FINAL REPORT
Geothermal Well Site Restoration
and Plug and Abandonment of Wells

DOE Pleasant Bayou Test Site
Brazoria County, Texas

Prepared by
Ben N. Rinehart, INEL
and
Ben H. Seigel, ECO Solutions, Inc.

March 13, 1994
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FINAL REPORT

FOR

CONTRACT C93-160681 (Plesant Bayou)

GEOTHERMAL SITE REMEDIATION AND CLOSE-OUT
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Section 1.0

General Information
1.0 General background

For a variety of reasons, thousands of oil and gas wells have been abandoned in the Gulf Coast Region of the United States. Many of these wells penetrated geopressured zones whose resource potential for power generation was undervalued or ignored. The U.S. Department of Energy (DOE) Geopressed-Geothermal Research Program was chartered to improve geothermal technology to the point where electricity could be commercially produced from a substantial number of geopressed resource sites. This research program focused on relatively narrow technical issues that are unique to geopressed resources such as the ability to predict reservoir production capacity based on preliminary flow tests. Three well sites were selected for the research program. These are the Willis Hulin and Gladys McCall sites in Louisiana, and the Pleasant Bayou site in Texas. The final phase of this research project consists of plug and abandonment (P&A) of the wells and site restoration.

1.1 Well Site Location

The Pleasant Bayou well site is located in Brazoria County, Texas (Figure 1-1) and consists of a fenced-in area approximately 13 acres in size. It is completely surrounded by Occidental Chemical Corporation (OxyChem) property with access roads across OxyChem land.

1.2 Production Operations

Operations on the well site consisted primarily of high pressured brine production with some natural gas production, although at the time of closure the production and injection wells and all associated activity had been shut-down for several years. Figure 1-2 shows the general layout of the site with production and injection well locations.
1.3 Restoration

ECO Solutions, Inc. was awarded the contract #C93-160681 (See Appendix A) for the restoration and close-out of the Pleasant Bayou site on December 3, 1993. The original understanding was for restoration activities to begin when the P&A contractor had plugged both wells and had removed all the site surface equipment and pipe from location. Because of the delay in plugging the production well, ECO Solutions, Inc. was directed to begin restoration operations that could be performed around the plugging operations. Work began on December 3, 1993 and due to this delay restoration of the site was not completed until February 28, 1994. Photos of the restored site are included in this section.

1.4 Subcontractors

The following is a table of third party contractors utilized by ECO Solutions, Inc. on the project.

**TABLE 1.0 Third Party Contractors**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>O'Day Drilling Company Inc.</td>
<td>14405 Garden Road</td>
<td>(713)485-1330</td>
</tr>
<tr>
<td></td>
<td>Pearland, TX 77581</td>
<td></td>
</tr>
<tr>
<td>Joe Shibi Services</td>
<td>205 Jane St.</td>
<td>(713)331-5309</td>
</tr>
<tr>
<td>General Contractor</td>
<td>Alvin, TX 77511</td>
<td></td>
</tr>
<tr>
<td>Core Laboratories</td>
<td>P.O. Box 34766</td>
<td>(713)943-9776</td>
</tr>
<tr>
<td>(Western Atlas International)</td>
<td>Houston, TX 77234</td>
<td></td>
</tr>
</tbody>
</table>
From EATON OFFICE:

Take Interstate Highway (IH) 10 east to Loop 610.

Turn right (SOUTH) on Loop 610 and follow around (EAST) to State Highway (SH) 288. Turn right (SOUTH) on SH-288 and follow to SH-6. Turn left (SOUTHEAST) on SH-6 and follow to SH-35. Turn right (SOUTH) on SH-35 and follow to Farm-to-Market road (FM) 2403. Turn left (SOUTH) on FM-2403 and follow to FM-2917. Turn left (SOUTHEAST) on FM 2917 and follow road 3.2 miles past the railroad tracks to gravel road on right. (NOTE: The gravel road is immediately preceded by a culvert (SNAG)). The location identification signs are posted at the entrance to the gravel road and are labeled "U.S. DOE/EATON GEOPRESSURED-GEOTHERMAL TEST SITE". The gravel road extends approximately 3 miles, terminating at well location.
Note: Measurements from the Pleasant Bayou No. 2 to the existing production equipment are approximations at best and should be recognized as such.

Well Location Map
Production Equipment Treating Area  (Looking south)

Brine Flowline to Injection Well (Back of property looking west)
Test Well Pad Area  (Looking West)

Front Of Test Well Area  (Looking East)
Injection Well Pad Area (Looking West)

Firewater Pond Area
Access Road to Pleasant Bayou Wellsite
Section 2.0

Restoration Plan and Schedule
2.0 Restoration Plan and Schedule

2.1 Scope

Due to the relatively "clean" operations; that of brine and gas production, and because there had been no activity for a number of years at the Pleasant Bayou well site, clean-up operations and the restoration plan was in fact the scope of work outlined by the original contract. Contamination concern was centered around the well pad areas originating from location boards.

2.2 Major Task Components

The restoration plan was made up of the following general tasks:

- Initial Soil and Water Sampling & Analysis
- Removal and Disposal of Concrete, Utility Poles and Trash
- Removal and Disposal of Well Pad & Road Rock
- Removal and Disposal of Well Pad Boards
- Removal and Disposal of Site Fences
- Plugging of Monitor and Freshwater Wells
- Site Leveling and General Dirt Work/Clean-up

2.3 Schedule

It was estimated that the completion of the restoration and clean-up of the site could be accomplished in approximately 30 days provided that all surface equipment, trailers and pipe was off the site. Figure 2-1 shows the original work schedule chart for the project.
**Figure 2-1  ORIGINAL PROJECT WORK SCHEDULE**

| TASK COMPONENT                                                  | 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 |
|----------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Initial Soil & Water Sampling and Analysis (13 Days)           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Disposal of concrete (5 Days)                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Disposal of utility poles (2 Day)                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Spreading of Location Pad/Road Rock (13 Days)     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Disposal of Location Boards (5 Days)              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Disposal of Site Fences (2 Days)                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Plugging of Water Wells (2 Days)                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removal and Plugging of Fire-water Well (1 Day)               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Site Leveling to Natural Contours and Misc. Clean-up (3 Days)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

*DECMBER 1993*
Section 3.0

Plugging of Water Wells
3.0 Plugging of Water Wells

3.1 Identification
The water wells associated with the Pleasant Bayou well site consists of three monitor wells and three freshwater wells. There had been some confusion concerning the number of wells on and around the location. On inspection it was found that one freshwater well had been plugged and two of the monitor wells were located outside the perimeter of the fenced area. It was also requested that one of the freshwater wells be left for future use and therefore was not plugged. For identification purposes the monitor wells were named as MWN, MWE, and MWS and the water well on location was the Firewater Well. Figure 3-1 shows the approximate location of the water wells plugged.

3.2 Description
The monitor wells are characterized as shallow (11 to 39 feet), small diameter (5") PVC lined wells. The freshwater well plugged was 158 feet in depth and was lined with 5" steel pipe. It also contained a downhole electric pump.

3.3 Texas Railroad Commission Reports
All three monitor and Firewater wells were plugged by a certified waterwell contractor (O'Day Drilling Company, Inc.) and notification was sent to the Texas Railroad Commission. These reports can be found in appendix B.
FIGURE 3-1

Waterwell Location Map

DOE Pleasant Bayou Site

Graphic Scale in Feet

- Monitor Well
- Freshwater Well
- Disposal Well
- Test Well

ECO Solutions, Inc.
Section 4.0

Soil and Water Sampling and Analysis
4.0 Soil and Water Sampling and Analysis

4.1 General
The sampling program consisted of retrieving a water sample from each of the water wells to be plugged and retrieving soil samples in and around the well pad areas. Chain of Custody documentation and printed results of the water and soil analysis can be found in appendix B.

4.2 Water Samples
4.2.1 Protocol
The method of sampling the water wells was to use a new bailer/sample tube for each well. A volume of twice the wellbore volume was bailed and then a single sample taken from each well. The sample was tagged and recorded on the chain of custody form.

4.2.2 Analysis
A total of four (4) water samples were obtained and analyzed. All water samples were tested for metals and chloride concentration using EPA methods EPA/200.7 and SM17 4500-Cl B. Analysis was performed by Core Laboratories and the results are included in this report. All readings were below regulatory limits (See appendix C).

4.3 Soil Samples
4.3.1 Protocol
In order to increase the area of investigation, composite samples were obtained by taking three separate soil portions on a grid pattern laid over the two well pad areas. A total of 10 complete soil samples were obtained; 5 from a depth of 6" and 5 from a depth of 18". Figures 4-1 and 4-2 show the grid sampling method.
FIGURE 4-1
SOIL SAMPLE GRID MAP
(Production Well Pad)

6" DEPTH SOIL SAMPLE
18" DEPTH SOIL SAMPLE
SCALE = None
FIGURE 4-2

SOIL SAMPLE GRID MAP
(Injection Well Pad)

SCALE = None

ECO Solutions, Inc.
4.3.2 Analysis

All soil samples were tested for TCLP metals additionally soil sample #4 was also tested for PCP. This sample was retrieved from under the center of the test well pad which would best characterize any contamination from the location board mats. Test methods include Method 1311 & EPA test methods for evaluating waste.

Based on the parameters tested, the samples did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics. Results can be found in appendix C.
Section 5.0

NORM Survey
5.0 NORM Survey

5.1 General
It was decided to complete the clean-up of the Plesant Bayou a NORM survey be performed on the well pads. This was done on February 2, 1994.

5.1 Protocol
The method used to perform the NORM survey was to lay out a 20' by 20' grid over the well pad areas which covered an area of 180' x 240' for the test well pad and 90' x 110' for the injection well pad. Meter readings were taken at each point on the grids and recorded. A control point reading was also taken 20' outside the area of investigation. A Ludlum Model 19 Micro R Meter was used to perform the survey. Information and calibration documentation can be found in appendix D.

5.3 Results
Figures 5-1 and 5-2 show the grid maps of the test well and injection well pads with readings obtained from the survey. All readings taken were under regulatory threshold limits.
FIGURE 5-2

NORM SURVEY of
INJECTION WELL PAD

LEGEND
- INJECTION WELL
- SAMPLE READING POINT
- 6 DATA VALUE IN MICRO R/HR (\( \mu \))
- 20' x 20' GRID TEMPLATE

ECO Solutions, Inc.
Appendix A

Contract Agreement
SUBCONTRACT NO. C94-160792

EG&G IDAHO, INC.
IDAHO NATIONAL ENGINEERING LABORATORY
IDAHO FALLS, IDAHO
This subcontract is effective December 3, 1993, between EG&G Idaho, Inc. (hereinafter called the "Contractor"), an Idaho Corporation with an operating office in Idaho Falls, Idaho, acting under Contract DE-AC07-76ID01570 with the United States of America represented by the United States Department of Energy (DOE) and ECO Solutions, Inc., (hereinafter called the "Subcontractor"), a joint venture with its principal offices located at 10333 Richmond Avenue, Suite 250, Houston, Texas 77042.

PURPOSE OF SUBCONTRACT

This subcontract is entered into for the purpose of the Subcontractor performing site remediation and close-out of the Pleasant Bayou well site in Texas.

ARTICLE I - SCOPE OF WORK

1. The Subcontractor shall furnish all plant, labor, supervision, material, supplies, equipment, and services (except as otherwise provided) and perform all work and operations necessary to complete the items listed below in strict accordance with the provisions of this subcontract.

Accomplish site remediation and close-out of the Pleasant Bayou well site. Remediation shall include but not be limited to the following:

- Preparation of a Site Remediation Plan for the site
- Initial soil and water sampling/analysis for the site
- Post site close-out sampling/analysis for the site
- Removal and disposal of all concrete for the site
- Removal and disposal of all utility poles at the site
- Removal and re-spreading of all reef shell/limestone at the site
- Removal and disposal of locating boards and pilings at the site
- Removal and disposal of septic system at the site
- Removal and disposal of fences at the site
- Removal of water wells at the site
- Removal of fire-water well at the site
The Subcontractor shall assume that only non-hazardous oil field waste (NOW) exists at the site and that all such material can be treated and disposed of on location. However, off-site disposal may be required based on results of site sampling and analysis operations. In the event that site sampling analysis precludes on-site disposal, the Subcontractor shall define a plan for treatment or off-site disposal of the contaminated waste.

2. The following documents are incorporated by reference and are part of this subcontract:

(a) EG&G Idaho, Inc., Construction Subcontract General Provisions, dated June 1991 with Addenda 1, 2, and 3.

(b) Section I, General Conditions, dated January, 1990.

(c) Statement of Work For Site Remediation dated August 9, 1993 (Pleasant Bayou No. 1 and No. 2 scope only).

(d) Appendix A, Wage Rates TX930056 Modification No. 0 dated February 19, 1993.

(e) Form EG&G-1471, Supplier Data Transmittal and Disposition.

(f) Progress Payment Estimate for Construction Subcontractors, with continuation sheet.

(g) Addendum No. 1 dated August 31, 1993, and Addendum No. 2 dated September 7, 1993 (Pleasant Bayou scope only).

ARTICLE II - SCHEDULE

The Subcontractor shall start the subcontract work within three (3) calendar days after receipt of written notice to proceed and shall complete all subcontract work by December 31, 1993.

ARTICLE III - PAYMENT

1. The price to be paid by the Contractor for the work accepted hereunder for the total firm fixed price amount as shown below:
2. Upon submission to EG&G Idaho of the form "Progress Payment Estimate for Construction Subcontractors", payments to the Subcontractor will be made monthly in accordance with Clause 8, "Payments to Subcontractor, of the General Provisions. Progress payments will be allowed for in-place construction work only; payments for materials on-site not incorporated into the work will be allowed in accordance with General Conditions, Article 6(C).
3. Invoices should be submitted near the end of each calendar month covering the value of "in-place" construction work performed, material delivered to the site, and preparatory work done, all during the current calendar month.

4. Payment will be made upon completion of the work under dual party checks per the following schedule:

   ECO Solutions, Inc./O'Day Drilling Co.  $3,634.00
   ECO Solutions, Inc./Joe Shibi Services  $38,370.00
   ECO Solutions, Inc./Core Laboratories   $8,200.00
   ECO Solutions, Inc./Mr. Ben H. Siegel  $7,000.00

ARTICLE IV - ADMINISTRATION

1. The Subcontractor agrees that Mr. Ben H. Siegel and/or his duly authorized representative will have overall direction of the subcontract work and unless a change in assignment is made by the Subcontractor and accepted by the Contractor, he and/or his duly authorized representative will be available at all reasonable times in connection therewith.

2. It is agreed that, unless the Subcontractor is otherwise notified in writing, the Contractor's responsibilities under this subcontract will be administered by the Manager, Facility Engineering & Acquisitions, of EG&G Idaho, Inc., and/or his duly authorized representative who is Mr. Michael A. Bolender, Subcontract Administrator.

3. The EG&G Idaho Technical Representative is Mr. Ben Rinehart. All technical direction shall be obtained from this individual only. Mr. Rinehart is also your contact for Environmental, Safety & Health and Occurrence Reporting and may be reached at 208-526-1002.

ARTICLE V - NOTICES

Any notice or order provided for in this subcontract shall be considered as having been given:

1. To the Contractor, if delivered personally to the designated representative or the Manager, Facility & Engineering Acquisitions, or if mailed by Certified U.S. Mail, addressed to the Manager, Facility & Engineering Acquisitions, EG&G Idaho, Inc., 1955 Fremont Avenue, P.O. Box 1625, Idaho Falls, Idaho 83415-3521; or

2. To the Subcontractor, if delivered personally to its representative at the site of the work, Pleasant Bayou Texas well site, or if mailed by Certified U.S. Mail addressed to the Subcontractor at 10333 Richmond Avenue, Suite 250, Houston, Texas 77042.
ARTICLE VI - LIABILITY FOR DAMAGE TO PERSONS AND PROPERTY

Except for losses caused solely by acts of employees of the Contractor or of the Government, the Subcontractor assumes entire responsibility for and hereby agrees, to indemnify the Contractor and the Government, their agents, servants and employees against any and all losses, expenses, damages, demands, and claims connected with or arising out of any injury or alleged injury (including death), or damage or alleged damage to persons or property sustained or alleged to have been sustained in connection with, or arising out of, the performance of the work by the Subcontractor, its subcontractors, and its and their agents, servants, and employees including losses, expenses, or damages sustained by the Contractor and/or the Government.

