419	427
GRAY CLAY	427	432
Remarks: MED SAND	432	442
GRAY CLAY	442	452

Signed: Conrad J. Hamlin
Date: JUNE 13 74
MONTH DAY YEAR

Mail to: Committee on Water Well Construction — 3815 W. Roosevelt Road — Little Rock, Arkansas 72204

GEOLOGY COPY

FORM NO. 100-1

MAP ID. NO. 4

STATE OF ARKANSAS
Report of Water Well Construction

NEW WELL REPLACEMENT WELL

County in which well is located: Columbia

(Please print or type)

OWNER OF WELL David Faulk
WELL CONTRACTOR Hardin-Nelte W. W.
CONTRACTOR LICENSE NO. 1054
NAME OF DRILLER Cecil Nelte
DRILLER REGISTRATION NO. D2097
DATE WELL WAS COMPLETED 6 MO. 7 DAY 77 YR.

Well is near 57132 road, approximately 5 miles N NE E SE S SW NW of Magnolia (TOWN, ETC.)
Section 13, Township 17S, Range 22W

Directions for reaching well:
(use permanent landmarks)

1. Total Depth of Well 47
2. Water Producing Formation: From 15 ft. To 48 ft.
3. Method of Construction: Rotary Cable R.C. Driven Jetted Bored
4. Water Level Below Land Surface 21' ft.
5. Gallons per Hour 10 Gallons per Minute
6. Well disinfected with H+H

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
<u>Red Sandy Clay</u>	<u>0</u>	<u>15</u>
<u>Fine Sand w/ clay lths</u>	<u>15</u>	<u>48</u>
<u>Gray Clay</u>	<u>48</u>	<u>50</u>

7. Cased to 37 ft. with 4" Diameter POC Casing
8. Cemented from _____ ft. to _____ ft.
9. Casing Perforated from _____ ft. to _____ ft.
10. Well Backfilled with: Sand & Cement from 0 ft. to 35 ft.
(SAND, CLAY, CEMENT, MUD)
11. Gravel Pack from 35 ft. to 47 ft.
12. Screen Diameter: 4 inches from 37 ft. to 47 ft.
13. Type Screen POC Fittings _____ Slot Size 020
14. Use of Well: DOMESTIC IRRIGATION MUNICIPAL OTHER

Remarks: COMMITTEE ON WATER WELL CONSTRUCTION
This well is guaranteed against defective material or workmanship for a period of 1 year
Signed: Cecil Nelte
Date: 6-7-77 MONTH DAY YEAR

RECEIVED
JUN 20 1977

Received Time May. 16. 1:17PM

Mail to: Committee on Water Well Construction — 3815 W. Roosevelt Road — Little Rock, Arkansas 72204

COMMITTEE COPY

FORM NO. WD-1

Cen ④

STATE OF ARKANSAS
Report of Water Well Construction

NEW WELL

REPLACEMENT WELL

County in which well is located:

Columbia

(Please print or type)

OWNER OF WELL *David Faulk*
WELL CONTRACTOR *Hughes-Nette W. W.*
CONTRACTOR LICENSE NO. *1057*
NAME OF DRILLER *Neil Nette*
DRILLER REGISTRATION NO. *D2047*
DATE WELL WAS COMPLETED *7/77*

Well is near *St 132*
3 miles N of *SE S SW NW* of *Magalia*
Section *13* Township *17S* Range *22W*
Directions for reaching well:
(Use permanent landmarks)

1. Total Depth of Well *47*
2. Water Producing Formation: From *15* ft. to *48* ft.
3. Method of Construction:
Rotary Cable P.C. Driven Jetted Bored
4. Water Level Below Land Surface *21* ft.
5. Gallons per Hour *10* Gallons per Minute
6. Well disinfected with *H1H*
7. Cased to *37* ft. with *4'* Diameter *PVC* Casing
8. Cemented from _____ ft. to _____ ft.
9. Casing Perforated from _____ ft. to _____ ft.
10. Well Backfilled with: *sand & cement* from *0* ft. to *35* ft.
(SAND, CLAY, CEMENT, ETC.)
11. Gravel Pack from *35* ft. to *47* ft.
12. Screen Diameter: *7* inches from *37* ft. to *47* ft.
13. Type Screen *PVC* Fittings _____ Slot Size *0.20*
14. Use of Well:
 DOMESTIC IRRIGATION MUNICIPAL OTHER

Description and Color of Formation:
(Sand, Shale, Sandstone, etc.)
Red Sandy Clay
Fine Sand w/ clay
Gray Clay

Description and Color of Formation		Depths in Feet	
		From	To
<i>Red Sandy Clay</i>		<i>0</i>	<i>15</i>
<i>Fine Sand w/ clay</i>		<i>15</i>	<i>48</i>
<i>Gray Clay</i>		<i>48</i>	<i>50</i>

RECEIVED
JUN 20 1977
COMMITTEE ON
WATER WELL CONSTRUCTION

Remarks:
This well is guaranteed against defective material or workmanship for a period of *1 year*
Signed: *Neil Nette*
Date: *6-7-77*

Mail to: Committee on Water Well Construction -- 3815 W. Roosevelt Road -- Little Rock, Arkansas 72204

MAP ID NO. 5

STATE OF ARKANSAS
Report of Water Well Construction

NEW WELL REPLACEMENT WELL

County in which well is located: Columbia

(Please print or type)

OWNER OF WELL David Faulk Well is near ST 132 road, approximately
WELL CONTRACTOR Hamlin Nolte 5 miles N NE E SE S SW NW of Mesquite
CONTRACTOR LICENSE NO. C-1054 Section 13, Township 17W, Range 22W (TOWN, ETC.)
NAME OF DRILLER Cecil Nolte Directions for reaching well:
DRILLER REGISTRATION NO. D-2097 (use permanent landmarks)
DATE WELL WAS COMPLETED 6 27 75
MO. DAY YR.