ARTICLE VII - CERTIFICATION

The subcontract requires that the Subcontractor construct the work in accordance with the subcontract plans, specifications, and requirements. Upon completion of the work and inspection and acceptance by the Contractor (either for the total subcontract work or for partial work completed, inspected, and accepted by the Contractor), the Subcontractor shall certify, on a form (Facility Transfer Form) prepared by EG&G Idaho, as follows:

"I certify on behalf of [Company], subject to the penalties provided under 18 U.S.C. Section 1001, that our personnel have accomplished the subcontract work and, to the best of my knowledge, the work was performed or accomplished in accordance with the subcontract documents, including all approved changes."

Signature
Subcontractor Authorized Representative

ARTICLE VIII - CONSTRUCTION SCHEDULE

The Subcontractor shall submit to the Contractor a construction schedule, in accordance with General Condition GC-6, covering the work to be performed under this subcontract. The Subcontractor shall update this schedule monthly (during the life of this subcontract) to show the actual progress made. Eight copies of the updated schedule shall be submitted to the Contractor.

When requested by the Subcontract Administrator, the Subcontractor shall submit a written narrative report which relates the reasons for any failure to meet schedules and the corrective action taken to ensure meeting the subcontract completion date.
ARTICLE IX - MATERIAL AND VENDOR DATA SCHEDULE

Reference Clause No. 8, "Payments to Subcontractor", Paragraph C, Construction Subcontract General Provisions. For the purposes of this subcontract, final completion and acceptance of the subcontract work shall not be deemed to have been accomplished by the Subcontractor until all data required has been submitted and approved by the Contractor.

ARTICLE X - UNDERSTANDING

1. As a matter of clarification, the following definitions shall apply to words and/or phrases used in Appendix A, Wage Rates:

   Contract shall mean Subcontract
   Contracting Officer shall mean EG&G Idaho, Inc.

2. As a matter of clarification, all references in the General Provisions or the General Conditions to the Idaho National Engineering Laboratory (INEL) site shall mean the Pleasant Bayou well site in Texas.

3. This subcontract and its designated specifications and drawings, whether taken separately or together, are to be interpreted according to their full intent, meaning, and spirit, and shall be deemed to mutually explain each other and to be descriptive of any materials to be furnished and the work to be performed under this subcontract. In cases of any difference or discrepancy between the subcontract documents, the order of precedence shall be this Subcontract form, General Provisions, General Conditions, Special Conditions, specifications and drawings.

4. Delete the following clauses from the General Provisions or the General Conditions:

   Delete GC-11 INEL Site Jurisdictional Procedural Agreement.

ARTICLE XI - PRIORITY RATING

This subcontract carries priority rating DO-EI. Certified for national defense use under DMS Regulation 1.

You are required to follow the provisions of DMS Regulation 1 and of all other applicable regulations and orders of the Industry and Trade Administration, Department of Commerce, in obtaining controlled materials and other products and materials needed to fill this order. This rating must be passed on to your supplier in all cases to ensure delivery of the materials as required.
ARTICLE XII - SALES AND USE TAXES

1. No allowance for sales or use tax on items listed on Schedule "X": shall be included in subcontractor's proposed price.

2. The Texas Sales Tax will apply to purchases of materials by the Subcontractor under this subcontract. Payment of the Sales Tax will be the responsibility of the Subcontractor.

IN WITNESS WHEREOF, the Contractor and the Subcontractor have caused this subcontract to be executed on the day and year first above written intending to be legally bound thereby.

ECO SOLUTIONS, INC. _________________________  EG&G IDAHO, INC. _________________________
Subcontractor                                       Contractor

By__________________________________________     By__________________________________________

M. A. Bolender

Title________________________________________  Title Subcontract Administrator

Date _____________________________  Date _____________________________
Appendix B

Texas Railroad Commission
Plugging Notification
State of Texas

PLUGGING REPORT

(This form must be completed and filed with the TWC within 30 days following the date the well is plugged as required by current statutory law.)

A. Well Identification and Location Data

1) Owner: ECO SOLUTIONS INC.
   Address: 3931 FOREST VILLAGE KINGWOOD, TX 77339

2) Owner's Well Number: FIRE WATER WELL

3) Location of Well: County: BRAZORIA 5 miles in SE direction from LIVERPOOL

Legal description:

Driller or other person performing the plugging operations must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

B. Historical Data on Well To Be Plugged (if available)

4) Driller: O'DAY DRILLING CO. INC.
   License Number: 1677
   City: PEARLAND, TX

5) Drilled: 12-22 . 19.88

6) Diameter of hole: 5 inches

7) Total depth of well: 160' feet

C. Current Plugging Data

8) Date well plugged: 1-3-94

9) Sketch of well: Using space at right, show method of plugging the well including all casing and cemented intervals.

10) Name of Driller or other person actually performing the plugging operations:
    MARSHALL BANNERT

    - If a water well driller plugged the well, give the driller's license no.: 4111

11) Casing and cementing data relative to the plugging operations:

<table>
<thead>
<tr>
<th>Diameter (inches)</th>
<th>Casing Left in Well</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From (feet)</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2 1/2</td>
<td></td>
</tr>
</tbody>
</table>

   Cement Plug(s) Placed in Well

   From (feet) | To (feet) |

   Sack(s) of cement used

   158 | 0 | 9 SKS CEMENT

   3 SKS GEL

D. Validation of Information Included in Form

I hereby certify that this well was plugged by me (or under my supervision) and that all of the statements herein are true and accurate to the best of my knowledge and belief.

Company or Individual's Name: O'DAY DRILLING CO. INC.

Address: 14405 GARDEN RD.

(Signed) 14405 GARDEN RD. PEARLAND TX 77581 (Person performing plugging operations)

(Signed) (Owner of Well) for TWC use only

Well No. Location on map: 526-3-12

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711
Phone (512) 371-6299

For TWC use only

White - TWC
Yellow - Well Owner
Pink - Contractor

TWC-0055 (Rev. 07-27-88)
State of Texas

PLUGGING REPORT
(This form must be completed and filed with the TWC within 30 days following the date the well is plugged as required by current statutory law.)

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711
Phone (512) 371-6399

Texas Water Commission
P.O. Box 13087
Austin, Texas 78711
Phone (512) 371-6399

A. Well Identification and Location Data

1) Owner: BCO SOLUTIONS INC. Address: 3931 FOREST VILLAGE KINGWOOD, TX 77339
2) Owner's Well Number: [Blank]
3) Location of Well: County: BRAZORIA 5 miles in SE direction from LIVERPOOL
   (Street or RFD) (City) (State) (Zip)

Driller or other person performing the plugging operations must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

- Legal description:
  - Section No. ________ Block No. ________ Township ________
  - Abstract No. ________ Survey Name ________
  - Distance and direction from two intersecting section lines or survey lines:

- See Attached map.

B. Historical Data on Well To Be Plugged (if available)

4) Driller: [Blank] License Number: [Blank] City: [Blank]
5) Drilled ________; Diameter of hole ________ inches; Total depth of well ________ feet.

8) Date well plugged: 1-3 1994
9) Sketch of well: Using space at right, show method of plugging the well including all casing and cemented intervals.
10) Name of Driller or other person actually performing the plugging operations: MARSHALL BANNERT
    If a water well driller plugged the well, give the driller's license no. [Blank]
11) Casing and cementing data relative to the plugging operations:

<table>
<thead>
<tr>
<th>Diameter (inches)</th>
<th>Casing Left in Well From (feet)</th>
<th>To (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Blank]</td>
<td>[Blank]</td>
<td>[Blank]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cement Plug(s) Placed in Well</th>
<th>Sack(s) of cement used</th>
</tr>
</thead>
<tbody>
<tr>
<td>From (feet)</td>
<td>To (feet)</td>
</tr>
<tr>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>3 SKS CEMENT</td>
<td></td>
</tr>
<tr>
<td>1/2 SK GEL</td>
<td></td>
</tr>
</tbody>
</table>

D. Validation of Information Included in Form

I hereby certify that this well was plugged by me (or under my supervision) and that all of the statements herein are true and accurate to the best of my knowledge and belief.

Company or Individual's Name: O'DAY DRILLING CO. INC.
Address: 14405 GARDEN RD. PEARLAND TX 77581
(Signed) [Signature]
(Person performing plugging operations) [Signature]
(Address) (City) (State) (Zip)
(Owner of Well) [Signature]

For TWC use only
White - TWC Yellow - Well Owner Pink - Contractor

TWC-0055 (Rev. 07-27-88)
A. Well Identification and Location Data

1) Owner: ECO SOLUTIONS INC.  
   Address: 3931 FOREST VILLAGE KINGWOOD, TX 77581

2) Owner's Well Number: \_

3) Location of Well: County: BRAZORIA 5 miles in SE direction from LIVERPOOL
   (N.E., S.W., etc.) (Town)

Legal description: N/A

Driller or other person performing the plugging operations must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

See Attached map.

B. Historical Data on Well To Be Plugged (if available)

4) Driller: \_
   License Number: \_
   City: \_

5) Drilled: 19\_

6) Diameter of hole: \_
   inches; 7) Total depth of well: \_
   feet.

C. Current Plugging Data

8) Date well plugged: 1-3, 1994

9) Sketch of well: Using space at right, show method of plugging the well including all casing and cemented intervals.

10) Name of Driller or other person actually performing the plugging operations: MARSHALL BANNERT
    if a water well driller plugged the well, give the driller's license no. 4111

11) Casing and cementing data relative to the plugging operations:

<table>
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<tr>
<th>Diameter (inches)</th>
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<th>Cement Plug(s) Placed in Well</th>
<th>Sack(s) of cement used</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>From (feet)</td>
<td>To (feet)</td>
<td>From (feet)</td>
</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 SKS CEMENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1/2 SK GEL</td>
</tr>
</tbody>
</table>

D. Validation of Information Included in Form

I hereby certify that this well was plugged by me (or under my supervision) and that all of the statements herein are true and accurate to the best of my knowledge and belief.

Company or Individual's Name: O'DAY DRILLING CO. INC.

Address: 14405 GARDEN RD. PEARLAND TX 77581

(Signed) \_

(Person performing plugging operations) \_

For TWC use only

Well No.: \_

Location on map: \_
State of Texas
PLUGGING REPORT
(This form must be completed and filed with the TWDC within 30 days following the date the well is plugged as required by current statutory law.)

A. Well Identification and Location Data

1) Owner: BCO SOLUTIONS INC.
   Address: 3931 FOREST VILLAGE KINGWOOD, TX 77339

2) Owner's Well Number: H
d

3) Location of Well: County: BRAZORIA 5 miles in SE direction from LIVERPOOL
   (M.E. S.W. etc.)
   (Town)

B. Historical Data on Well To Be Plugged (if available)

A) Driller: 
   License Number:
   Locality:

B) Drilled: 10
   Diameter of hole: inches:
   Total depth of well:
   feet

C. Current Plugging Data

D. Validation of Information Included in Form

D1) I hereby certify that this well was plugged by me (or under my supervision) and that all of the statements herein are true and accurate to the best of my knowledge and belief.

Company or Individual's Name: O'DAY DRILLING CO. INC.
Address: 14405 GARDEN RD.
PEARLAND TX 77581

(Signed) MARSHALL L. BANNERT
(Signed) BERT N. STEWART
(Petition performing plugging operations)

TWC-0053 (Rev. 05-17-94)
White: TWDC Yeller: Well Owner: 
Date of Certification: 23/08/94 18:57 7134658962
Appendix C

Soil and Water Sample Analysis
Chain of Custody Forms
**SAMPLER**

**Anaheim, California**

**Long Beach, California**

**Denver (Aurora), Colorado**

**Casper, Wyoming**

**Houston, Texas**

**Corpus Christi, Texas**

**Lake Charles, Louisiana**

---

**COMPANY: BEN SIEGEL/ECO Solutions**

**BILLING INFORMATION**

**BILL TO:** BEN SIEGEL

**ADDRESS:** 3931 Forest Village

**KINGWOOD, TX 77339**

**PHONE:** 359-9212

**FAX:** 789-5533

---

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>SAMPLE ID</th>
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<th>SAMPLE TIME</th>
<th>SAMPLE MATRIX</th>
<th>CONTAINER TYPE</th>
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<td>1600</td>
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<td>GLASS</td>
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<tr>
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<td>1600</td>
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<td>12-7</td>
<td>1600</td>
<td></td>
<td>GLASS</td>
<td>ice</td>
</tr>
</tbody>
</table>

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**SHIPMENT METHOD:**

**REQUIRED TURNAROUND:**

- [ ] SAME DAY
- [ ] 24 HOURS
- [ ] 48 HOURS
- [ ] 72 HOURS
- [ ] 5 DAYS
- [ ] 10 DAYS
- [ ] ROUTINE
- [ ] OTHER

**Verbal by 12-28-93 or Sooner**

---

**SAMPLER:** Perry Barnes

**SHIPPED BY:**

**DATE:** 12-10

**TIME:**

**REQUISITION BY:**

**SIGNATURE:** (Signature)

**PRINTED NAME/COMPANY:**

**RECEIVED BY:**

**SIGNATURE:** (Signature)

**DATE:** 12-9-93

**TIME:** 0807

---

**AIRBILL NO.:** 934595

---

**LAB JOB NO.:**

---

**ANALYSIS/METHOD REQUEST:**

---

**NUMBER OF CONTAINERS:**

---

**REMARKS/PRECAUTIONS:**

---

**CORPORATION:**

**5150 E. Gene Autry Way**

**Chino, CA 91710**

**CORPORATION:**

**1300 S. Polomac St. - Suite 130**

**Aurora, Colorado 80012**

**CORPORATION:**

**420 West 1st Street**

**Casper, Wyoming 82011**

**CORPORATION:**

**10201 Westheimer, Bldg. 1-A**

**Houston, Texas 77045**

**CORPORATION:**

**8210 Moody Field**

**Houston, Texas 77075**

**CORPORATION:**

**1733 North Padre Island Dr.**

**Corpus Christi, Texas 78408**

**CORPORATION:**

**3645 Aronzo Street**

**Lake Charles, Louisiana 70663**

**CORPORATION:**

**543-4826**
# CHAIN OF CUSTODY RECORD

## CUSTOMER INFORMATION
- **COMPANY:** BEN SIEGEL/RO Solutions
- **SEND REPORT TO:** BEN SIEGEL
- **ADDRESS:** 3931 Forest Village
  - KINGWOOD, TX 77339
- **PHONE:** 359-9212
- **FAX:** 789-5533

## PROJECT INFORMATION
- **PROJECT NAME/NUMBER:**

## BILLING INFORMATION
- **BILL TO:** BEN SIEGEL
- **ADDRESS:** 3931 Forest Village
  - KINGWOOD, TX 77339
- **PHONE:** 359-9212
- **FAX:**
- **PO NO.:**

## NUMBER OF CONTAINERS
- 

## ANALYSIS/METHOD
- **REQUEST:**
- **TEST:**
- **RUL:**
- **RCP:**

## LAB JOB NO.
- **G34595**

## REMARKS / PRECAUTIONS

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<th>SAMPLE LOCATION</th>
<th>CONTAINER TYPE</th>
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<td>GLASS</td>
<td>Ice</td>
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<td>10</td>
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**SAMPLER:** PERRY BARNES

**SHIPMENT METHOD:**

**AIRBILL NO.:**

**REQUIRED TURNAROUND:**
- SAME DAY
- 24 HOURS
- 48 HOURS
- 72 HOURS
- 5 DAYS
- 10 DAYS
- ROUTINE
- OTHER

Verbal by 12-28-93 or Sooner

1. **RECEIVED BY:**
   - **DATE:** 12-10
   - **TIME:**
   - **SIGNATURE:**
   - **PRINTED NAME/COMPANY:**

2. **RECEIVED BY:**
   - **DATE:** 12-19-93
   - **TIME:**
   - **SIGNATURE:**
   - **PRINTED NAME/COMPANY:**

3. **RECEIVED BY:**
   - **DATE:** 04/03
   - **TIME:**
   - **SIGNATURE:**
   - **PRINTED NAME/COMPANY:**

**RUSH TURNAROUND MAY REQUIRE SURCHARGE**

- IHSALEM, California (714) 987-890
- IOWA BEACH, California (310) 987-980
- DOWNTOWN, Colorado (303) 987-980
- CASPER, Wyoming (307) 987-980
- HOUSTON, Texas (713) 987-980
- CORPUS CHRISTI, Texas (512) 987-980
- LAKE CHARLES, Louisiana (985) 987-980
<table>
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<th>SAMPLE NO.</th>
<th>SAMPLE ID</th>
<th>BLK</th>
<th>SAMPLE DATE</th>
<th>SAMPLE TIME</th>
<th>SAMPLE MATRIX</th>
<th>CONTAINER TYPE</th>
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<th>NOTES</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>01/03/93</td>
<td>15:50</td>
<td>Water</td>
<td>Glass</td>
<td>Yes</td>
<td></td>
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</table>