1. Total Depth of Well 46
2. Water Producing Formation: From 16 ft. To 45 ft.
3. Method of Construction: Rotary Cable _____ Driven _____ Jetted _____ Bored _____ Dug _____
4. Water Level Below Land Surface 18 ft.
5. Gallons per Hour 500 Gallons per Minute
6. Well disinfected with HTh
7. Cased to 40 ft. with 4" Diameter POC Casing
8. Cemented from _____ ft. to _____ ft.
9. Casing Perforated from _____ ft. to _____ ft.
10. Well Backfilled with: Sand & Cement from 0 ft. to 40 ft.
(SAND, CLAY, CEMENT, MUD)
11. Gravel Pack from 40 ft. to 46 ft.
12. Screen Diameter: 4" inches from 40 ft. to 46 ft.
13. Type Screen POC Fitting BRASS BPU Slot Size .025
14. Use of Well: DOMESTIC IRRIGATION MUNICIPAL OTHER

Description and Color of Formation: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
<u>Red Sandy clay</u>	<u>0</u>	<u>16</u>
<u>White Sand w/clay streaks</u>	<u>16</u>	<u>45</u>
<u>Bank Gray clay</u>	<u>45</u>	<u>50</u>

Remarks: _____
Signed: Cecil Nolte
Date: 6 27 75
MONTH DAY YEAR

Received Time May.16. 1:17PM

Mail to: Committee on Water Well Construction — 3815 W. Roosevelt Road — Little Rock, Arkansas 72204

STATE OF ARKANSAS
Report of Water Well Construction

NEW WELL REPLACEMENT WELL

County in which well is located: Washington

(Please print or type)

OWNER OF WELL W. J. Miller
WELL CONTRACTOR W. J. Miller
CONTRACTOR LICENSE NO. 157
NAME OF DRILLER W. J. Miller
DRILLER REGISTRATION NO. 157
DATE WELL WAS COMPLETED 6/15/57

Well is near Highway 107 road, approximately 1.5 miles N NE E SE S SW W NW of Highway 107 (107th, ETC.)
Section 1 Township 12N Range 12E

Directions for reaching well:
(Use permanent landmarks)

1. Total Depth of Well 16
2. Water Producing Formation: From 6' to 6.5'
3. Method of Construction:
Rotary ✓ Cable _____ Driven _____ Jetted _____ Bored _____ Dug _____
4. Water Level Below Land Surface 15'
5. Gallons per Hour 500 Gallons per Minute _____
6. Well disinfected with _____
7. Cased to _____ ft. with _____ Diameter _____ Casing
8. Cemented from _____ ft. to _____ ft.
9. Casing Perforated from _____ ft. to _____ ft.
10. Well Backfilled with: gravel from _____ ft. to _____ ft.
(SAND, CLAY, CEMENT MUD)
11. Gravel Pack from _____ ft. to _____ ft.
12. Screen Diameter: _____ inches from _____ ft. to _____ ft.
13. Type Screen _____ Fittings _____ Slot Size _____
14. Use of Well: DOMESTIC IRRIGATION _____ MUNICIPAL _____ OTHER _____

Description and Color of Formations: (Sand, Shale, Sandstone, etc.)	Depths in Feet	
	From	To
<u>Reddish brown silty clay</u>	<u>0</u>	<u>6.5</u>
<u>Sandstone</u>	<u>6.5</u>	<u>16</u>

Remarks: _____
Signed: W. J. Miller
Date: 6/15/57
MONTH DAY YEAR

MAP ID NO. 6

**WATER SUPPLY WELL FOR
JAMESON NO.1 BRINE WELL**

REPORT OF WATER WELL CONSTRUCTION

New Well Work-over Well _____ Replacement Well _____

County Columbia
(in which well is located)

Owner of Well Dow Chem Co.

Contractor Hamlin - Nolte WW c 1054

Well is near Ark 132 NW 1/4 SE 1/4 Road

Driller Name and No. Cecil Nolte D 2097

Section 12 Township 17S Range 22W

Date Well was Completed 10-24-83

Directions for Reaching Well: Inquire at Office
(use permanent landmark)

1. Total Depth of Well 445 Ft.

For Direction and Key

2. Water Producing Formation: From 420 Ft. To 445 Ft.

Well # Jameson #1
Description and Color of Formation (sand, shale, sandstone, etc.) Depths in feet from to

3. Water Level Below Land Surface 240

Red Sandy Clay 0 12

4. Gallons per Hour 420

Sand 12 - 44

5. Well Disinfected with HTH

Gray Clay w/sand slts 44 - 316

6. Casing to 425 Ft.

Very Fine Sand w/clay slt 316 - 344

7. Cased with 4" Diameter Galv. Casing

Gray Clay w/very fine sand slt 344 - 420

8. Cemented from 0 Ft. to 80 Ft.

Fine Sand w/clay slt 420 - 445

9. Use of Well: Domestic _____ Irrigation _____ Municipal _____ Other

Gray Clay 445 - 468
Blown shale 468 - 480

Industry

Remarks: _____
Signed: Cecil Nolte Date: 10-24-83

APPENDIX I

Wastestream Analyses



ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

Report Date 05/25/2004

GCAL Report 204051254



Deliver To URS/Radian
8550 United Plaza Boulevard
Suite 601
Baton Rouge, LA 70809

Attn Trey Fortenberry

Customer URS/Radian

Project Magnolia Albemarle West Plant

000001

CASE NARRATIVE

Client: URS/Radian **Report:** 204051254

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the SW-846 8260B analysis for analytical batch 273873, no MS/MSD was performed due to insufficient sample volume. The LCS/LCSD is included for review. The LCS/LCSD exhibited marginal sporadic recovery and RPD failures for the extended list of spike compounds.

Samples 20405125401 (MW2820040511), 20405125402 (MW2820040511 (MS)), 20405125403 (MW2820040511 (MSD)), 20405125408 (BDMW920040511), 20405125409 (BDMW920040511-DUP), 20405125415 (MW2620040511), 20405125416 (MW2720040511), 20405125417 (MW2720040511-DUP) and 20405125418 (L120040511) had to be diluted due to compounds that were detected above the linear range of the calibration.

In the SW-846 8260B analysis of sample 20405125414 (SFD520040511), the recovery for the surrogate 1,2-Dichloroethane-d4 was above the upper control limit. The remaining surrogates were all within control limits.

In the SW-846 8260B analysis of sample 20405125409 (BDMW920040511-DUP), the recovery for the surrogate 4-Bromofluorobenzene was outside of the established control limits. The sample was re-analyzed and similar results were observed. This is attributed to matrix interference.

In the SW-846 8260B analysis for analytical batch 273869, the MS/MSD exhibited sporadic recovery and RPD failures. These recoveries were within limits in the LCS. This is attributed to matrix interference.

CONVENTIONALS

In the Chloride analysis, all of the samples, except samples 20405125404 (BDMW0120040511), 20405125406 (BDMW520040511), 20405125411 (SB20040511), 20405125412 (SFD420040511) and 20405125413 (MW2520040511) had to be diluted in order to bracket the concentrations within the limits of the calibration curve. This is reflected in the elevated detection limits reported.

000002

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

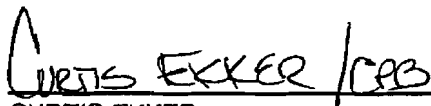
Reporting Flags Utilized in this Report

J	Indicates an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with ISO Guide 25 and NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.



CURTIS EKKER
DATA VALIDATION MANAGER
GCAL REPORT 204051254

THIS REPORT CONTAINS 079 PAGES.

000003

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20405125401	MW2820040511	Water	05/11/2004 11:10	05/12/2004 16:03
20405125402	MW2820040511 (MS)	Water	05/11/2004 11:10	05/12/2004 16:03
20405125403	MW2820040511 (MSD)	Water	05/11/2004 11:10	05/12/2004 16:03
20405125404	BDMW0120040511	Water	05/11/2004 12:10	05/12/2004 16:03
20405125405	BDMW320040511	Water	05/11/2004 12:35	05/12/2004 16:03
20405125406	BDMW520040511	Water	05/11/2004 13:15	05/12/2004 16:03
20405125407	BDMW720040511	Water	05/11/2004 13:42	05/12/2004 16:03
20405125408	BDMW920040511	Water	05/11/2004 14:05	05/12/2004 16:03
20405125409	BDMW920040511-DUP	Water	05/11/2004 14:05	05/12/2004 16:03
20405125410	MW2420040511	Water	05/11/2004 15:15	05/12/2004 16:03
20405125411	SB20040511	Water	05/11/2004 15:35	05/12/2004 16:03
20405125412	SFD420040511	Water	05/11/2004 15:45	05/12/2004 16:03
20405125413	MW2520040511	Water	05/11/2004 15:50	05/12/2004 16:03
20405125414	SFD520040511	Water	05/11/2004 15:55	05/12/2004 16:03
20405125415	MW2620040511	Water	05/11/2004 16:40	05/12/2004 16:03
20405125416	MW2720040511	Water	05/11/2004 17:00	05/12/2004 16:03
20405125417	MW2720040511-DUP	Water	05/11/2004 17:00	05/12/2004 16:03
20405125418	L120040511	Water	05/11/2004 17:50	05/12/2004 16:03
20405125419	L520040511	Water	05/11/2004 17:55	05/12/2004 16:03
20405125420	MW2720040511-FB	Water	05/11/2004 17:00	05/12/2004 16:03
20405125421	TRIP BLANK	Water	05/11/2004 00:00	05/12/2004 16:03

L1 Stripper Influent

GCAL ID 20405125418	Client ID L120040511	Matrix Water	Collect Date/Time 05/11/2004 17:50	Receive Date/Time 05/12/2004 16:03
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8260B, Volatiles