**Remarks/Precautions**

Split sample and preserved for Metals - B finish.
Sample Analysis
CORE LABORATORIES

ANALYTICAL REPORT

Job Number: 940049
Prepared For:
ECO SOLUTIONS
BEN SIEGEL
3931 FOREST VILLAGE
KINGWOOD, TX 77339

Date: 01/14/94

Signature: Dana L. Harper

Date: 01-14-94

Name: DANA L. HARPER

Core Laboratories
3645 Arizona Street
Sulphur, LA 70663

Title: LABORATORY MANAGER
<table>
<thead>
<tr>
<th>TEST DESCRIPTION</th>
<th>FINAL RESULT</th>
<th>DETECTION LIMIT</th>
<th>UNITS OF MEASURE</th>
<th>TEST METHOD</th>
<th>DATE</th>
<th>TECHNICIAN</th>
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</thead>
<tbody>
<tr>
<td>Arsenic (As), total</td>
<td>&lt;0.05</td>
<td>0.05</td>
<td>mg/L</td>
<td>EPA/200.7</td>
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<tr>
<td>Barium (Ba), total</td>
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<td>Cadmium (Cd), total</td>
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<td>Chromium (Cr), total</td>
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<td>Lead (Pb), total</td>
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<td>Silver (Ag), total</td>
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<td>Digestion for Metals/ICP</td>
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</table>
CORE LABORATORIES

ANALYTICAL REPORT

Job Number: 934595
Prepared For:

ECO SOLUTIONS
BEN SIEGEL
3931 FOREST VILLAGE
KINGWOOD, TX 77339

Date: 12/28/93

Signature: DANA L. HARPER

Date: 12/28/93

Name: DANA L. HARPER

Title: LABORATORY MANAGER

Core Laboratories
3645 Arizona Street
Sulphur, LA 70663

The analyses, opinions, or interpretations contained in this report are based upon observations and results of analyses by the chart the entire exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratories. Core Laboratories, however, assumes no responsibility for the accuracy or implications, express or implied, as to the productivity, proper operation, or marketability of any oil, gas, coal or other mineral, property, well or field in connection with which such report is based or relied upon for any purpose whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories.
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<tr>
<th>TEST DESCRIPTION</th>
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<th>UNITS OF MEASURE</th>
<th>TEST METHOD</th>
<th>DATE</th>
<th>TECHNICIAN</th>
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# Laboratory Test Results

**Job Number:** 934595  
**Customer:** ECO Solutions  
**Attention:** Ben Siegel

**Client I.D.:** MW-E  
**Date Sampled:** 12/07/93  
**Time Sampled:** 16:00  
**Work Description:**

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<th>Test Description</th>
<th>Final Result</th>
<th>Detection Limit</th>
<th>Units of Measure</th>
<th>Test Method</th>
<th>Date</th>
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<tr>
<td>Arsenic (As), total</td>
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<td>0.05</td>
<td>mg/L</td>
<td>EPA/200.7</td>
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<td>NDF</td>
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<tr>
<td>Barium (Ba), total</td>
<td>0.33</td>
<td>0.01</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Cadmium (Cd), total</td>
<td>&lt;0.01</td>
<td>0.01</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
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<tr>
<td>Chromium (Cr), total</td>
<td>&lt;0.02</td>
<td>0.02</td>
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<td>NDF</td>
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<td>Lead (Pb), total</td>
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</tr>
<tr>
<td>Sodium (Na), total</td>
<td>69</td>
<td>1</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Digestion for Metals/ICP</td>
<td>COMPLETE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride (Cl), total</td>
<td>162</td>
<td>15</td>
<td>mg/L</td>
<td>SM17 4500-Cl B</td>
<td>12/16/93</td>
<td>BNL</td>
</tr>
</tbody>
</table>

**Remarks:** Sampled by: Perry Barnes

**Laboratory I.D.:** 934595-0002  
**Date Received:** 12/14/93  
**Time Received:** 12:00

---

Western Atlas  
CQRE Laboratories  
International

3645 Arizona Street  
Sulphur, LA 70663  
(318) 583-4926

PAGE 2
# Laboratory Test Results

**Job Number:** 934595  
**Customer:** ECO Solutions  
**ATTN:** BEN SIEGEL  

**Client I.D.:** MU-W  
**Date Sampled:** 12/07/93  
**Time Sampled:** 16:00  
**Test Description:**

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Final Result</th>
<th>Detection Limit</th>
<th>Units of Measure</th>
<th>Test Method</th>
<th>Date</th>
<th>Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic (As), total</td>
<td>&lt;0.05</td>
<td>0.05</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Barium (Ba), total</td>
<td>0.22</td>
<td>0.01</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Cadmium (Cd), total</td>
<td>&lt;0.01</td>
<td>0.01</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Chromium (Cr), total</td>
<td>&lt;0.02</td>
<td>0.02</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Lead (Pb), total</td>
<td>&lt;0.05</td>
<td>0.05</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Mercury (Hg), total</td>
<td>&lt;0.008</td>
<td>0.008</td>
<td>mg/L</td>
<td>EPA/245.1</td>
<td>12/21/93</td>
<td>NJD</td>
</tr>
<tr>
<td>Selenium (Se), total</td>
<td>&lt;0.05</td>
<td>0.05</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Silver (Ag), total</td>
<td>&lt;0.01</td>
<td>0.01</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Sodium (Na), total</td>
<td>105</td>
<td>1</td>
<td>mg/L</td>
<td>EPA/200.7</td>
<td>12/16/93</td>
<td>NDF</td>
</tr>
<tr>
<td>Digestion for Metals/ICP</td>
<td>COMPLETE</td>
<td></td>
<td></td>
<td>EPA Metals 4.1.3</td>
<td>12/16/93</td>
<td>RAK</td>
</tr>
<tr>
<td>Chloride (Cl), total</td>
<td>137</td>
<td>15</td>
<td>mg/L</td>
<td>SM17 4500-Cl B</td>
<td>12/16/93</td>
<td>BNL</td>
</tr>
</tbody>
</table>

**Laboratory I.D.:** 934595-0003  
**Date Received:** 12/14/93  
**Time Received:** 12:00  
**Remarks:** SAMPLED BY: PERRY BARNES

---

3645 Arizona Street  
Sulphur, LA 70663  
(318) 583-4926  

PAGE:3
RCRA CHARACTERIZATION REPORT

REPORT SUMMARY

Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

<table>
<thead>
<tr>
<th>SAMPLE MATRIX</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Solid</td>
<td>100.0</td>
</tr>
<tr>
<td>% Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>% Non-Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
</tbody>
</table>

SAMPLE HISTORY

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
</tbody>
</table>

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Data Not Provided
**ANALYTICAL RESULTS**

### TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Barium</td>
<td>1.87</td>
<td>mg/L</td>
<td>6010</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

**REFERENCE:**
1. Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
RCRA CHARACTERIZATION REPORT

REPORT SUMMARY

Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

SAMPLE MATRIX

| % Solid | 100.0 |
| % Aqueous Liquid | <0.5 |
| % Non-Aqueous Liquid | <0.5 |

SAMPLE HISTORY

| Date Sampled | 12/09/93 | Time |
| Sample Received by Laboratory | 12/14/93 | 12:00 |
| Glass Jar Extraction | 12/15/93 | 1311 (1) |
| Metals Digestion | 12/17/93 | 3010 (2) |
| Metals Analysis | 12/27/93 | 6010 (2) |

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II


*NP - Data Not Provided
# ANALYTICAL RESULTS

## TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Barium</td>
<td>1.26</td>
<td>mg/L</td>
<td>6010</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
RCRA CHARACTERIZATION REPORT

REPORT SUMMARY

Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

SAMPLE MATRIX

<table>
<thead>
<tr>
<th>% Solid</th>
<th>100.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>% Non-Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
</tbody>
</table>

SAMPLE HISTORY

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
</tbody>
</table>

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Date Not Provided
## ANALYTICAL RESULTS

### TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Barium</td>
<td>1.47</td>
<td>mg/L</td>
<td>6010</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
<td>0.07</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
RCRA CHARACTERIZATION REPORT

REPORT SUMMARY
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

SAMPLE MATRIX

| % Solid  | 100.0 |
| % Aqueous Liquid | <0.5 |
| % Non-Aqueous Liquid | <0.5 |

SAMPLE HISTORY

<table>
<thead>
<tr>
<th>Sample Description</th>
<th>Date Sampled</th>
<th>Time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
<td></td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
<td></td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311  (1)</td>
<td></td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010  (2)</td>
<td></td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010  (2)</td>
<td></td>
</tr>
</tbody>
</table>

(1) REFERENCE : Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Data Not Provided
ANALYTICAL RESULTS

TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Barium</td>
<td>2.15</td>
<td>mg/L</td>
<td>6010</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
## Laboratory Tests Results

**Job Number:** 934595  
**Customer:** ECO Solutions  
**Attn:** BEN SIEGEL

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Final Result</th>
<th>Detection Limit</th>
<th>Units of Measure</th>
<th>Test Method</th>
<th>Date</th>
<th>Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentachlorophenol</td>
<td>&lt;1670</td>
<td>1670 ug/kg</td>
<td>SW-846/8270</td>
<td>12/20/93</td>
<td>DFM</td>
<td></td>
</tr>
<tr>
<td>Semivolatile Organics Extraction</td>
<td>COMPLETE</td>
<td></td>
<td>SW-846 3550</td>
<td>12/17/93</td>
<td>CMG</td>
<td></td>
</tr>
</tbody>
</table>

**Laboratory I.D.:** 934595-0007  
**Date Received:** 12/14/93  
**Time Received:** 12:00  
**Remarks:** SAMPLED BY: PERRY BARNES

---

3645 Arizona Street  
Sulphur, LA 70663  
(318) 583-4926
Western Atlas International

Job Number: 934595-008
Customer Name: ECO SOLUTIONS
Client I.D.: 5
Sample Description: *NP

**RCRA CHARACTERIZATION REPORT**

**REPORT SUMMARY**
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

<table>
<thead>
<tr>
<th>SAMPLE MATRIX</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Solid</td>
<td>100.0</td>
</tr>
<tr>
<td>% Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>% Non-Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
</tbody>
</table>

**SAMPLE HISTORY**

<table>
<thead>
<tr>
<th></th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
</tbody>
</table>

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Data Not Provided
# Analytical Results

<table>
<thead>
<tr>
<th>Toxics</th>
<th>Characteristic</th>
<th>Result</th>
<th>Units</th>
<th>Method(2)</th>
<th>Reg Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td></td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td></td>
<td>1.66</td>
<td>mg/L</td>
<td>6010</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Cadmium</td>
<td></td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td></td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

1. Reference: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
RCRA CHARACTERIZATION REPORT

REPORT SUMMARY:
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

SAMPLE MATRIX:

| % Solid | 100.0 |
| % Aqueous Liquid | <0.5 |
| % Non-Aqueous Liquid | <0.5 |

SAMPLE HISTORY:

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
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</table>

(1) REFERENCE : Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Date Not Provided

PAGE: 15
## ANALYTICAL RESULTS

### TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
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<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>N</td>
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<tr>
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<td>2.89</td>
<td>mg/L</td>
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<td>Y 5.0 mg/L</td>
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<tr>
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<td>mg/L</td>
<td>6010</td>
<td>N 1.0 mg/L</td>
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<tr>
<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>N 5.0 mg/L</td>
</tr>
<tr>
<td>Lead</td>
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<td>N 5.0 mg/L</td>
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<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>N 0.2 mg/L</td>
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<tr>
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<td>mg/L</td>
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<td>N 5.0 mg/L</td>
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</table>

1) REFERENCE : Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II  
RCRA CHARACTERIZATION REPORT

**REPORT SUMMARY**
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

**SAMPLE MATRIX**

| % Solid | 100.0 |
| % Aqueous Liquid | <0.5 |
| % Non-Aqueous Liquid | <0.5 |

**SAMPLE HISTORY**

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<tr>
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<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
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(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II

*NP - Data Not Provided*
## ANALYTICAL RESULTS

### TCLP METALS

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<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
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</thead>
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<td>Arsenic</td>
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<td>1.18 mg/L</td>
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<td>5.0 mg/L</td>
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<tr>
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<td>1.0 mg/L</td>
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<tr>
<td>Silver</td>
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<td>N</td>
<td>5.0 mg/L</td>
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</tbody>
</table>

1. **REFERENCE**: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

**REPORT SUMMARY**

<table>
<thead>
<tr>
<th>% Solid</th>
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<td>% Non-Aqueous Liquid</td>
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**SAMPLE HISTORY**

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<tr>
<th>Date Sampled</th>
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<tbody>
<tr>
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**METHOD**

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<tr>
<th>Glass Jar Extraction</th>
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</thead>
<tbody>
<tr>
<td>Metals Digestion</td>
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<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010 (2)</td>
</tr>
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(1) REFERENCE : Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Data Not Provided
# Analytical Results

## TCLP Metals

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<tr>
<th>Toxicity Characteristics</th>
<th>Result</th>
<th>Units</th>
<th>Method(2)</th>
<th>Regulatory Threshold</th>
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<td>Arsenic</td>
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<td>6010</td>
<td>N</td>
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<tr>
<td>Barium</td>
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<td>N</td>
</tr>
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<td>N</td>
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<td>Chromium</td>
<td>&lt;0.05</td>
<td>mg/L</td>
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<td>N</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>N</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
<td>7470</td>
<td>N</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
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<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
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<td>N</td>
</tr>
</tbody>
</table>

1) Reference: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II

RCRA CHARACTERIZATION REPORT

REPORT SUMMARY
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

SAMPLE MATRIX

<table>
<thead>
<tr>
<th>% Solid</th>
<th>100.0</th>
</tr>
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<tbody>
<tr>
<td>% Aqueous Liquid</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>% Non-Aqueous Liquid</td>
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SAMPLE HISTORY

<table>
<thead>
<tr>
<th>Sample Activity</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Sampled</td>
<td>12/09/93</td>
<td>17:00</td>
</tr>
<tr>
<td>Sample Received by Laboratory</td>
<td>12/14/93</td>
<td>12:00</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td></td>
</tr>
<tr>
<td>Metals Digestion</td>
<td>12/17/93</td>
<td>3010</td>
</tr>
<tr>
<td>Metals Analysis</td>
<td>12/27/93</td>
<td>6010</td>
</tr>
</tbody>
</table>

METHOD

| Glass Jar Extraction         | 1311       |
| Metals Digestion             | 3010       |
| Metals Analysis              | 6010       |

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
*NP - Data Not Provided
<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>N</td>
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<td>Barium</td>
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<td>6010</td>
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<tr>
<td>Chromium</td>
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<td>Lead</td>
<td>&lt;0.05</td>
<td>mg/L</td>
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<tr>
<td>Mercury</td>
<td>&lt;0.002</td>
<td>mg/L</td>
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<td>5.0 mg/L</td>
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<tr>
<td>Selenium</td>
<td>&lt;0.1</td>
<td>mg/L</td>
<td>6010</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;0.05</td>
<td>mg/L</td>
<td>6010</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II
Based on the parameters tested, the sample did not exceed the EPA regulatory threshold for RCRA characteristics and TCLP toxicity characteristics.

- **Sample Matrix**
  - % Solid: 100.0
  - % Aqueous Liquid: <0.5
  - % Non-Aqueous Liquid: <0.5

**Sample History**

<table>
<thead>
<tr>
<th>Date Sampled</th>
<th>Date Received</th>
<th>Time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/09/93</td>
<td>12/14/93</td>
<td>17:00</td>
<td>1311 (1)</td>
</tr>
<tr>
<td>Glass Jar Extraction</td>
<td>12/15/93</td>
<td>12/27/93</td>
<td>3010 (2)</td>
</tr>
<tr>
<td>Metals Digestion</td>
<td></td>
<td></td>
<td>6010 (2)</td>
</tr>
<tr>
<td>Metals Analysis</td>
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</tbody>
</table>

**References**

1. REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II

*NP - Data Not Provided
## ANALYTICAL RESULTS

### TCLP METALS

<table>
<thead>
<tr>
<th>TOXICITY CHARACTERISTICS</th>
<th>RESULT</th>
<th>UNITS</th>
<th>METHOD(2)</th>
<th>REGULATORY THRESHOLD</th>
</tr>
</thead>
<tbody>
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<td>mg/L</td>
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(1) REFERENCE: Method 1311 - Federal Register, Friday, July 1, 1990, Part 261, Appendix II

## TCLP METALS CHARACTERISTICS
### QUALITY CONTROL DATA

### MATRIX SPIKE RECOVERY DATA (mg/L)

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<th>SAMPLE ID</th>
<th>ANALYZED VALUE</th>
<th>ORIGINAL VALUE</th>
<th>SPIKE VALUE</th>
<th>% RECOVERY</th>
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### PRECISION DATA (mg/L)

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### EXTRACTION FLUID & ANALYTICAL BLANK DATA (mg/L)

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<td>0.05</td>
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<td>0.05</td>
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## Quality Assurance Report

**Job Number:** 934595  
**Customer:** ECO Solutions  
**ATTN:** Ben Siegel

### Analysis

#### Parameter: Chloride (Cl), total

<table>
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<tr>
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<th>Duplicate Value (B)</th>
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**Date/Time Analyzed:** 12/16/93 10:57

**Method Reference:** SM17 4500-Cl B

**QC Batch Number:** 967380

**Technician:** BNL

#### Parameter: Arsenic (As), total

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**Date/Time Analyzed:** 12/16/93 17:11

**Method Reference:** EPA/200.7

**QC Batch Number:** 967479

**Technician:** NOF

#### Parameter: Barium (Ba), total

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**Date/Time Analyzed:** 12/16/93 17:11

**Method Reference:** EPA/200.7

**QC Batch Number:** 967480

**Technician:** NOF

#### Parameter: Cadmium (Cd), total

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**Date/Time Analyzed:** 12/16/93 17:11

**Method Reference:** EPA/200.7

**QC Batch Number:** 967481

**Technician:** NOF

---

3645 Arizona Street  
Sulphur, LA 70663  
(318) 583-6926

**Page:** 26
## QUALITY ASSURANCE REPORT
### 12/28/93

**JOB NUMBER:** 934595  
**CUSTOMER:** ECO SOLUTIONS  
**ATTN:** BEN SIEGEL  
**ANALYSIS:**

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**UNITS:** mg/L  
**DATE/TIME ANALYZED:** 12/16/93 17:11  
**METHOD REFERENCE:** EPA/200.7  
**TECHNICIAN:** NDF  
**QC BATCH NUMBER:** 967682

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**UNITS:** mg/L  
**DATE/TIME ANALYZED:** 12/16/93 17:11  
**METHOD REFERENCE:** EPA/200.7  
**TECHNICIAN:** NDF  
**QC BATCH NUMBER:** 967684

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**METHOD REFERENCE:** EPA/200.7  
**TECHNICIAN:** NDF  
**QC BATCH NUMBER:** 967687

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**PARAMETER:** Silver (Ag), total  
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**DATE/TIME ANALYZED:** 12/16/93 17:11  
**METHOD REFERENCE:** EPA/200.7  
**TECHNICIAN:** NDF  
**QC BATCH NUMBER:** 967688

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3645 Arizona Street  
Sulphur, LA 70663  
(318) 583-4926

**PAGE:** 27

*All results reported in this report are based upon observations and materials supplied by the client for which exclusive and confidential use of this report has been made. The interpretations or opinions expressed were

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# QUALITY ASSURANCE REPORT

12/28/93

### ANALYSIS

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3645 Arizona Street
Sulphur, LA 70663
(318) 583-4926
NC = Not Calculable due to values lower than the reporting limit
ND = Analyte Not Detected above the quantitation limit

The detection limit and units reported in the Quality Assurance (QA) Report may not coincide with the values reported in the Analytical Report because the data presented in the QA Report may not account for sample preparation and dilutions performed.

The date and time analyzed on the Quality Assurance Report may not reflect the actual date and/or time of analysis.

Results for soil samples are reported on a wet weight basis (unless otherwise indicated).

Cited Methods are obtained from the following documents:
- EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983
- Federal Register, Friday, October 26, 1984 (40 CFR Part 136)

Numerical values expressed in the "LIMITS/DILUTION" column are Method Quantitation Limits (MQL). A final result of "ND" should be considered as "less than the MQL" (<MQL) unless it is noted otherwise.

S U B C O N T R A C T E D   L A B O R A T O R Y   L O C A T I O N S

CORE Laboratories:
- *AN
- *AU
- *CR
- *CA
- *CC
- *HR
- *HP
- *LB
- *NO

Other Laboratories:
- Saybolt
- *01
- Caleb Brett
- *02
- Maxim
- *03
- Southwestern Labs
- *04
- Analytichem
- *05

For analysis performed by a subcontract laboratory, an "*" and the designated laboratory code is indicated in the "TECH" column of the laboratory test results report.

3645 Arizona Street
Sulphur, LA 70663
(318) 583-4926
Appendix D

NORM Meter Calibration Certificate
CERTIFICATE OF CALIBRATION

Ludlum Model 19

CUSTOMER: Institute of Basic Technology
ORDER NO: 200255

Cal. Date: 5-22-93  Cal. Due Date: 11-22-93  Cal. Interval: 6 mo.

Serial No: 85934  Meterface: 202-527

Check Mark (✓) applies to applicable instrument in accordance with manufacturers specifications.

Temperature: 75°F  Relative Humidity: 50%  Alt: 7050 mm Hg  □ New Instrument

- Bat. ck. (min volt): 2.2  VDC Instrument Voltage setting: 726  Input sensitivity: 39 mV

Repair Instrument Received: □ Within Tolerance + -10%  □ 19-20%  □ Out Toler.  □ Requiring Repair

COMMENTS:

<table>
<thead>
<tr>
<th>RANGE</th>
<th>REFERENCE CAL POINT</th>
<th>INSTRUMENT METER READING*</th>
<th>INSTRUMENT RECORD AS FOUND READING</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000</td>
<td>4000 uR/hr</td>
<td>4.000</td>
<td>4.000</td>
</tr>
<tr>
<td>5000</td>
<td>1000 uR/hr</td>
<td>1.050</td>
<td>1.050</td>
</tr>
<tr>
<td>500</td>
<td>400 uR/hr ≈ 71.4K c.p.m</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>500</td>
<td>100 uR/hr ≈ 17.8K</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>250</td>
<td>200 uR/hr ≈ 34.6K</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>250</td>
<td>100 uR/hr ≈ 17.8K</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>50</td>
<td>71.4 K c.p.m</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>50</td>
<td>1.78K</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>25</td>
<td>3.46K</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>25</td>
<td>1.73K</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Ranges Calibrated Electronically: 50, 25

*Uncertainty Within + -10%, C. I. F. Within + -20%

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL. STD 4566A and ANSI N293-1978.

Source used: 137Cesium 1.9 mCi s/n M565

TX License No. LO 1963

Model 500 s/n 57855  Oscilloscope s/n 0060549  Multimeter s/n 00

Calibrated by: Bill Hemm  Date: 5-22-93

Reviewed by: Delley Prior  Date: 5-23-93
Section 6.0

Plug and Abandonment of Geothermal Wells
FIGURE 1-1

EOC/DOE Pleasant Bayou Test Site
Brazoria County, Texas

LEGEND

PG  • WELL TEST SITE

CITY OR TOWN

- - - - - - -
TEST SITE DIRECTIONS

From EATON OFFICE:

Take Interstate Highway (I-10) east to Loop 610. Turn right (SOUTH) on Loop 610 and follow around (EAST) to State Highway (SH) 288. Turn right (SOUTH) on SH-288 and follow to SH-6. Turn left (SOUTHEAST) on SH-6 and follow to SH-35. Turn right (SOUTH) on SH-35 and follow to Farm-to-Market road (FM) 2403. Turn left (SOUTH) on FM-2403 and follow to FM-2917. Turn left (SOUTHEAST) on FM 2917 and follow road 3.2 miles past the railroad tracks to gravel road on right. (NOTE: The gravel road is immediately preceded by a culvert bridge). Two location identification signs are posted at the entrance to the gravel road and are labeled: “U.S. DOE/EATON GEOPRESSURED—GEOTHERMAL TEST SITE”. The gravel road extends approximately 3 miles, terminating at well location.
Note: Measurements from the Pleasant Bayou No. 2 to the existing production equipment are approximate at best and should be recognized as such.

Well Location Map

EATON-KPP
Notice of Intention to Plug and Abandon

Operators must comply with RRC plugging procedures as outlined on the reverse side.

Operator's Name and Address (Exactly as shown on Form P.S. Organization Report)

Eaton Operating Company
1240 Blalock Suite 100
Houston, Texas 77055

3. RRC District No.

03

4. County of Well Site

Brazoria

5. API No.

42-0893138

6. Drilling Permit No.

7. Rule 37 Case No.

8. Oil Lease No. or Gas Well No.

097007

9. Well No.

10. RRC Operator Number

129765

Field Name (Exactly as shown on RRC records)
Pleasant Bayou

II. Lease Name

Type of well

1 - oil
2 - gas
3 - disposal
4 - injection
5 - other (specify)

Enter appropriate no. in box:

Type of completion

1 - Single
2 - Multiple

Total depth

16,500

If there are wells in this area which are producing from or have produced from a shallower zone, state depth of zone.

Distance (in miles) and direction from a nearby town in this county (name the town).

12 mi S/AVIN

Has notice of intent to plug been filed previously for this well?

Yes [X] No

Record of perforated intervals or open hole

Name and address of cementing company or contractor

Dickey Addison

Comp. Engr.

Signature

RRC District Office Action

Rev. 7/11/83 483-024
The base of usable-quality water that must be protected is estimated to occur at a depth of 1300 feet below the land surface. Moreover, the interval from the land surface to a depth of 200 feet and the fresh water contained in the ZONE from a depth of 725 feet to 900 feet must be isolated from water in underlying and overlying beds.
RAILROAD COMMISSION
Oil and Gas Division

Notice of Intention to Plug and Abandon

Operators must comply with RRC plugging procedures as outlined on the reverse side.

Eaton Operating Company
1240 Blalock Suite 100
Houston, Texas 77055

3. RRC District No. 03
4. County of Well Site Brazoria

5. API No. 42-08731236
6. Drilling Permit No. 097606

7. Rule 37 Case No.

10. Field Name (Exactly as shown on RRC records) Pleasant Bayou #1 SWD
11. Lease Name

12. Location
- Section No. 18
- Block No. 14
- Survey Brazoria League
- Abstract No. A:107
- Abstract No. 16

13. Type of well
- oil
- gas
- injection

14. Type of completion
- Single
- Multiple

15. Total depth

16. Usable-quality water present (as determined by Texas Dept. of Water Resources) occurs at a depth of

17. If there are wells in this area which are producing from or have produced from a shallower zone, state depth of zone.

18. Casing record (list all casing in well)

<table>
<thead>
<tr>
<th>Size</th>
<th>Depth</th>
<th>Cement (ft)</th>
<th>Drilled hole size</th>
<th>Top of cement (ft)</th>
<th>Temperature Survey</th>
<th>Calculated Cement bond log</th>
<th>Anticipated casing recovery (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 3/4&quot;</td>
<td>8,461</td>
<td>6,500</td>
<td>17 1/2</td>
<td>Supef</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 5/8&quot;</td>
<td>5,990</td>
<td>13,000</td>
<td>12 1/4</td>
<td>Supef</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 3/4&quot;</td>
<td>18,19</td>
<td>1,500</td>
<td></td>
<td>Supef</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. Has notice of intent to plug been filed previously for this well?
- Yes
- No

20. Plugging proposal (List all bridge and cement plugs. Load the hole with at least 9.5 lbs. per gallon mud)

- 1. 050
- 2. 070
- 3. 020
- 4. 050
- 5. 020
- 6. 020
- 7. 020
- 8. 020

21. Record of perforated intervals or open hole

- Perforations: 6,060-6,538
- Open: X
- Plugged: 
- Plugging method

22. Name and address of cementing company or contractor

Becky Addison
316-261-0295

Date of person Becky Addison

23. Anticipated plugging date for this well is 6 25 93

Type of person Becky Addison

Becky Addison

Date of person Becky Addison

RRC District Office Action

Expiration date 12/21/93

Type of person Becky Addison

Date of person Becky Addison
THE INFORMATION REQUESTED IS ESSENTIAL IN ORDER FOR THIS AGENCY TO PROVIDE AN APPROPRIATE RESPONSE. PLEASE ALLOW FOR RECEIPT OF THIS FORM IN OUR OFFICES AT LEAST ONE WEEK BEFORE YOUR OPERATION BEGINS. DUE TO THE VOLUME OF THESE REQUESTS, IT IS DIFFICULT FOR US TO HANDLE TELEPHONE INQUIRIES, AND SUCH ONLY SERVE TO DELAY THE PROCESSING OF THESE FORMS. COMPLETE, KEEP THE BOTTOM SHEET (YELLOW) FOR YOUR FILES, AND MAIL THE TOP SHEET TO THE 4TH SET OF CARBON-BACKED FORMS TO THE ADDRESS BELOW; ONE OF THEM WILL BE RETURNED TO YOU BEARING OUR RESPONSE AND ONE WILL BE SENT TO THE APPROPRIATE DISTRICT OFFICE OF THE RAILROAD COMMISSION. FOR QUESTIONS PHONES: 512/463-6003.

**Surface Casing**
Texas Water Commission
P.O. Box 13087
Austin, TX 78711-3087

Becky Addison 318-261-0295

**Company (operator's name as on RRC Form W-1)**
Eaton Operating Company 1240 Blalock Suite 100

**Mailing Address**
Houston, TX 77055

**COUNTY** Brazoria
**Survey Name** Perry & Austin League
**Relocation Name** Pleasant Bayou #1 SWD
**Lot No.**
**Well No.** 1

**Block No.**
**Township**
**Section or Survey No.**

**Distances, in feet, and directions measured at right angles from each of two intersecting Section or Survey lines (NOT LEASE LINES)**
11744 feet from NE line and 1079 feet from SW line

**Distance (in miles) and direction from a nearby town in this County (name the town)**
11 Miles South of Alvin

**THE ABOVE INFORMATION IN THIS BLOCK MUST BE COMPLETE AND CORRECT!!!**

**RRC Lease No.** 097606
**RRC Dist. No.** 033

**Elevation (if avail.)**
**Proposed Total Depth** 15,070
**Geologic Fm. at T.D.**

**Purpose of the Request:**
- [ ] New Drill
- [ ] Re-entry
- [ ] Plug & Abd.
- [ ] Other (specify) [z]

**Is this an amended request?**
[ ] Yes
[ ] No

**Give previous well No. for this well: SU**

**Additional data (check if attached):**

**Log of same or nearby well**

(The applicable type of well log of a nearby well that shows the aquifers.)

**ALWAYS attach the electric log of any well that is to be reentered:**

**Additional remarks:***

**SUR-PERRY & AUSTIN LEASE-PLEASANT BAYOU #1 SWD, A-107, E75/1300, 200, ZONE 725, 9**

The TEXAS WATER COMMISSION'S recommendation for the protection of usable-quality ground water at the referenced location.