Prep Date	Prep Batch	Prep Method	Dilution 1000	Analyzed 05/15/2004 15:52	By KCB	Analytical Batch 273873
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CAS#	Parameter	Result	RDL	MDL	Units
630-20-6	1,1,1,2-Tetrachloroethane	11.0U	1000	11.0	ug/L
71-55-6	1,1,1-Trichloroethane	16.0U	1000	16.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	31.0U	1000	31.0	ug/L
79-00-5	1,1,2-Trichloroethane	18.0U	1000	18.0	ug/L
75-34-3	1,1-Dichloroethane	15.0U	1000	15.0	ug/L
75-35-4	1,1-Dichloroethene	11.0U	1000	11.0	ug/L
563-58-6	1,1-Dichloropropene	19.0U	1000	19.0	ug/L
96-18-4	1,2,3-Trichloropropane	22.0U	1000	22.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	20.0U	1000	20.0	ug/L
95-63-6	1,2,4-Trimethylbenzene	13.0U	1000	13.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1010	1000	107	ug/L
106-83-4	1,2-Dibromoethane	2470	1000	17.0	ug/L
95-50-1	1,2-Dichlorobenzene	73.0U	1000	73.0	ug/L
107-06-2	1,2-Dichloroethane	19700	1000	31.0	ug/L
540-59-0	1,2-Dichloroethene(Total)	34.0U	2000	34.0	ug/L
78-87-5	1,2-Dichloropropane	11.0U	1000	11.0	ug/L
108-67-8	1,3,5-Trimethylbenzene	10.0U	1000	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	36.0U	1000	36.0	ug/L
142-28-9	1,3-Dichloropropane	17.0U	1000	17.0	ug/L
106-46-7	1,4-Dichlorobenzene	51.0U	1000	51.0	ug/L
107-04-0	1-Bromo-2-chloroethane	6040	5000	126	ug/L
594-20-7	2,2-Dichloropropane	43.0U	5000	43.0	ug/L
78-93-3	2-Butanone	102U	5000	102	ug/L
110-75-8	2-Chloroethylvinyl ether	44.0U	1000	44.0	ug/L
95-49-8	2-Chlorotoluene	13.0U	1000	13.0	ug/L
591-78-6	2-Hexanone	66.0U	1000	66.0	ug/L
106-43-4	4-Chlorotoluene	33.0U	1000	33.0	ug/L
99-87-6	4-Isopropyltoluene	26.0U	1000	26.0	ug/L
108-10-1	4-Methyl-2-pentanone	40.0U	1000	40.0	ug/L
67-64-1	Acetone	388U	5000	388	ug/L
107-02-8	Acrolein	661U	5000	661	ug/L
107-13-1	Acrylonitrile	153U	5000	153	ug/L
71-43-2	Benzene	10.0U	1000	10.0	ug/L
108-86-1	Bromobenzene	126U	1000	126	ug/L
74-97-5	Bromochloromethane	36.0U	1000	36.0	ug/L
75-27-4	Bromodichloromethane	22.0U	1000	22.0	ug/L
75-25-2	Bromoform	45.0U	1000	45.0	ug/L
74-83-9	Bromomethane	148U	1000	148	ug/L
104-51-8	n-Butylbenzene	14.0U	1000	14.0	ug/L
75-15-0	Carbon disulfide	12.0U	1000	12.0	ug/L
56-23-5	Carbon tetrachloride	12.0U	1000	12.0	ug/L
108-90-7	Chlorobenzene	119U	1000	119	ug/L
75-00-3	Chloroethane	42.0U	1000	42.0	ug/L
67-66-3	Chloroform	13.0U	1000	13.0	ug/L
74-87-3	Chloromethane	25.0U	1000	25.0	ug/L
124-48-1	Dibromochloromethane	15.0U	1000	15.0	ug/L
74-95-3	Dibromomethane	38.0U	1000	38.0	ug/L
75-71-8	Dichlorodifluoromethane	22.0U	1000	22.0	ug/L
10061-01-5	cis-1,3-Dichloropropene	14.0U	1000	14.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	12.0U	1000	12.0	ug/L

GCAL ID 20405125418	Client ID L120040511	Matrix Water	Collect Date/Time 05/11/2004 17:50	Receive Date/Time 05/12/2004 16:03
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8260B, Volatiles

Prep Date	Prep Batch	Prep Method	Dilution 1000	Analyzed 05/15/2004 15:52	By KCB	Analytical Batch 273873
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CAS#	Parameter	Result	RDL	MDL	Units
100-41-4	Ethylbenzene	7.00U	1000	7.00	ug/L
87-68-3	Hexachlorobutadiene	26.0U	1000	26.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	11.0U	1000	11.0	ug/L
74-88-4	Methyl iodide	120U	1000	120	ug/L
75-09-2	Methylene chloride	106J	2000	67.0	ug/L
91-20-3	Naphthalene	24.0U	1000	24.0	ug/L
100-42-5	Styrene	10.0U	1000	10.0	ug/L
127-18-4	Tetrachloroethene	12.0U	1000	12.0	ug/L
108-88-3	Toluene	6.00U	1000	6.00	ug/L
79-01-6	Trichloroethene	21.0U	1000	21.0	ug/L
75-69-4	Trichlorofluoromethane	19.0U	1000	19.0	ug/L
76-13-1	Trichlorotrifluoroethane	16.0U	1000	16.0	ug/L
108-05-4	Vinyl acetate	35.0U	1000	35.0	ug/L
75-01-4	Vinyl chloride	25.0U	1000	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	18.0U	1000	18.0	ug/L
136777-61-2	m,p-Xylene	10.0U	1000	10.0	ug/L
103-65-1	n-Propylbenzene	30.0U	1000	30.0	ug/L
95-47-6	o-Xylene	8.00U	1000	8.00	ug/L
135-98-8	sec-Butylbenzene	12.0U	1000	12.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	11.0U	1000	11.0	ug/L
98-06-6	tert-Butylbenzene	14.0U	1000	14.0	ug/L
156-60-5	trans-1,2-Dichloroethene	16.0U	1000	16.0	ug/L
110-57-6	trans-1,4-Dichloro-2-butene	55.0U	1000	55.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	10000	10300	ug/L	103	78 - 115
1868-53-7	Dibromofluoromethane	10000	10100	ug/L	101	70 - 130
2037-26-5	Toluene d8	10000	10300	ug/L	103	78 - 127
17060-07-0	1,2-Dichloroethane-d4	10000	9320	ug/L	93	76 - 128

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20405125418	L120040511	Water	05/11/2004 17:50	05/12/2004 16:03

EPA 325.2 Chloride

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	05/22/2004 15:32	BMC	274380

CAS#	Parameter	Result	RDL	MDL	Units
16887-00-6	Chloride	6500	100	42.7	mg/L

RESULTS REPORTED ON A WET WEIGHT BASIS

L5 Stripper Effluent

GCAL ID 20405125419	Client ID LS20040511	Matrix Water	Collect Date/Time 05/11/2004 17:55	Receive Date/Time 05/12/2004 16:03
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8260B, Volatiles