**The base of usable-quality water that must be protected is estimated to occur at a depth of 1300 feet below the land surface. Moreover, the interval from the land surf to a depth of 200 feet and the fresh water contained in the ZONE from a depth of 725 feet to 900 feet must be isolated from water in underlying and overlying beds.**

Very truly Yours,
Steven L. White

RECEIVED JUN 28 1993
Geologists, Procurement Div.
RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH
WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

2. FIELD NAME (as per RRC Records)
   Pleasant Bayou (Frio-Geothermal)

3. Lease Name
   Pleasant Bayou #1 SWD

4. Operator
   DEO / Eaton Operator Co.

5. Well Number
   1

6. Location of Well, Relative to Nearest Lease Boundaries
   of Lease on which this Well is Located

7. Section, Block, and Survey
   Perry & Austin League A-107

8. Type Well
   Oil & Gas

9. Distance and Direction from Nearest Town in this
   County
   12 Miles South of Alvin

10. Total Depth
    15,676

11. GAS ID or OIL LEASE #
    
12. OIL OR GAS #
    
13. Dated Drilling Completed
    1/3/94

14. If Multiple Completion List All Field Names and Oil Lease or Gas ID Nos.

15. Dated Drilling Completed

16. If Gas, Am. of Cond. on
    Hand at time of Plugging

17. Plugging Record

18. CEMENTING TO PLUG AND ABANDON DATA:

<table>
<thead>
<tr>
<th>PLUG #1</th>
<th>PLUG #2</th>
<th>PLUG #3</th>
<th>PLUG #4</th>
<th>PLUG #5</th>
<th>PLUG #6</th>
<th>PLUG #7</th>
<th>PLUG #8</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/27/93</td>
<td>12/29/93</td>
<td>12/29/93</td>
<td>12/30/93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. Cementing Date

20. Size of Hole or Pipe in which Plug Placed (inches)
   13 3/8 9 5/8 9 5/8 9 5/8

21. Depth to Bottom of Tubing or Drill Pipe (ft.)
   6060 1380 950 430

22. Sacks of Cement Used (each plug)
   150

23. Slurry Volume Pumped (cu. ft.)
   106.00 53 121.90 169.60

24. Measured Top of Plug (ft.)
   5950 1250 650 5

25. Slurry Wt. #/Gal.
   16.4

26. Type Cement

27. Class H

28. CASING AND TUBING RECORD AFTER PLUGGING

<table>
<thead>
<tr>
<th>SIZE W/M FT. PUT IN WELL (ft.)</th>
<th>LEFT IN WELL (ft.)</th>
<th>HOLE SIZE (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 3/8</td>
<td>72</td>
<td>8481</td>
</tr>
<tr>
<td>9 5/8</td>
<td>45.50</td>
<td>5990</td>
</tr>
<tr>
<td>48</td>
<td>43</td>
<td>Driver</td>
</tr>
<tr>
<td>1314</td>
<td>1314</td>
<td>Surf</td>
</tr>
</tbody>
</table>

29. Was any Non-Drillable Material (Other than Casing) Left in This Well

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>6060</td>
<td>6538</td>
</tr>
<tr>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>12</td>
</tr>
</tbody>
</table>

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.

Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

CERTIFICATE:

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature of Cementer or Authorized Representative

Raw Drilling & Well Serv., Inc.
Name of Cementing Company

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION
31. Was Well filled with Mud - Laden Fluid, according to the regulations of the Railroad Commission: Yes [x] No

32. How was Mud Applied? Thru Tubing

33. Mud Weight 9.6 LBS/G

34. Total Depth 15,676

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? Yes [x] No

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well PAW Drilling & Well Serv. Inc. 101 Galbert Rd. Lafayette, la 70506

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

39. Was Notice Given Before Plugging to Each of the Above? YES

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

   Log Attached [ ] Log released to [ ] Date [ ]

   Type Logs:
   [ ] Driller's [ ] Electric [ ] Radioactivity [ ] Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed? [ ]

42. Amount of Oil produced prior to Plugging [ ] bbls

   * File FORM P-1 (Oil Production Report) for month this oil was produced.

   RRC USE ONLY
   Nearest Field

REMARKS


CEMENTING TO PLUG AND ABANDON

<table>
<thead>
<tr>
<th>CEMENTING TO PLUG AND ABANDON</th>
<th>PLUG * 1</th>
<th>PLUG * 2</th>
<th>PLUG * 3</th>
<th>PLUG * 4</th>
<th>PLUG * 5</th>
<th>PLUG * 6</th>
<th>PLUG * 7</th>
<th>PLUG * 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Depth to bottom of tubing or drill pipe (ft.)</td>
<td>6060</td>
<td>1380</td>
<td>950</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Sacks of cement used (each plug)</td>
<td>150</td>
<td>50</td>
<td>115</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Slurry volume pumped (cu. ft.)</td>
<td>106.00</td>
<td>53</td>
<td>121.90</td>
<td>169.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Calculated top of plug (ft.)</td>
<td>5050</td>
<td>1250</td>
<td>650</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Measured top of plug, if tagged (ft.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Slurry wt. (lbs/gal)</td>
<td>16.4</td>
<td>16.4</td>
<td>16.4</td>
<td>16.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Type cement</td>
<td>CLASS H</td>
<td>CLASS H</td>
<td>CLASS H</td>
<td>CLASS H</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certificate, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certificate covers cementing data only.

Douglass Touchet
Name and title of cementer’s representative
101 Calbert Rd
Lafayette, LA 70506
Address
918-261-0395
Phone
1-3-94
Date

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers well data.

David W. Newman
Title
5 DOE Place
Idaho Falls, ID 83401
Address
(208) 526-5742
Phone
2-22-94
Date

Instructions to Form W-15, Cementing Report

IMPORTANT: Operators and cementing companies must comply with the requirements of the Commission’s Statewide Rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion), and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

A. What to file. An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. Form W-15 should be filed with the following:

- An initial oil or gas completion report, Form W-2 or G-1, as required by Statewide or special field rules;
- Form W-4, Application for Multiple Completion, if the well is a multiple parallel casing completion; and
- Form W-3, Plugging Record, unless the W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

B. Where to file. The appropriate Commission District Office for the county in which the well is located.

C. Surface casing. An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Texas Department of Water Resources, Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, an operator must obtain a letter from the Department of Water Resources stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

D. Centralizers. Surface casing must be centralized at the shoe, above and below a stage collar or diverting tool. If run, through usable-quality water zones. In nondedicated holes, a centralizer must be placed every fourth joint from the cement shoe to the ground surface or to the bottom of the collar. All centralizers must meet API specifications.

E. Exceptions and alternative casing programs. The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. An operator must obtain approval of any exceptions to begin casing and cementing operations.

F. Intermediate and production casing. For specific technical requirements, operators should consult Statewide Rule 13 (b)(3) and (4).

G. Plugging and abandoning. Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement plugs. For onshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
# RAILROAD COMMISSION OF TEXAS
## Oil and Gas Division

### Form W-15

**Cementing Report**

**Rev. 4/1/83**

**483-045**

### Operator's Name (As shown on Form P-5, Organization Report)

**ECO/EATON OPERATOR CO.**

### 2. RRC Operator No.

**097606**

### 3. RRC District No.

**03**

### 4. County of Well Site

**BRAZORIA**

### 5. Wildcat or exactly as shown on RRC records

**SANT BAYOU (FRIHO-CHEOTHERMAL)**

### 6. API No.

**42-03931236**

### 7. Drilling Permit No.

### 9. Rule 37 Case No.

### 10. Oil Lease/Gas ID No.

### 11. Well No.

**PLEASANT BAYOU #1 SWD**

<table>
<thead>
<tr>
<th>USING CEMENTING DATA:</th>
<th>SURFACE CASING</th>
<th>INTERMEDIATE CASING</th>
<th>PRODUCTION CASING</th>
<th>MULTI-STAGE CEMENTING PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cementing Date</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Drilled hole size</td>
<td></td>
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<tr>
<td>3. Est. % wash or hole enlargement</td>
<td></td>
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<tr>
<td>4. Size of casing (in. O.D.)</td>
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<tr>
<td>5. Top of liner (ft.)</td>
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<tr>
<td>6. Setting depth (ft.)</td>
<td></td>
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<tr>
<td>7. Number of centralizers used</td>
<td></td>
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<tr>
<td>8. Time, waiting on cement before drill-out</td>
<td></td>
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<tr>
<td>19. API cement used: No. of sacks</td>
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<tr>
<td>Class</td>
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<tr>
<td>Additives</td>
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<tr>
<td>No. of sacks</td>
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<tr>
<td>Class</td>
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<td>Additives</td>
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<td>No. of sacks</td>
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<td>Additives</td>
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<tr>
<td>20. Slurry pumped: Volume (cu. ft.)</td>
<td></td>
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<tr>
<td>Height (ft.)</td>
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<tr>
<td>Volume (cu. ft.)</td>
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<td>Height (ft.)</td>
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<tr>
<td>Height (ft.)</td>
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<tr>
<td>Has cement circulated to ground surface or bottom of casing?</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Remarks

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**OVER**
### RAILROAD COMMISSION OF TEXAS
### OIL AND GAS DIVISION

**FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING**

<table>
<thead>
<tr>
<th>1. RRC District</th>
<th>03</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. FIELD NAME (as per RRC Records)</td>
<td>PLEASANT PAVU (FRID-GUERERMAL)</td>
</tr>
<tr>
<td>3. Lease Name</td>
<td>PLEASANT PAVU</td>
</tr>
<tr>
<td>4. RRC Lease or Id. Number</td>
<td>097607</td>
</tr>
<tr>
<td>5. Well Number</td>
<td>2</td>
</tr>
<tr>
<td>6. OPERATOR</td>
<td>DEO / EXAN OPERATING CO.</td>
</tr>
<tr>
<td>7. ADDRESS</td>
<td>P.O. BOX 1625 HAIN FALLS, ID 83415</td>
</tr>
<tr>
<td>8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located</td>
<td></td>
</tr>
<tr>
<td>Feet From</td>
<td>Line and</td>
</tr>
<tr>
<td>Line of the</td>
<td>Lease</td>
</tr>
<tr>
<td>9. DISTANCE, BLOCK, AND SURVEY</td>
<td>PERRY &amp; AILESTIN A-107</td>
</tr>
<tr>
<td>10. County</td>
<td>BLAGORA</td>
</tr>
<tr>
<td>11. Date Drilling Permit Issued</td>
<td></td>
</tr>
<tr>
<td>12. Permit Number</td>
<td></td>
</tr>
<tr>
<td>13. Date Drilling Commenced</td>
<td></td>
</tr>
<tr>
<td>14. Date Drilling Completed</td>
<td></td>
</tr>
<tr>
<td>15. Date Well Plugged</td>
<td>12/21/93</td>
</tr>
<tr>
<td>16. Type Well (Oil, Gas, Dry)</td>
<td>GAS</td>
</tr>
<tr>
<td>17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s</td>
<td>SINGLE</td>
</tr>
<tr>
<td>GAS ID or OIL LEASE #</td>
<td>OIL-G</td>
</tr>
<tr>
<td>18. If Gas, Amt. of Cond. on Hand at time of Plugging</td>
<td></td>
</tr>
<tr>
<td>19. CEMENTING TO PLUG AND ABANDON DATA:</td>
<td></td>
</tr>
<tr>
<td>PLUG #1</td>
<td>PLUG #2</td>
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<tr>
<td>12/2/93</td>
<td>12/4/93</td>
</tr>
<tr>
<td>20. Size of Hole or Pipe in which Plug Placed (inches)</td>
<td>7 &amp; 5/8</td>
</tr>
<tr>
<td>21. Depth to Bottom of Tubing or Drill Pipe (ft.)</td>
<td>14,704</td>
</tr>
<tr>
<td>22. Sacks of Cement Used (each plug)</td>
<td>300</td>
</tr>
<tr>
<td>23. Slurry Volume Pumped (cu. ft.)</td>
<td>432</td>
</tr>
<tr>
<td>24. Calculated Top of Plug (ft.)</td>
<td>12,220</td>
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<tr>
<td>25. Measured Top of Plug (if tagged) (ft.)</td>
<td>15.6</td>
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<td>27. Slurry Wt. #/Gal.</td>
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**CASING AND TUBING RECORD AFTER PLUGGING**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>WT. #/FT. PUT IN WELL (ft.)</th>
<th>LEFT IN WELL (ft.)</th>
<th>HOLE SIZE (in.)</th>
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</thead>
<tbody>
<tr>
<td>20</td>
<td>1395</td>
<td>1390</td>
<td>SURF</td>
</tr>
<tr>
<td>13 3/8</td>
<td>8488</td>
<td>8483</td>
<td>13/8</td>
</tr>
<tr>
<td>9 5/8</td>
<td>54.50 14284</td>
<td>14279</td>
<td>12/16</td>
</tr>
<tr>
<td>5 7/8</td>
<td>20 13567</td>
<td>4987</td>
<td>8 3/4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SIZE</th>
<th>WT. #/FT. PUT IN WELL (ft.)</th>
<th>LEFT IN WELL (ft.)</th>
<th>HOLE SIZE (in.)</th>
</tr>
</thead>
<tbody>
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<td>20</td>
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<td>13 3/8</td>
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<td>14279</td>
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</tr>
<tr>
<td>5 7/8</td>
<td>20 13567</td>
<td>4987</td>
<td>8 3/4</td>
</tr>
</tbody>
</table>

**LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS**

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>14644</td>
<td>14704</td>
</tr>
</tbody>
</table>

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.

*Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.*

**Certificate:**

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

**Signature:** REPRESENTATIVE OF RAILROAD COMMISSION

**Signature:** REPRESENTATIVE OF CEMENTING COMPANY
31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission

Yes ☑️ No ☐

32. How was Mud Applied?

33. Mud Weight

10' LB/GAL

34. Total Depth

16,500

Other Fresh Water Zones by T.D.W.R.

TOP

BOTTOM

Depth of Deepest Fresh Water

1300'

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules?

Yes ☑️ No ☐

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well

PAW DRILLING & WELL SERVICE, INC. 101 GALBERT RD LAFAYETTE, LA 70506

Date RRC District Office notified of plugging 6/25/93

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

U.S. Department Of Energy

785 DOE Place

Idaho Falls, ID 83401

39. Was Notice Given Before Plugging to Each of the Above?

YES ☑️

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☐ Log Attached ☐ Log released to __________________________ Date __________

Type Logs:

☐ Driller's ☐ Electric ☐ Radioactivity ☐ Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging __________________________ bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field __________________________

REMARKS

____________________________________

____________________________________

____________________________________

____________________________________

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**CEMENTING TO PLUG AND ABANDON**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>12/2/93</td>
<td>7 &amp; 5/8</td>
<td>14,704</td>
<td>432</td>
<td>12,230</td>
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<td>7</td>
<td>12/21/93</td>
<td>9 5/8</td>
<td>250</td>
<td>159.00</td>
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**CEMENTER’S CERTIFICATE:** I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification. The cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

**DOUGLAS TOLGET**

Name and title of cementer’s representative

101 CALBERT RD

LAFAYETTE, LA 70506

City, State, Zip Code

Area Code Number

Date: mo. day yr.

**OPERATOR’S CERTIFICATE:** I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification. That I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

**David W. Newnam**

Typed or printed name of operator’s representative

785 DOE Place

Idaho Falls, ID 83401

City, State, Zip Code

Tel. Area Code Number

Date: mo. day yr.

**Instructions to Form W-15, Cementing Report**

**IMPORTANT:** Operators and cementing companies must comply with the requirements of the Commission’s Statewide Rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion), and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

**A. What to file.** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. Form W-15 should be filed with the following:

1. An initial oil or gas completion report. Form W-2 or G-1, as required by Statewide or special field rules:
2. Form W-4, Application for Multiple Completion, if the well is a multiple parallel casing completion:
3. Form W-3, Plugging Record, unless the W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

**B. Where to file.** The appropriate Commission District Office for the county in which the well is located.

**C. Surface casing.** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Texas Department of Water Resources. Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, an operator must obtain a letter from the Department of Water Resources stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

**D. Centralizers.** Surface casing must be centralized at the shoe, above and below a stage collar or diverting tool, if run, and through usable-quality water zones. In nondeviated holes, a centralizer must be placed every fourth joint from the cement shoe to the ground surface or to the bottom of the cellar. All centralizers must meet API specifications.

**E. Exceptions and alternative casing programs.** The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. An operator must obtain approval of any exception before beginning casing and cementing operations.

**F. Intermediate and production casing.** For specific technical requirements, operators should consult Statewide Rule 13 (b) (3) and (4).

**Plugging and abandoning.** Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement. For offshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus 10 percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.
## Cementing Report

### Operator's Name
- Eaton Operating Co.

### Field Name
- Pleasant Bayou (Frio-Geothermal)

### Lease Name
- Pleasant Bayou

### County of Well Site
- Brazoria

### API No.
- 42-03931358

### Drilling Permit No.
- 2

### Oil Lease/Gas ID No.
- 097607

### Well No.
- 2

### Cementing Data:

<table>
<thead>
<tr>
<th>Surface Casing</th>
<th>Intermediate Casing</th>
<th>Production Casing</th>
<th>Multi-Stage Cementing Process</th>
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<tbody>
<tr>
<td>Drilling Date</td>
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<tr>
<td>Drilled hole size</td>
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<td></td>
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<tr>
<td>Est. % wash or hole enlargement</td>
<td></td>
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</tr>
<tr>
<td>Size of casing (in. O.D.)</td>
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<tr>
<td>Top of liner (ft.)</td>
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</tr>
<tr>
<td>Setting depth (ft.)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>No. of centralizers used</td>
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<tr>
<td>Hrs. waiting on cement before drill-out</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 19. API cement used:
- No. of sacks
  - Class
  - Additives

### 20. Slurry pumped:
- Volume (cu. ft.)
  - Height (ft.)
- Additional columns for multiple strings, tools, and shoes.

### Remarks
- Has cement circulated to ground surface (or bottom of cellar) outside casing?

### Additional Columns
- Single String
- Multiple Parallel Strings
- Tool
- Shoe
CEMENTING TO PLUG AND ABANDON

<table>
<thead>
<tr>
<th>CEMENTING TO PLUG AND ABANDON</th>
<th>PLUG #1</th>
<th>PLUG #2</th>
<th>PLUG #3</th>
<th>PLUG #4</th>
<th>PLUG #5</th>
<th>PLUG #6</th>
<th>PLUG #7</th>
<th>PLUG #8</th>
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<td>Rating date</td>
<td>12/2/93</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Name and title of cementing representative</td>
<td></td>
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<td></td>
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<tr>
<td>Name and title of operator's representative</td>
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</tr>
<tr>
<td>Signature</td>
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<tr>
<td>Date</td>
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<td></td>
</tr>
</tbody>
</table>
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SERGIO GONZALEZ-SERVICE SUPERVISOR

BJ SERVICES CO.

Cementing Company

Address: 2608 PLAINVIEW, P.O. BOX 3630, VICTORIA TX 77903

City: State: Zip Code: Tel.: Area Code: Number:

Date: ma. day yr.

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F. Intermediate and production casing. For specific technical requirements, operators should consult Statewide Rule 13 (b), (3), and (4).

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<table>
<thead>
<tr>
<th>Casing Cementing Data:</th>
<th>Surface Casing</th>
<th>Intermediate Casing</th>
<th>Production Casing</th>
<th>Multi-Stage Cementing Process</th>
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</thead>
<tbody>
<tr>
<td>No. 1 String</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No. of sacks</td>
<td></td>
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<tr>
<td>Class</td>
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<tr>
<td>Additives</td>
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<tr>
<td>No. 2 String</td>
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<td></td>
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<tr>
<td>No. of sacks</td>
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<tr>
<td>Class</td>
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<tr>
<td>Additives</td>
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</tr>
<tr>
<td>No. 3 String</td>
<td></td>
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<tr>
<td>No. of sacks</td>
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<td>Class</td>
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<td>Additives</td>
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<table>
<thead>
<tr>
<th>20. Slurry pumped:</th>
<th>Volume (cu. ft.)</th>
<th>Height (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Was cement circulated to ground surface (or bottom of casing) outside casing? 

22. Remarks

Cement: Fill in shaded areas.
Operator: Fill in other items.
1. CHECK AND RECORD ALL TUBING AND CASING PRESSURES. FILL TUBING AND CASING WITH 13.8#/GAL PLUG MUD. KILL WELL AS NEEDED.

   NOTE: IF UNABLE TO PUMP INTO WELL, RUN THRU TUBING PLUG AND PUMP 100’ CEMENT ON TOP OF PLUG. CAAL WILL BE PUMPED INTO EXISTING SWD.

2. RIG UP PUMP ON 5 1/2 P-110 TUBING AND BULLHEAD SQUEEZE THE PERFS DOWN THE 5 1/2 TUBING WITH 100 SKS CLASS H CMT. DISPLACE CMT WITH 300 BBlS PLUG MUD. PLUG WILL BE FROM 14,704 - 14,576'. LET PLUG SET A MINIMUM OF 24 HOURS. PRESSURE OR TAG PLUG.

3. MOVE ON LOCATION WITH P&A EQUIPMENT. HOLD SAFETY MEETING, DISCUSS PROCEDURES AND WORK SCHEDULE.

4. PERFORATE 5 1/2 AT TOP OF PACKER AND PUMP 240' CMT PLUG ACROSS LINER HANGER. RIH WITH S/L EXPLOSIVES. CUT 5 1/2 TUBING ABOVE PLUG. LAY DOWN TUBING. CIRCULATE PROPERLY WEIGHTED PLUG MUD UP ALL ANNULIS (9.5#/GAL MINIMUM). PICK UP W/S GIH TO 8050' MIX AND PUMP 25 SKS CMT PLG AT 8050 - 7950, POOH TO 7500', TAG POOH WITH W/S.

5. GIH WITH S/L AND CUT 9 5/8 CASING AT +/- 5000'. LAY DOWN CASING.

6. RIH TO CASING STUB AT +/- 5000'. PUMP 140 SX CMT PLUG FROM 5100' TO 4900' (100' IN AND 100' OUT).

7. POOH TO 4700' WAIT ON CMT.

8. GO IN HOLE TO TOP OF PLUG AT 4900' TAG CMT.

9. POOH TO 1400' MIX AND PUMP 115 SX CMT PLUG 1400' TO 1250'.

10. POOH TO 1100' WOC. GIH TO TOP OF PLUG AND TAG.

11. POOH TO 950' MIX AND PUMP 80 SKS OF CMT PLUG FROM 950 - 850'

12. POOH TO 700' WOC, GIH TO TOP OF CMT AND TAG.
P&A PROCEDURE

EATON OPERATING
PLEASANT BAYOU #1 SWD
JULY 1, 1993

PROVIDED BY PAW DRILLING & WELL SERV, INC.

1. MOVE ON LOCATION WITH P&A EQUIPMENT. HOLD SAFETY MEETING, DISCUSS PROCEDURES AND WORK SCHEDULE.

2. CHECK AND RECORD ALL TUBING AND CASING PRESSURES. FILL TUBING AND CASING WITH 9.5#/GAL PLUG MUD. KILL WELL AS NEEDED.

3. RIG UP ON 5 1/2 TUBING AND BULLHEAD 150 SX CMT PLUG FROM 600-5950'.

4. RELEASE PKR AND CIRCULATE 9.5#/GAL PLUG MUD INTO ANNULUS. POOH WITH 5 1/2 TUBING. LD TUBING.

5. PU 2 3/8 W/S, GIH TO 1380', MIX AND PUMP 50 SX CMT PLUG FROM 1380 TO 1250'. POOH TO 1100' WOC. GIH AND TAG PLUG.

6. POOH TO 950' MIX AND PUMP 105 SX CMT PLUG FROM 950'-675', POOH TO 500' WOC, GIH TO TOP OF PLUG AND TAG.

7. POOH TO 250' MIX AND PUMP 75 SX CMT PLUG FROM 250'-150', POOH TO 50' WOC, GIH TO TOP OF PLUG AND TAG.

8. POOH AND LAY DOWN.

9. MIX AND PUMP 25 SX FOR TOP PLUG FROM 55 - 5'

10. CUT ALL CSG 4' BELOW G/L AND WELD PLATE ON TOP.

11. RESTORE LOCATION TO CONDITION PRIOR TO P&A OPERATION.


1. Move on location w/ P&A equipment. Hold safety meeting, discuss procedures and work schedule.

2. Check and record all tubing and casing pressures. Fill tubing and casing with 9.5#/gal plug mud. Kill well as needed.

3. Rig up on 5 1/2'' tubing and bullhead 100 sx cement plug from 6,538' to 6,060'.

4. Release packer and circulate 9.5#/gal plug mud into annulus. POOH with 5 1/2'' tubing. Lay down tubing.

5. Pump 360 sx cement plug from 400' to 3'.
   Note: If base of USDW is above 400' (TOC 13-3/8 X 9 5/8'' annulus), RU S/L & perf 9 5/8'' and squeeze cement plug from 400' to surface.

6. Cut 9 5/8'' 40' BGL. Cut 20'' and 26'' casing 3' below ground level and weld steel plate on top of casing.

7. Restore location to condition prior to P&A operation. RDMO.

Note: If required by state regulations, all plugs will be pressure tested or tagged and a plug will be placed across the lowest known USDW.
DAILY WORKOVER REPORT

COMPANY: BOE

FIELD: Pleasant Bayou

LEASE: Long Austin

WELL NO.: 2

PARISH OR COUNTY: Bossier County, TX

STATE: Texas

RIG NO.: 5

Present Perforations: Present Packer Setting:

Total Depth: Present Depth: Type Plug:

SAFE MEETING

Make sure they in presence around and of equipment,

B.O.P. TEST PRESSURES

Productions Pressure Setting

DRILL DEEPER

800-920 AM Field safety Meeting 5:30-9:00 AM Check tubing from 3700 & 3700 on casing 9:00 am Post Bucking controls off crew go out

RIG EXPENSE

SUPPLIES

FUEL

ACCIDENTS

SUPPLY REQUEST

©-17

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT 10

HRS @ $ 1

PIPE WIPER

SLIP INSERT

DRILLER

FOUCHET

T I W

DERICK MAN

Fouchet

STRIPPER

PIPE RACK

HELP M. MCDONALD

POWER SUB

SHAKER

HELP I. STEVENS

TRUCKING

2ND PUMP

TRUCKER

GENERATOR

CENTRIFUGAL

EXTRA LABOR

GUARD

SUPPLIES

PIPE DOWH

RAMS

MISC

LONG DIES

TOOL PUSHER: Doug Fouchet

COMPANY REPRESENTATIVE:

JOB NO: 26-S

ORDER NO:

CONTRACT NO:

JOB 26-S

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.
DAILY WORKOVER REPORT

COMPANY: JOE

FIELD: Pleasant Bayou

LEASE: Terry Austin

WELL NO: 2

PARISH OR COUNTY: Brazoria County TX

STATE: Texas

RIG NO: 5

PRESENT PERFORATIONS:

TOTAL DEPTH:

PRESENT DEPTH:

TYPE PLUG:

SAFETY MEETING

Last Casing Setting

<table>
<thead>
<tr>
<th>Last Casing Setting</th>
<th>Screen Setting</th>
<th>Tubing Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size</td>
<td>Depth</td>
</tr>
</tbody>
</table>

B. O. P. TEST PRESSURES

Rams

Make & Model

Production Pressure Setting

Closing Depth

Bit Size

DRILL DEEPER

Wels No.

Parish or County

State

600-830-25hrs Pull tree stand 8 flow line away from tree

830-930-15hrs Spot beam 8 rig 8 tank with mud pump

9:30-10hrs RIG I put out anchor 8 guy wires

10:30-10 hrs pump water out of flat to big tanks

RIG EXPENSE

ACCIDENTS

YES NO

SUPPLIES

FUEL

TRUCKING

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT: 11 1/2 HRS @ $:

PIPEWIPER SLIP INSERT DRILLER D. THOMAS

DEISEL T.I.W. DERRICK MAN E. FORREST

STRIPPER PIPE RACK HELPER M. MOORE

POWER SUB. SHAKER HELPER D. STEVENS

TRUCKING 2nd PUMP HELPER

TICKET: 7662

REPORT NO: 2

DATE: 11-23-93

Pleasant Bayou Deep Pressure Water

Well #2 Brazoria County TX Boreal

VCF: 12-3-39 Terry Austin Survey A-107
DAILY WORKOVER REPORT

COMPANY: DOE

FIELD: Pleasant Brany LEASE: Tisdale Farm WELD NO. 2

PARISH OR COUNTY: Brazoria County STATE: Texas RIG NO. 2

Present perforations: Present packer setting:

Total Depth: Present Depth: Type Plug:

SAFETY MEETING:

B.O.P. TEST PRESSURES:

PRODUCTION PRESSURE SETTING:

DRILL DEEPER:

6.30 a.m. Field safety meeting & on Rig
7.45 a.m. Start back lines off equip on loco

RIG EXPENSE

ACCIDENTS

SUPPLIES

FUEL

TRUCKING

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT

HRS @ $1

PIPE WIPER

SLIP INSERT

DRILLER

UNIT

HRS @ $1

DIESEL

T.I.W.

DERRICK MAN.

POWER SUB.

SHAKER

TRUCKING

2nd PUMP

GENERATOR

CENTRIFUGAL

EXTRA LABOR

GUARD

SUPPLIES

PIPE DOPE

RAMS

MISC.

LONG DIES

TOOLPUSHER DOUGLAS TUCKER

COMPANY REPRESENTATIVE

JOB NO. 24.5 ORDER NO. 3 CONTRACT NO. JOB 24.5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1\% per month not to exceed 18\% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.

DATE: 11-24-93
DAILY WORKOVER REPORT

COMPANY: DOF

DATE: 11-30-93

FIELD: Pleasant Prairie LEASE: Pleasant Prairie, WELL NO.: 2

PARISH OR COUNTY: Tangipahoa PARISH: Tangipahoa, STATE: Louisiana, RIG NO.: 5

Present Perforations: Present Perforations: Present Packer Setting:

Total Depth: Present Depth: Type Plug:

SAFETY MEETING:

When present

Screen Setting

Size

Depth

Type

Tubing Setting

Size

Internal

Size

Type

B.O.P. TEST PRESSURES

PRODUCTION PRESSURE SETTING

NAME

Make & Model

Size

Opening Depth

Bit Type

Casing Setting

Depth

Closing Depth

Bit Size

Max Bit

Drill Deeper

2PM-3PM Held safety Meeting & sat Rig

8:30-9:30 got ready for Mud & cont spot 2 Mud

RIG EXPENSE

ACCIDENTS

YES

NO

SUPPLY REQUEST

SUPPLIES

FUEL

TRUCKING

2nd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT

HRS

Piper

Slip Insert

Driller

Derrick Man & Helper

Stripper

Pipe Rack

Helper

Power Sub.

Shaker

Helper

Trucking

2nd Pump

Helper

Generator

Centrifugal

Extra Labor

Guard

Supplies

Pipe Dope

Rams

Misc.

LONG DIES

TOOLPUSHER: Douglas Touchet

COMPANY REPRESENTATIVE

JOB NO: 26-5

ORDER NO: CONTRACT NO: JOB 26-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY:** DOF  
**DATE:** 12-1-93

**FIELD:** Pleasant Bayou  
**LEASE:** Tracy Action  
**WELL NO.:** 2

**PARISH OR COUNTY:** Dangoria County  
**STATE:** Texas  
**RIG NO.:** 5

Present Perforations  
Present Packer Setting

<table>
<thead>
<tr>
<th>Total Depth</th>
<th>Present Depth</th>
<th>Type Plug</th>
</tr>
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</table>

**SAFETY MEETING**

<table>
<thead>
<tr>
<th>Last Day of Year</th>
<th>Size</th>
<th>Screen Setting</th>
<th>Size</th>
<th>Tubing Setting</th>
<th>Size</th>
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<tbody>
<tr>
<td>Casting</td>
<td>Depth</td>
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**B. O. P. TEST PRESSURES**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Flow</th>
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**PRODUCTION PRESSURE SETTING**

<table>
<thead>
<tr>
<th>Make &amp; Model</th>
<th>Size</th>
<th>Depth</th>
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</thead>
</table>

**DRILL DEEPER**

<table>
<thead>
<tr>
<th>Closing Depth</th>
<th>Bit Size</th>
<th>Opening Depth</th>
<th>Bit Type</th>
<th>Footage Made</th>
</tr>
</thead>
</table>

6:20-6:45 am: Field safety meeting & see Rig & Egmon 
6:40-7:00 am: Get field set up ready to move off. Set up  
7:00-7:40 am: Take on 1000 gal mud with DFO 300@8L's

**PRESENT PERSONNEL**

<table>
<thead>
<tr>
<th>TOOLPUSHER</th>
<th>3rd PARTY CHARGES</th>
<th>PERSONNEL</th>
<th>TIME DISTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PIPER</td>
<td>SLIP INSERT</td>
<td>DRILLER</td>
</tr>
<tr>
<td></td>
<td>DIESEL</td>
<td>T.W.</td>
<td>DERRICK MAN</td>
</tr>
<tr>
<td></td>
<td>STRIPE</td>
<td>PIPE RACK</td>
<td>HELPER</td>
</tr>
<tr>
<td></td>
<td>POWER SUB</td>
<td>SHAKER</td>
<td>HELPER</td>
</tr>
<tr>
<td></td>
<td>TRUCKING</td>
<td>2ND PUMP</td>
<td>HELPER</td>
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<td>GENERATOR</td>
<td>CENTRIFUGAL</td>
<td>1st</td>
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<td></td>
<td>EXTRA LABOR</td>
<td>GUARD</td>
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<td>SUPPLIES</td>
<td>PIPE DOPE</td>
<td>1st</td>
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<td>RAMS</td>
<td>Misc</td>
<td>1st</td>
</tr>
<tr>
<td></td>
<td>LONG DIES</td>
<td>1st</td>
<td>1</td>
</tr>
</tbody>
</table>

**PRESENT PERSONNEL**

**COMPANY REPRESENTATIVE:**

**JOB NO.: 26-5**  
**ORDER NO.:**  
**CONTRACT NO.:**  
**JOB:** 24-5

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: DOE  DATE: 12-2-93

FIELD: Pleasant Bayou  LEASE: LaFayette  WELL NO.: 2

PARISH OR COUNTY: East Feliciana  STATE: LA  RIG NO.: 6

Present Perforations:

Total Depth  Present Depth  Type Plug

SAFETY MEETING:

TICKET 7655

DRILLING 6 WELL SERVICE, INC.