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 05/15/2004 20:23	By RJO	Analytical Batch 273873
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CAS#	Parameter	Result	RDL	MDL	Units
630-20-6	1,1,1,2-Tetrachloroethane	0.011U	1.00	0.011	ug/L
71-55-6	1,1,1-Trichloroethane	0.016U	1.00	0.016	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.031U	1.00	0.031	ug/L
79-00-5	1,1,2-Trichloroethane	0.018U	1.00	0.018	ug/L
75-34-3	1,1-Dichloroethane	0.015U	1.00	0.015	ug/L
75-35-4	1,1-Dichloroethene	0.011U	1.00	0.011	ug/L
563-58-6	1,1-Dichloropropene	0.019U	1.00	0.019	ug/L
96-18-4	1,2,3-Trichloropropane	0.022U	1.00	0.022	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.020U	1.00	0.020	ug/L
95-63-6	1,2,4-Trimethylbenzene	0.013U	1.00	0.013	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.107U	1.00	0.107	ug/L
106-93-4	1,2-Dibromoethane	0.017U	1.00	0.017	ug/L
95-50-1	1,2-Dichlorobenzene	0.073U	1.00	0.073	ug/L
107-06-2	1,2-Dichloroethane	0.031U	1.00	0.031	ug/L
540-59-0	1,2-Dichloroethene(Total)	0.034U	2.00	0.034	ug/L
78-87-5	1,2-Dichloropropane	0.011U	1.00	0.011	ug/L
108-67-8	1,3,5-Trimethylbenzene	0.010U	1.00	0.010	ug/L
541-73-1	1,3-Dichlorobenzene	0.036U	1.00	0.036	ug/L
142-28-9	1,3-Dichloropropane	0.017U	1.00	0.017	ug/L
106-46-7	1,4-Dichlorobenzene	0.051U	1.00	0.051	ug/L
107-04-0	1-Bromo-2-chloroethane	0.126U	5.00	0.126	ug/L
594-20-7	2,2-Dichloropropane	0.043U	5.00	0.043	ug/L
78-93-3	2-Butanone	0.102U	5.00	0.102	ug/L
110-75-8	2-Chloroethylvinyl ether	0.044U	1.00	0.044	ug/L
95-49-8	2-Chlorotoluene	0.013U	1.00	0.013	ug/L
591-78-6	2-Hexanone	0.066U	1.00	0.066	ug/L
106-43-4	4-Chlorotoluene	0.033U	1.00	0.033	ug/L
99-87-6	4-Isopropyltoluene	0.026U	1.00	0.026	ug/L
108-10-1	4-Methyl-2-pentanone	0.040U	1.00	0.040	ug/L
67-64-1	Acetone	0.388U	5.00	0.388	ug/L
107-02-8	Acrolein	0.661U	5.00	0.661	ug/L
107-13-1	Acrylonitrile	0.153U	5.00	0.153	ug/L
71-43-2	Benzene	0.010U	1.00	0.010	ug/L
108-86-1	Bromobenzene	0.126U	1.00	0.126	ug/L
74-97-5	Bromochloromethane	0.036U	1.00	0.036	ug/L
75-27-4	Bromodichloromethane	0.022U	1.00	0.022	ug/L
75-25-2	Bromoform	0.045U	1.00	0.045	ug/L
74-83-9	Bromomethane	0.148U	1.00	0.148	ug/L
104-51-8	n-Butylbenzene	0.014U	1.00	0.014	ug/L
75-15-0	Carbon disulfide	0.012U	1.00	0.012	ug/L
56-23-5	Carbon tetrachloride	0.012U	1.00	0.012	ug/L
108-90-7	Chlorobenzene	0.119U	1.00	0.119	ug/L
75-00-3	Chloroethane	0.042U	1.00	0.042	ug/L
67-66-3	Chloroform	0.013U	1.00	0.013	ug/L
74-87-3	Chloromethane	0.025U	1.00	0.025	ug/L
124-46-1	Dibromochloromethane	0.015U	1.00	0.015	ug/L
74-95-3	Dibromomethane	0.038U	1.00	0.038	ug/L
75-71-8	Dichlorodifluoromethane	0.022U	1.00	0.022	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.014U	1.00	0.014	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.012U	1.00	0.012	ug/L

GCAL ID 20405125419	Client ID L520040511	Matrix Water	Collect Date/Time 05/11/2004 17:55	Receive Date/Time 05/12/2004 16:03
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8260B, Volatiles