P.O. BOX 106  LAFAYETTE, LA 70506

Salt Water Jobs (318) 261-0295

Report No. 6

DAILY WORKOVER REPORT

DATE: 12-2-93

LEASE: Pleasant Bayou  WELL NO.: 2

PARISH OR COUNTY: East Feliciana  STATE: LA  RIG NO.: 6

Present Perforations:

Total Depth  Present Depth  Type Plug

SAFETY MEETING:

TICKET 7655

DRILLING 6 WELL SERVICE, INC.

P.O. BOX 106  LAFAYETTE, LA 70506

Salt Water Jobs (318) 261-0295

Report No. 6

1.00-7.00hrs. Field safety Meeting 2nd seal rig & Exon

700-9.00hrs. Test lines to 8000' & Take on pump unit

1100-12.00hrs. Inject rate 3BB1's @ 2500 100BB's @ 3700'

12.00-13.00hrs. Mix & change 150 KPS cont 9BB1's

13.00-15.00hrs. Ridge cont with 10' mud age. off with

25' BB1's behind cont @ 5000' top off cont Est. @ 12.30hrs

200-3.00hrs. Shut well in & 2W. BJ

7.00-8.00hrs. Load balls on tree left 6 of them tight

RIG EXPENSE

SUPPLIES  YES  NO  SUPPLY REQUEST

FUEL

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT

HRS  @  $  

PIPE WIPER  SLIP INSERT  DRILLING  STRINGER

POWER WIPER  T.I.W.  DERRICK MAN  STRINGER

PIPERACK  PIPE RACK  HELPER  STRINGER

POWER SUB.  SHAKER  HELPER  STRINGER

TRUCKING  2nd PUMP  HELPER

GENERATOR  CENTRIFUGAL  HELPER

EXTRA LABOR  GUARD

SUPPLIES  PIPE Dope

RAMS  MISC.

LONG DIES

TOOL PUSHER  DOUGLAS  TOUCHET

COMPANY REPRESENTATIVE

JOB NO. 26-5  ORDER NO.  CONTRACT NO.  JOB 26-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

*This account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
TICKET 7667

DATE 12-3-93

COMPANY, D.C.

FIELD, Pleasant Bayou

LEASE, Terry Acton

WELL NO., 2

PARISH OR COUNTY, Lafourche County

STATE, Louisiana

RIG NO., 5

Present Perforations

Total Depth

Present Depth

Type Plug

SAFETY MEETING

B. O. P. TEST PRESSURES

PRECAUTIONS

D R I L L  D E E P E R

PRODUCTION PRESSURE SETTING

CLOSING DEPTH

OPENING DEPTH

BIT TYPE

FOOTAGE MADE

HOURS

WELL NO., 3

PARISH OR COUNTY, Lafourche County

STATE, Louisiana

RIG NO., 5

TEST Pressures

Drill Deeper

DAILY WORKOVER REPORT

 toolpusher, Douglas Touche

company representative

JOB NO., 26-5

ORDER NO.

CONTRACT NO.

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorney's fees, garnishment fees and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY:** PAE

**FIELD:** Pleasant Bayou

**LEASE LOG:** Lower Oil

**WELL NO.:** 3

**PARISH OR COUNTY:** BOROUGH COUNTY

**STATE:** Texas

**RIG NO.:** 5

**DATE:** 12-4-93

---

**SAFETY MEETING**

- **Date:** 11-29-93
- **Location:** RIG 3

---

**PRODUCTION PRESSURE SETTING**

- **Closing Depth:** 6,300 ft
- **Opening Depth:** 6,310 ft
- **Bit Size:** 4 1/2 in
- **Footage:** 10 ft

---

**EXTRA LABOR**

- **GUARD:** $10
- **CONTROL:** $10
- **HELPERS:** $10

---

**RIG EXPENSE**

- **TOTAL:** $10

---

**PERSONNEL**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>HRS</th>
<th>$</th>
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<tbody>
<tr>
<td>11</td>
<td></td>
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</tbody>
</table>

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**TOOLPUSHER:** Doug
d

**COMPANY REPRESENTATIVE:**

**JOB NO.:** 26-5

**ORDER NO.:**

**CONTRACT NO.:**

**JOB:** 26-5

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

---

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
<table>
<thead>
<tr>
<th>SAFETY MEETING</th>
<th>PRODUCTION PRESSURE SETTING</th>
<th>DRILL DEEPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
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**Screen Semig**

<table>
<thead>
<tr>
<th>B.G.P. TEST PRESSURES</th>
<th>PRODUCTION PRESSURE SETTING</th>
<th>DRILL DEEPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
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<td>Date</td>
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<td>Location</td>
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<td>Time</td>
<td>Time</td>
<td>Time</td>
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</tbody>
</table>

**TOOLPUSHER:**

**Company Representative:**

**JOB NO. 26-5**

**ORDER NO.**

**CONTRACT NO.**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: Doe

FIELD: Pleasant Bayou
LEASE: Assagaticin
WELL NO.: 2

PARISH OR COUNTY: Assagatic County
STATE: Texas
RIG NO.: 5

Present Perforations: 
Present Packer Setting: 
Total Depth: 
Screen Setting: 
Type Plug: 

SAFETY MEETING

B. O. P. TEST PRESSURES

PRODUCTION PRESSURE SETTING

DRILL DEEPER

RIG EXPENSE

ACCIDENTS

SUPPLY REQUEST

SUPPLIES

FUEL

TRUCKING

3RD PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT

HRS @ $1

PIPE WIPER

SLIP INSERT

DRILLER

Derrick Hand

Diesel

T. W.

Stripper

Pipe Rack

Helper M. D. Wood

Power Sub.

Shaker

Helper

Trucking

2nd Pump

Helper

Generator

Centrifugal

Extra Labor

Guard

Supplies

Pipe Dope

Rams

Misc.

Long Dies

TOOLPUSHER: Douglu Touchet

COMPANY REPRESENTATIVE:

JOB NO: 261-5

ORDER NO:

CONTRACT NO:

JOB: 26-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys fees, garnishment fees and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY:** DOE

**FIELD:** Pheasant Bayou

**LEASE NAME:** Action

**WELL NO.:** 2

**PARISH OR COUNTY:** Lafayette

**STATE:** LA

**DATE:** 12-7-93

**RIG NO.:** 5

**TOTAL DEPTH:** Present Depth

**PACKER SETTING:**

**SAFETY MEETING**

<table>
<thead>
<tr>
<th>Last Stand-in</th>
<th>Casing Setting</th>
<th>Screen Setting</th>
<th>Tubing Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Depth</td>
<td>Max Bit Size</td>
<td>Interval</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D.O.P. TEST PRESSURES**

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Depth</th>
<th>Int.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

**PRODUCTION PRESSURE SETTING**

<table>
<thead>
<tr>
<th>Make &amp; Model</th>
<th>Size</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DRILL DEEPER**

<table>
<thead>
<tr>
<th>Closing Depth</th>
<th>Bit Size</th>
<th>Opening Depth</th>
<th>Bit Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8:00-10:00 Field safety meeting & start Rig 2 rigged

7:00-9:00 Shop open well start cond. Mud 14,2#pg to 13,4#pg

Get the cal. came back

8:00-10:00 Rig 2 1200 cfs

1200-5,300#psi atts to pull 5% casing 6m $25000

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
## DAILY WORKOVER REPORT

**COMPANY:** DOE  
**DATE:** 12-8-93

**FIELD:** Louisiana County  
**LEASE:** Passagio Option  
**WELL NO.:** 2

**PARISH OR COUNTY:** State - Texas  
**STATE:** Texas  
**RIG NO.:** 5

### Present Perforations

<table>
<thead>
<tr>
<th>Depth</th>
<th>Max Dia.</th>
<th>Type Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total Depth

- **Present Depth:**

### Screen Setting

<table>
<thead>
<tr>
<th>Depth</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### B. O. P. TEST PRESSURES

- **Make & Model:**
- **Size:**

### PRODUCTION PRESSURE SETTING

- **Make & Model:**
- **Size:**

### DRILL DEEPER

- **Make & Model:**
- **Size:**

### SAFETY MEETING

- **Date:**
- **Time:**
- **Place:**
- **Participants:**

### JOB NO. 5 - ORDER NO. 2 - CONTRACT NO. 12 - JOB 26-8

### Tool Pusher:

### TERMS:

- **NET 30 DAYS.** Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

### TERMS:

- **If this account is placed with a collection agency or an attorney for collection upon default of payment, the sum of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.**

---

**Troubleshooting:**

- **Hyd 18:** Pick up 18 ft 1/2" inch pipe and made up to hang.
- **Hyd 2:** All 18 ft to jack in casing 2400# pump pipe to 22000# pull ten 2000# pump press to 5 7/8 casing 24000# pull on pipe.
- **Hyd 4:** Set with mold 2 1/4" 87 1/4" x 3 7/8 casing.
- **Hyd 9:** Run out well to cond mud.
**Daily Workover Report**

**Company:** DOE  
**Date:** 12-9-93  
**Field:** Pleasant Bayou  
**Lease:** Tracy Callin  
**Well No.:** 2  
**Parish or County:** St. Mary  
**State:** LA  
**State:** LA  
**State:** LA  
**State:** LA  
**Rig No.:** 5

**Present Phrations:**  
**Present Depth:**  
**Type Plug:**

**Safety Meeting:**
- **Last Meeting:** 
- **Meeting Date:**
- **Screen Setting:**
  - **Size:**
  - **Depth:**
  - **Max Int:**
- **Tubing Setting:**
  - **Size:**
  - **Type:**
  - **Amt:**

**B. O. P. Test Pressures:**
- **Opening Depth:**
- **Closing Depth:**
- **Size:**
- **Amt:**

**Production Pressure Setting:**
- **Size:**
- **Type:**

**Drill Deeper:**
- **Hyd:**
- **Mud Type:**
- **Weight:**

---

**Report No.:** 3

---

**Terms:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 15% annually.

---

**Signature:**

---

**Tool Pusher:**

---

**Company Representative:**

---

**Job No.:** 26-5  
**Order No.:**  
**Contract No.:**  
**Job No.:** 26-5

---

**400-400 Workover, RIG 1-1, Bayou Callin, Bayou Callin, St. Mary Parish, LA, 70506.**

---

**3rd Party Charges:**
- **Pipe Wiper:**
- **Pipe Insert:**
- **Driller:**
- **Pump:**
- **Generator:**
- **Extral Labor:**
- **Supplies:**
- **Ribs:**
- **Long Dies:**

---

**Personnel:**
- **Driller:**
- **Helper:**
- **Center:**
- **Guard:**
- **Helper:**
- **Helper:**
- **Helper:**
- **Helper:**

---

**Time Distribution:**
- **24:**
- **24:**
- **24:**
- **24:**
- **24:**
- **24:**
- **24:**

---

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with 10% interest from maturity, is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: DO F

DATE: 12/12/93

FIELD: Pleasant Bayou

LEASE: Penny 065

WELL NO.: 2

PARISH OR COUNTY: East Baton Rouge

STATE: LA

Present Perforations: 

Present Pack Setting: 

Total Depth: 

Present Depth: 

Type Plug: 

SAFETY MEETING:

Last Meeting Date: 

Casing Setting: 

Depth: 

Screen Setting: 

Size: 

Type: 

Tubing Setting: 

Size: 

Type: 

B.O.P. TEST PRESSURES:

Rams: 

Hydril: 

Make & Model: 

Mud Type: 

Viscosity: 

Weight: 

PRODUCTION PRESSURE SETTING:

Casing Setting: 

Depth: 

Interval: 

Arr: 

DRILL DEEPER:

Closing Depth: 

Bit Size: 

Opening Depth: 

Bit Type: 

Footage Made: 

6-720-We had Safety Meeting & see Rig & Eqp

20-32-1085, Wash 5b, casing from 0 to 235,600 ft with Rig

& able to naval of cut by turning 5b

REG EXPENSE:

SUPPLIES:

FUEL:

TRUCKING:

3RD PARTY CHARGES:

PERSONNEL:

UNIT: 11

HRS: 8:1

PIPEWIPER: SLIP INSERT

DRILLER: 

DIESEL: T.I.W.

DERICK MAINT.

STRIPPER: PIPE RACK

HELPERS: 

POWER SUB: SHAKER

POWER TROUG.

TRUCKING: 2ND PUMP

HEX.

GENERATOR: CENTRIFUGAL

EXTRA LABOR: GUARD

EXTRA LABOR: 

SUPPLIES: PIPE DOP

RAMS: 

LONG DIES: 

LONG DIES: 

TOOLPUSHEN: Douglas Tuchet

COMPANY REPRESENTATIVE

JOB NO. 26-5

ORDER NO. 

CONTRACT NO. 

JOB 26-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 15% interest from moneys is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: DOE  DATE: 12-11-93

FIELD: Pleasant Bayou  LEASE: Par 20 Action  WELL NO.: 2

PARISH OR COUNTY: Bassegga County  STATE: Texas  RIG NO.: 5

Present Perforations:  Present Packer Setting:

<table>
<thead>
<tr>
<th>SAFETY MEETING</th>
<th>B. O. P. TEST Pressures</th>
<th>PRODUCTION PRESSURE SETTING</th>
<th>DRILL DEEPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Casing Setting</td>
<td>Size</td>
<td>Depth</td>
<td>Screen Setting</td>
</tr>
<tr>
<td>Rams:</td>
<td>Hydr.</td>
<td>Make &amp; Model</td>
<td>Size</td>
</tr>
</tbody>
</table>

B. O. P. Test Pressures:
- TEST PRESSURES: PRODUCING PRESSURE SETTING

Drill Deeper:
- Borehole: Field Safety Meetings 1 per Rig & Day
- 100-400-8hr. Full 5/8 casing Tongs
- 800-900-16hr. Work 8 1/2 casing Rig 3 cut to level of cut with tongs
- 500-400-7hrs. jack 8 1/2 casing to 34,000' sub
- 400-100-4hrs. at 32,000' on jack 4t Redy to Make Cut at 10:26 - Jkt

SUPPLIES: None

3rd PARTY CHARGES:

| PIPE WIPER | SLIP INSERT | DRILLER | D. Anthony
|-------------|-------------|---------|-------------|
| DIESEL      | T.I.W.      | DERRICK  | Monday
| STRIPPER    | PIPE RACK   | HELPER  | 2 Postwood
| POWER SUB.  | SHAKER      | HELPER  | 2 Postwood
| TRUCKING    | 2ND PUMP    | HELPER  |             |
| GENERATOR   | CENTRIFUGAL | HELPER  |             |
| EXTRA LABOR | GUARD       |         |             |
| SUPPLIES    | PIPE DOPE   |         |             |
| RAMS        | MISC.       |         |             |

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.
**DAILY WORKOVER REPORT**

**COMPANY**: Drilling & Well Service, Inc.  
**DATE**: 12-12-93  
**FIELD**: Pleasant Bayou  
**LEASE**: Texas Aiken  
**WELL NO.**: 2  
**PARISH OR COUNTY**: Eunice County  
**STATE**: Texas  
**RIG NO.**: 5

**Present Perforations**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Present Depth</th>
<th>Type Plug</th>
</tr>
</thead>
</table>

**SAFETY MEETING**

<table>
<thead>
<tr>
<th>Safety Meeting</th>
<th>Leash Setting</th>
<th>Depth</th>
<th>Screen Setting</th>
<th>Tubing Setting</th>
</tr>
</thead>
</table>

**B.O.P. TEST PRESSURES**

<table>
<thead>
<tr>
<th>Rigs</th>
<th>Make &amp; Model</th>
<th>Size</th>
<th>Depth</th>
</tr>
</thead>
</table>

**PRODUCTION PRESSURE SETTING**

<table>
<thead>
<tr>
<th>Rigs</th>
<th>Closing Depth</th>
<th>Bit Size</th>
<th>Opening Depth</th>
<th>Bit Type</th>
</tr>
</thead>
</table>

**DRILL DEEPER**

- 700-710 ft, 2 bd safety meeting & see bid & eqpm
- 710-810 ft, R2H 5/1
- 810-1000 ft, add 4 1/2' jet cutter
- 1000-1000 ft, R2H to 2500 ft, pump out KAG
- 200-210 ft, good with 6/1
- 210-400 ft, add 2m open out R2H 3992 ft, unable to go down 2m, add with 9/1
- 600-700 ft, can well plunging down 93', casing 1000 psi

**RIG EXPENSE**

<table>
<thead>
<tr>
<th>SUPPLIES</th>
<th>FUEL</th>
<th>TRUCKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

**3rd PARTY CHARGES**

<table>
<thead>
<tr>
<th>Party</th>
<th>Person</th>
<th>Time Distribution</th>
</tr>
</thead>
</table>

**PERSONNEL**

<table>
<thead>
<tr>
<th>DRILLER</th>
<th>2nd DRILLER</th>
<th>3rd DRILLER</th>
<th>4TH DRILLER</th>
</tr>
</thead>
</table>

**TIME DISTRIBUTION**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>12</th>
<th>HRS</th>
</tr>
</thead>
</table>

**JOB No. 26-5**  
**ORDER NO.**  
**CONTRACT NO.**  
**TOOLPUSHER**

**COMPANY REPRESENTATIVE**

**TERMS**: Net 30 Days. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually. If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees, and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY:** DOE  
**DATE:** 12-13-93

**FIELD:** Pleasant Bayou  
**LEASE:** Perry Action  
**WELL NO.:** 2

**PARISH OR COUNTY:** Borgia County  
**STATE:** Texas  
**RIG NO.:**

<table>
<thead>
<tr>
<th>Present Perforations</th>
<th>Present Packer Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Depth</td>
<td>Present Depth</td>
</tr>
</tbody>
</table>

**SAFETY MEETING**

- **Stand Clear of all Danger Points**
- **Purge High Pressures**

**B. O. P. TEST PRESSURES**

- **Make & Model:**
- **Type:**
- **Depth:**
- **Interval:**

**PRODUCTION PRESSURE SETTING**

- **Closing Depth:**
- **Opening Depth:**
- **Bit Type:**
- **Footage Made:**

**DRILL DEEPER**

- **Ram Well:**
- **Make & Model:**
- **Type:**
- **Depth:**

- **Tool Pusher:**
  - **Company Representative:**
  - **Job No.:** 26-5  
  - **Order No.:**  
  - **Contract No.:**  
  - **Job 26-5**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection, in the event of payment, $25 of the unpaid balance, together with all court costs, attorneys fees, garnishment fees, and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY**

**DATE** 12-14-93

**FIELD** Pleasant Favors

**LEASE**

**WELL NO.** 2

**PARISH OR COUNTY** Borgias County

**STATE** Texas

**RIG NO.** 5

**present perforations**

**present packer setting**

**total depth**

**present depth**

**type plug**

<table>
<thead>
<tr>
<th>SAFETY MEETING</th>
<th>PRODUCTION PRESSURE SETTING</th>
<th>DRILL DEEPER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Last Casing Setting</td>
<td>Make &amp; Model</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>Depth</td>
</tr>
<tr>
<td></td>
<td>Max Bit</td>
<td>Interval</td>
</tr>
</tbody>
</table>

**B. O. P. TEST PRESSURES**

<table>
<thead>
<tr>
<th>Rigs</th>
<th>Hydro</th>
<th>Mud Type</th>
<th>Weight</th>
</tr>
</thead>
</table>

**present depth**

**plug size**

**depth**

**type plug**

6:30-7:00 AM Held safety meeting at Rig. E - EXR
6:30-8:00 AM Rig. L3C - EXR
9:00-1:00 PM Used casing jack to help rig pull 6 3/4" casing
2:55-3:50 PM Started pulling with Rig. J - EXR.
2:30-3:30 PM With 2 pumps we sank, cost 220 ft, plug from 8890 to 8930
4:00-4:30 PM Good with 5 3/4" casing to jtp out 35

**RIG EXPENSE**

**ACIDENTS**

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

**SUPPLIES**

**FUEL**

**TRUCKING**

**3rd PARTY CHARGES**

<table>
<thead>
<tr>
<th>PIPE WIPER</th>
<th>SLIP INSERT</th>
<th>DIALER</th>
<th>DRILLER</th>
<th>DERRICK MAN.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIESEL</td>
<td>T.W.</td>
<td></td>
<td>DERRICK MAN.</td>
<td>T.W.</td>
</tr>
<tr>
<td>STRIPPER</td>
<td>PIPE RACK</td>
<td>HELPER</td>
<td>HELPER</td>
<td>HELPER</td>
</tr>
<tr>
<td>POWER SUB</td>
<td>SHAKER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRUCKING</td>
<td>2ND PUMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENERATOR</td>
<td>CENTRIFUGAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTRABOR</td>
<td>GUARD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPPLIES</td>
<td>PIPE Dope</td>
<td></td>
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<tr>
<td>RAMS</td>
<td>MISC.</td>
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<tr>
<td>LONG DIES</td>
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<td></td>
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</tr>
</tbody>
</table>

**PERSONNEL**

| UNIT | HRS | 1 | 1 | 1 |

**TOOL PUSHER**

**COMPANY REPRESENTATIVE**

**JOB NO.** 26-5

**ORDER NO.**

**CONTRACT NO.**

**JOB 26-5**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

---

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: D.E.  DATE: 12-15-93
FIELD: Pleasant Bayou  LEASE: Harry Acton  WELL NO.: 76
PARISH OR COUNTY: BAYOU COUNTY  STATE: Texas  RIG NO.: 1

DATE AND TIME:

TOTAL DEPTH: Present Depth: Type Plug:

SAFETY MEETING:

B. O. P. TEST PRESSURES:

PRODUCTION PRESSURE SETTING:

DRILL DEEPER:

PARTY CHARGES:

PERSONNEL:

TIME DISTRIBUTION:

TOOLPUSHER: Douglas Rouchet  COMPANY REPRESENTATIVE:

JOB NO.: 26-5  ORDER NO.: CONTRACT NO.: 26-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
### DAILY WORKOVER REPORT

**Company**: DOE  
**Date**: 12-16-93  
**Field**: Pleasant Baron  
**Lease**: Barry Austin  
**Well No.**: 2  
**Parish or County**: Orange County, LA  
**State**: Texas  
**Rig No.**: 5

#### SAFETY MEETING

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Position</th>
</tr>
</thead>
</table>

#### B.O.P. TEST PRESSURES

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
</table>

#### PRODUCTION PRESSURE SETTING

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
</table>

#### DRILL DEEPER

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
</table>

#### COMPANY REPRESENTATIVE

**Company**: Drilling & Well Service, Inc.  
**Address**: 191 Galbert Rd.  
**Phone**: (218) 261-0295

#### TERMS:

*Net 30 Days.* Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

---

**Note:** If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.

---

**Toolpusher**: Douglas Doughel  
**Job No.**: 26-7  
**Order No.**:  
**Contract No.**:  
**Job**: 26-7
# Daily Workover Report

**Company:** DOE  
**Field:** Pleasant Bayou  
**Lease:**  
**Well No.:** 2  
**Parish or County:**  
**State:** Louisiana  
**Rig No.:** 3  
**Date:** 12-17-93

### Present Perforations

<table>
<thead>
<tr>
<th>Present Depth</th>
<th>Type Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Present Packer Setting

<table>
<thead>
<tr>
<th>Screen Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Bbl.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

### SAFETY MEETING

**When Working Exam:**

- Last Working Exam
- With Driller
- Standing Arrangement

### B. O. P. Test Pressures

<table>
<thead>
<tr>
<th>Mud Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Production Pressure Setting

<table>
<thead>
<tr>
<th>Tool Pusher Job</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Drill Deeper

6:20-6:20 A.M. Field safety meeting was seen Rig E Exam  
200-9:00 A.M. off load 4297 ft of 2 1/4 Tubing  
9:00-10:30 A.M. 2 1/4 to 4297 ft cold mud  
10:30-12:00 A.M. cold mud from 4297

### Rig Expense

**Suppliers:**  
**Fuel:**

### Third-Party Charges

<table>
<thead>
<tr>
<th>Third-Party Charges</th>
<th>Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Time Distribution

<table>
<thead>
<tr>
<th>Unit</th>
<th>Hrs. @</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tool Pusher

**Tool Pusher:** Douglas Touschet  
**Company Representative:**

**Job No.:** 26 - 5  
**Order No.:**

### Terms

**Terms:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

*If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.*
**DAILY WORKOVER REPORT**

**COMPANY:** D.O.E

**FIELD:** Pleasant Bayou

**LEASE:** Lease Loopy Action

**WELL NO.:** 2

**PARISH OR COUNTY:** St. Mary County

**STATE:** LA

**RIG NO.:** 5

**DATE:** 12-18-93

**Present Perforations:**

**Total Depth:**

**Present Depth:**

**Type Plug:**

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<th>B. O. P. TEST PRESSURES</th>
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**PRODUCTION PRESSURE SETTING**

- **Make & Model:**
- **Size:**
- **Depth:**
- **Interval:**
- **Type:**
- **Bit Size:**
- **Opening Depth:**
- **Footage Made:**

**DRILL DEEPER**

- **Well data:**
  - **Well Name:**
  - **Well ID:**
  - **Well Status:**

**RIG EXPENSE**

- **ACCIDENTS:**
- **YES**
- **NO**

**SUPPLY REQUESTS:**

**THIRD PARTY CHARGES**

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<th>TIME DISTRIBUTION</th>
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**PERSONNEL**

- **DRILLER:**
- **DERRICKMAN:**
- **DERRICKHAND:**
- **HELPER:**
- **SHAKER:**
- **HELPER:**
- **HELPER:**
- **HELPER:**

**TOOLPUSHER:**

**COMPANY REPRESENTATIVE:**

**JOB NO.:** 26-5

**ORDER NO.:**

**CONTRACT NO.:**

**JOB NO.:** 26-5

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
DAILY WORKOVER REPORT

COMPANY: DOE

FIELD: Pleasant Bayou
LEASE: Larry Acton
WELL NO.: 7

PARISH OR COUNTY: Brazoria County
STATE: Texas
RIG NO.: 5

DATE: 12-19-93

Present Perforations

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SAFETY MEETING

B. O. P. TEST PRESSURES

NAME

Mud Type

Weight

PRODUCTION PRESSURE SETTING

DRILL DEEPER

RIG EXPENSE

ACCIDENTS

SUPPLY REQUEST

SUPPLIES

FUEL

TRUCKING

2ND PARTY CHARGES

PERSONNEL

UNIT

TIME DISTRIBUTION

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TOOLPUSH: Douglas Mcclung

COMPANY REPRESENTATIVE:

JOB NO. 26-7 ORDER NO. CONTRACT NO. JOB 26-7

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, garnishment fees and 10% interest from maturity is hereby authorized.
**DAILY WORKOVER REPORT**

**COMPANY:** DOE  
**FIELD:** Pleasant Bayou  
**LEASE:**  
**WELL NO.:** 2  
**PARISH OR COUNTY:** Bossier  
**COUNTY:**  
**STATE:** Louisiana  
**RIG NO.:** 5

**Present Perforations**

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**Date:** 12-20-93

**Lease Well No.:** 2

**Parish:** Bossier  
**County:**  
**State:** Louisiana  
**Rig No.:** 5

**SAFETY MEETING**

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**B.O.P. TEST PRESSURES**

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**PRODUCTION PRESSURE SETTING**

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**TOOLPUSHER:**

**COMPANY REPRESENTATIVE:**

**JOB NO. 26-5**

**ORDER NO.**  
**CONTRACT NO.**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.
**SAFETY MEETING**

Ticket 7685

Drilling Service, Inc.

101 Galbert Rd.

Lafayette, LA 70506

(318) 261-0295

**Report No. 26**

**DAILY WORKOVER REPORT**

**Date:** 12-21-93

**Well No.:** 2

**Parish or County:** Bagonia County

**State:** Texas

**Rig No.:** 8

**Present Perforations:**

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**DRILL DEEPER**

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**RIG EXPENSE**

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**SUPPLIES**

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**3rd PARTY CHARGES**

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**PERSONNEL**

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**TOOLPUSHER:**

D. Judgment

**COMPANY REPRESENTATIVE:**

**JOB NO.:** 26-5

**ORDER NO.:**

**CONTRACT NO.:**

**JOB 26-5**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

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DAILY WORKOVER REPORT

COMPANY: DOE

FIELD: Pleasant Bayou LEASE: 10-22-57

WELL NO.: 310 #1

PARISH OR COUNTY: Barataria

REPORT NO.: 1

DATE: 12-22-93

Present Perforations: Present Packer Setting:

Total Depth: Present Depth: Type Plug:

SAFETY MEETING:

B. O. P. TEST PRESSURES:

PRODUCTION PRESSURE SETTING:

DRILL DEEPER:

Safely Meeting:

Production Pressure Setting:

Drill Deeper:

Rig Expense:

3rd Party Charges:

Personnel:

Time Distribution:

3rd Party Charges:

Personnel:

Time Distribution:

To: Company Representative

Job No. 27-6

Order No.

Contract No.

Job:

Terms: Net 30 Days. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

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DAILY WORKOVER REPORT

COMPANY: DOE

LEASE: Pleasant Prairie

WELL NO.: 1

COUNTY: Bemiss County

STATE: Texas

RIG NO.: 5

DATE: 12-23-73

PRESENT PERFORATION:

Present Packer Setting:

TOTAL DEPTH:

LUBING SETTING:

- G.P. TEST PRESSURES

- PRODUCTION PRESSURE SETTING

- DRILL DEEPER

-1000-3hrs Make up 2½ pipe line east to

-10:00-4hrs Cut well head off DOE #2 well

Pleasant Prairie salt water injected

with new Bemiss County 72-foot incline

P. H. Swobbert's 74 Survey A-107

SUPPLY REQUEST

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

- Douglas Touchett COMPANY REPRESENTATIVE

ORDER NO. CONSTRUCTION NO. JOB 27-5

NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.
**DRILLING & WELL SERVICE, INC.**

**TICKET 7688**

**REPORT NO. 3**

**DATE:** 12-27-93

**FIELD:** Pleasant Bayou

**LEASE:** Terry Simon

**WELL NO.:** 51-0+2

**PARISH OR COUNTY:** Acadia County

**STATE:** Texas

**RIG NO.:** 5

---

**PRESENT PERFORATIONS:**

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**800-830: Hold safety meeting for Rig B & C over**

**830-900:** Start open well 2500 on tubing & JOE on casing

**900-1000:** Hook up mud pump and inject water 9/10/93

**1000-200:** Take sand water to mix cont to diesel well

**200-200:** Sand out wells & break bolt on tree

**700-200:** Mud & pump across KS = 217BA135 cont pump

---

**REQUEST FOR SUPPLEMENT TO DAILY WORKOVER REPORT NO 0400 Terry Simon Survey A-107**

---

**JOB NO. 27-5**

**ORDER NO.**

**CONTRACT NO.**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

---

**SHERIFF'S DEPUTY FOUCHET**

**COMPANY REPRESENTATIVE**

**JOB NO. 27-5**

**ORDER NO.**

**CONTRACT NO.**

**TERMS:** NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.
**DAILY WORKOVER REPORT**

**COMPANY**: DOE 

**FIELD**: Pleasant Bayou 

**LEASE**: Penny Oats 

**WELL NO.**: 3X02 #1 

**ARISH OR COUNTY**: Beauregard 

**STATE**: Louisiana 

**RIG NO.**: 3 

**DATE**: 12-28-93 

**REPORT NO.**: 1 

**REPORTNO.** 

**SERVICE, INC.** 101 GABERT RD LAFAYETTE, LA 70506 (518) 261-9255 

---

**SAFETY MEETING**

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**PRODUCTION PRESSURE SETTING**

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**DRILL DEEPER**

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** present Perforations. Present Pack Setting **

**total Depth:** Present Depth Type Plug

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**COMPANY REPRESENTATIVE**

---

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**PERSONNEL**

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**RMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.**

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DAILY WORKOVER REPORT

COMPANY: D.E.

DATE: 12/23/93

FIELD: Shubert Farms, LEASE, Adams, WELLS NO. 1

PARISH OR COUNTY: Sabine County, TX

STATE: Texas

RIG NO. 5

Report No. 5

Present Fractured: Perforations: Present Packer Setting:

Total Depth: Present Depth: Type Plug:

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</tr>
</thead>
<tbody>
<tr>
<td>Watch your step</td>
</tr>
<tr>
<td>Staying sober</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.O.P. TEST PRESSURES</th>
<th>PRODUCTION PRESSURE SETTINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items: Field: Test:</td>
<td>Make &amp; Model: Size: Depth:</td>
</tr>
<tr>
<td>Weight: Wa:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DRILL DEEPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing Depth: Bit