Prep Date	Prep Batch	Prep Method	Dilution 1	Analyzed 05/15/2004 20:23	By RJO	Analytical Batch 273873
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CAS#	Parameter	Result	RDL	MDL	Units
100-41-4	Ethylbenzene	0.007U	1.00	0.007	ug/L
87-68-3	Hexachlorobutadiene	0.026U	1.00	0.026	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.011U	1.00	0.011	ug/L
74-88-4	Methyl iodide	0.120U	1.00	0.120	ug/L
75-09-2	Methylene chloride	0.067U	2.00	0.067	ug/L
91-20-3	Naphthalene	0.024U	1.00	0.024	ug/L
100-42-5	Styrene	0.010U	1.00	0.010	ug/L
127-18-4	Tetrachloroethene	0.012U	1.00	0.012	ug/L
108-88-3	Toluene	0.006U	1.00	0.006	ug/L
79-01-6	Trichloroethene	0.021U	1.00	0.021	ug/L
75-69-4	Trichlorofluoromethane	0.019U	1.00	0.019	ug/L
76-13-1	Trichlorotrifluoroethane	0.016U	1.00	0.016	ug/L
108-05-4	Vinyl acetate	0.035U	1.00	0.035	ug/L
75-01-4	Vinyl chloride	0.025U	1.00	0.025	ug/L
156-59-2	cis-1,2-Dichloroethene	0.018U	1.00	0.018	ug/L
136777-61-2	m,p-Xylene	0.010U	1.00	0.010	ug/L
103-65-1	n-Propylbenzene	0.030U	1.00	0.030	ug/L
95-47-6	o-Xylene	0.008U	1.00	0.008	ug/L
135-98-8	sec-Butylbenzene	0.012U	1.00	0.012	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.011U	1.00	0.011	ug/L
98-06-6	tert-Butylbenzene	0.014U	1.00	0.014	ug/L
156-60-5	trans-1,2-Dichloroethene	0.016U	1.00	0.016	ug/L
110-57-6	trans-1,4-Dichloro-2-butene	0.055U	1.00	0.055	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	10	10.9	ug/L	109	78 - 115
1868-53-7	Dibromofluoromethane	10	9.9	ug/L	99	70 - 130
2037-26-5	Toluene d8	10	10.3	ug/L	103	78 - 127
17060-07-0	1,2-Dichloroethane-d4	10	9.47	ug/L	95	76 - 128

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID 20405125419	Client ID L520040511	Matrix Water	Collect Date/Time 05/11/2004 17:55	Receive Date/Time 05/12/2004 16:03
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EPA 325.2 Chloride

Prep Date	Prep Batch	Prep Method	Dilution 50	Analyzed 05/22/2004 15:33	By BMC	Analytical Batch 274380
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CAS#	Parameter	Result	RDL	MDL	Units
16887-00-6	Chloride	4460	50.0	21.4	mg/L

RESULTS REPORTED ON A WET WEIGHT BASIS

CHAIN OF CUSTODY RECORD

Lab use only

Client Name <i>URS / Radion</i>	Client # <i>2207</i>	Workorder # <i>204051254</i>	Due Date <i>5/21/04</i>
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Report to:

Bill to:

Client: *URS*
Address: *8550 United Plaza #601
Baton Rouge LA 70809*
Contact: *Troy Barthelme*
Phone: *225 922 4456*
Fax: *225 922 4451*

Client: *SAME*
Address: _____
Contact: _____
Phone: _____
Fax: _____

Analytical Requests & Method

Lab use only:

Custody Seal

used yes no

in tact yes no *3*

Temperature °C _____

P.O. Number _____ Project Name/Number *Magnolia Quarterly Sampling*

Sampled By: *DAN DUPREE*

Matrix ¹	Date	Time (2400)	Comp	Grab	Sample Description	Preservatives	No Containers	8260	Chlorides	Remarks:	Lab ID
W	5/11/04	1555		X	SFD 520040511	<i>HCl/H₂SO₄</i>	4	X	X		5/12
		1640			MW 26 20040511						14
		1700			MW 27 20040511						15
		1700			MW 27 20040511 - Dup						16
		1750			L1 20040511						17
		1755			L5 20040511						18
					TRIP BLANK						19
W	5/11/04	1700		X	FB MW 27 20040511 - FB	<i>HCl/H₂SO₄</i>	3	X			20
W	5/11/04				TRIP Blank		3	X			21

Turn Around Time: 24-48 hrs. 3 days 1 week Standard Other _____

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>RANDY YOUNG</i>	Date: <i>5-11-04</i>	Time: <i>1804</i>
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: <i>5/11/04</i>	Time: <i>1803</i>
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

VALIDATED RESULTS

Report #: URS/Radian Report#: 204081602
Project: Magnolia/Terradynamics

SAMPLE SUMMARY

GCAL ID	Client ID	Matrix	Collected	Received
20408160202	L120040813	Water	08/13/04 10:55	08/14/04 10:55
20408160201	TAIL BRINE	Water	08/13/04 11:05	08/14/04 10:55

ANALYSIS DETAILS

GCAL ID: 20408160202 Matrix: Water
Sample ID: L120040813
Collected: 08/13/04 10:55 Received: 08/14/04 10:55

Analyte	Result	RDL	Units	Analyzed	Method
Density	1.02		g/mL	08/25/04 12:30	2710 F
Total Dissolved Solids(TDS)	246900	10	mg/L	08/19/04 16:00	EPA 160.1
pH	4.67	1.00	pH unit	08/14/04 11:00	4500 H+B
Antimony	ND	0.060	mg/L	08/30/04 20:58	SW-846 6010B
Arsenic	ND	0.040	mg/L	08/30/04 20:58	SW-846 6010B
Barium	4.28	0.010	mg/L	08/30/04 20:58	SW-846 6010B
Beryllium	ND	0.0050	mg/L	08/30/04 20:58	SW-846 6010B
Cadmium	ND	0.0050	mg/L	08/30/04 20:58	SW-846 6010B
Chromium	0.056	0.010	mg/L	08/30/04 20:58	SW-846 6010B
Cobalt	0.073	0.010	mg/L	08/30/04 20:58	SW-846 6010B
Copper	ND	0.010	mg/L	08/30/04 20:58	SW-846 6010B
Lead	0.019	0.015	mg/L	08/30/04 20:58	SW-846 6010B
Nickel	0.066	0.040	mg/L	08/30/04 20:58	SW-846 6010B
Selenium	ND	0.040	mg/L	08/30/04 20:58	SW-846 6010B
Mercury	ND	0.010	mg/L	08/30/04 20:58	SW-846 6010B
Thallium	0.094	0.020	mg/L	08/30/04 20:58	SW-846 6010B
Vanadium	ND	0.020	mg/L	08/30/04 20:58	SW-846 6010B
Zinc	0.85	0.020	mg/L	08/30/04 20:58	SW-846 6010B

VALIDATED RESULTS

Contract: URS/Radian Report#: 204090220
Project: Magnolia/Terradynamics

SAMPLE SUMMARY

GCAL ID	Client ID	Matrix	Collected	Received
20409022002	L-1	Water	09/01/04 16:35	09/02/04 09:15
20409022001	TAILBRINE	Water	09/01/04 16:25	09/02/04 09:15

ANALYSIS DETAILS

GCAL ID: 20409022002 Matrix: Water
Sample ID: L-1
Collected: 09/01/04 16:35 Received: 09/02/04 09:15

Analyte	Result	RDL	Units	Analyzed	Method
Total Dissolved Solids(TDS)	17360	10	mg/L	09/02/04 16:55	EPA 160.1
pH	4.62	1.00	pH unit	09/02/04 10:00	4500 H+B

ANALYSIS DETAILS

GCAL ID: 20409022001 Matrix: Water
Sample ID: TAILBRINE
Collected: 09/01/04 16:25 Received: 09/02/04 09:15

Analyte	Result	RDL	Units	Analyzed	Method
Total Dissolved Solids(TDS)	382000	10	mg/L	09/03/04 16:00	EPA 160.1
pH	2.94	1.00	pH unit	09/02/04 10:00	4500 H+B

CHAIN OF CUSTODY RECORD

Lab use only	Client Name: <u>URS/Radian</u>	Client #: <u>2207</u>	Workorder #: <u>204090220</u>	Due Date: <u>9-14-04</u>
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Report to:		Bill to:		Analytical Requests & Method						Lab use only:	
Client: <u>URS</u>	Address: <u>8550 UNITED Plaza</u> <u>BR, LA.</u>	Client:	Address: <u>SAINT</u>							Custody Seal used <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	
Contact: <u>Judy Frankenberg</u>	Phone: <u>(225) 922-4850</u>	Contact:	Phone:							Remarks:	
Fax:	Fax:	Fax:	Fax:								
P.O. Number	Project Name/Number: <u>West Plant - Magnolia</u>									Lab ID	
Sampled By: <u>C. M. Dwyer</u>											
Matrix	Date	Time (24HR)	SD	CT	Sample Description	Preservatives	No. Containers				
<u>W</u>	<u>9/1/2004</u>	<u>1635</u>	<u>X</u>		<u>Tailbrine</u>	<u>-</u>	<u>2</u>	<u>TRIS</u>			
<u>W</u>	<u>9/1/2004</u>	<u>1635</u>	<u>X</u>		<u>L-1</u>	<u>-</u>	<u>2</u>	<u>PH</u>			
Turn Around Time: <input type="checkbox"/> 24-48 hrs. <input type="checkbox"/> 3 days <input type="checkbox"/> 1 week <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other											
Relinquished by: (Signature) <u>C. M. Dwyer</u>		Received by: (Signature) <u>Fed Ex</u>		Date: <u>9/1/2004</u>		Time: <u>1635</u>		Note:			
Relinquished by: (Signature) <u>FedEx 897938315021</u>		Received by: (Signature) <u>[Signature]</u>		Date: <u>9-2-04</u>		Time: <u>915</u>					
Relinquished by: (Signature)		Received by: (Signature)		Date:		Time:		By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.			

Matrix: W = water, S = soil, SD = solid, L = liquid, SL = sludgs, O = oil, CT = charcoal tube, A = air bag

We cannot accept verbal changes. Please fax written changes to (225) 767-4900

WHITE: CLIENT FINAL REPORT — CANARY: LABORATORY — PINK: CLIENT

GCAL-06 11/98

Albemarle Tail Brine Sample

ANALYSIS DETAILS

GCAL ID: 20408160201 Matrix: Water

Sample ID: TAIL BRINE

Collected: 08/13/04 11:05 Received: 08/14/04 10:55

Analyte	Result	RDL	Units	Analyzed	Method
Chloride	195000	5000	mg/L	08/20/04 09:56	EPA 325.2
Density	1.22		g/mL	08/25/04 12:30	2710 F
Total Dissolved Solids(TDS)	24862	10	mg/L	08/19/04 16:00	EPA 160.1
pH	2.14	1.00	pH unit	08/14/04 11:00	4500 H+B
Antimony	ND	1.50	mg/L	08/30/04 20:43	SW-846 6010B
Arsenic	ND	1.00	mg/L	08/30/04 20:43	SW-846 6010B
Barium	23.6	0.25	mg/L	08/30/04 20:43	SW-846 6010B
Beryllium	ND	0.13	mg/L	08/30/04 20:43	SW-846 6010B
Cadmium	ND	0.13	mg/L	08/30/04 20:43	SW-846 6010B
Chromium	0.48	0.25	mg/L	08/30/04 20:43	SW-846 6010B
Cobalt	ND	0.25	mg/L	08/30/04 20:43	SW-846 6010B
Copper	0.33	0.25	mg/L	08/30/04 20:43	SW-846 6010B
Lead	ND	0.38	mg/L	08/30/04 20:43	SW-846 6010B
Nickel	ND	1.00	mg/L	08/30/04 20:43	SW-846 6010B
Selenium	ND	1.00	mg/L	08/30/04 20:43	SW-846 6010B
Silver	ND	0.25	mg/L	08/30/04 20:43	SW-846 6010B
Thallium	0.86	0.50	mg/L	08/30/04 20:43	SW-846 6010B
Vanadium	ND	0.50	mg/L	08/30/04 20:43	SW-846 6010B
Zinc	0.58	0.50	mg/L	08/30/04 20:43	SW-846 6010B
TIC-1	9.86		ug/L	08/19/04 14:21	Library Search VOA
TIC-2	3.52		ug/L	08/19/04 14:21	Library Search VOA
TIC-3	1.58		ug/L	08/19/04 14:21	Library Search VOA
TIC-4	0.666		ug/L	08/19/04 14:21	Library Search VOA
TIC-5	1.52		ug/L	08/19/04 14:21	Library Search VOA
TIC-6	2.94		ug/L	08/19/04 14:21	Library Search VOA
TIC-7	2.51		ug/L	08/19/04 14:21	Library Search VOA
1,1,1,2-Tetrachloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,1,1-Trichloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B

1,1,2,2-Tetrachloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Trichloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,1-Dichloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,1-Dichloropropene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2,3-Trichloropropane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2,4-Trichlorobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2,4-Trimethylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dibromo-3-chloropropane	ND	0.620	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dibromoethane	ND	0.120	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dichlorobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dichloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dichloroethene(Total)	ND	20.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dichloropropane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,3,5-Trimethylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,3-Dichlorobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,3-Dichloropropane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,4-Dichlorobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
1,2-Dichloropropane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
2-Butanone	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
2-Chloroethylvinyl ether	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
2-Chlorotoluene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
2-Hexanone	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
4-Chlorotoluene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
4-Isopropyltoluene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
4-Methyl-2-pentanone	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Acetone	ND	50.0	ug/L	08/22/04 14:21	SW-846 8260B
Acrolein	ND	50.0	ug/L	08/22/04 14:21	SW-846 8260B
Acrylonitrile	ND	50.0	ug/L	08/22/04 14:21	SW-846 8260B
Benzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromochloromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromodichloromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromoform	12.8	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromomethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
n-Butylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Carbon disulfide	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Carbon tetrachloride	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Chlorobenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Chloroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B

Chloroform	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Chloromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Bromochloromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Dibromomethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Dichlorodifluoromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
cis-1,3-Dichloropropene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
trans-1,3-Dichloropropene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Ethylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Hexachlorobutadiene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Isopropylbenzene (Cumene)	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Methyl iodide	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Methylene chloride	ND	20.0	ug/L	08/22/04 14:21	SW-846 8260B
Naphthalene	14.2	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Styrene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Tetrachloroethene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Toluene	11.1	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Trichloroethene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Trichlorofluoromethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Trichlorotrifluoroethane	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Vinyl acetate	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Vinyl chloride	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
Xylene (total)	ND	20.0	ug/L	08/22/04 14:21	SW-846 8260B
cis-1,2-Dichloroethene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
m,p-Xylene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
n-Propylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
o-Xylene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
sec-Butylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
tert-Butyl methyl ether (MTBE)	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
tert-Butylbenzene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
trans-1,2-Dichloroethene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B
trans-1,4-Dichloro-2-butene	ND	10.0	ug/L	08/22/04 14:21	SW-846 8260B

CHAIN OF CUSTODY RECORD

Lab use only
 Client Name: URS Client #: 2207 Workorder #: 204081602 Due Date: 8/24/04

Report to: Client: URS
Bill to: Client: _____
 Address: 8550 UNITED PLAZA Address: SAVING
BATON ROUGE LA
 Contact: TREY FORTENBERRY Contact: _____
 Phone: (225) 622-4450 Phone: _____
 Fax: 922-4457 Fax: _____

P.O. Number: _____ Project Name/Number: Magnolia Quarterly
 Sampled By: [Signature]

Matrix	Date	Time (24HR)	Lab ID	Sample Description	Preservatives	No. Containers	Mutals (60.0)	pH	Transly	TDS	VFA (8260 B)	Remarks	Lab ID
W	8/13/2004	1055	X	L120040813	HNO ₃	3	X	X	X	X			8/14
W	8/13/2004	1055	X	TAIL BRINE	HNO ₃ /HCl/ H ₂ O ₂	6	X	X	X	X			2 1

Turn Around Time: 24-48 hrs. 3 days 1 week Standard Other _____

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>FEL Ex</u>	Date: <u>8/13/2004</u>	Time: <u>6:00</u>	Note:
Relinquished by: (Signature) <u>Felix 844560779 37</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>8-13-04</u>	Time: <u>1055</u>	
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date: _____	Time: _____	

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

WHITE CLIENT FINAL REPORT - CANARY LABORATORY - PINK CLIENT

VALIDATED RESULTS

Client : URS/Radian Report#: 204090220
Project: Magnolia/Terradynamics

SAMPLE SUMMARY

GCAL ID	Client ID	Matrix	Collected	Received
20409022002	L-1	Water	09/01/04 16:35	09/02/04 09:15
20409022001	TAILBRINE	Water	09/01/04 16:25	09/02/04 09:15

ANALYSIS DETAILS

GCAL ID: 20409022002 Matrix: Water
Sample ID: L-1
Collected: 09/01/04 16:35 Received: 09/02/04 09:15

Analyte	Result	RDL	Units	Analyzed	Method
Total Dissolved Solids(TDS)	17360	10	mg/L	09/02/04 16:55	EPA 160.1
pH	4.62	1.00	pH unit	09/02/04 10:00	4500 H+B

ANALYSIS DETAILS

GCAL ID: 20409022001 Matrix: Water
Sample ID: TAILBRINE
Collected: 09/01/04 16:25 Received: 09/02/04 09:15

Analyte	Result	RDL	Units	Analyzed	Method
Total Dissolved Solids(TDS)	382000	10	mg/L	09/03/04 16:00	EPA 160.1
pH	2.94	1.00	pH unit	09/02/04 10:00	4500 H+B

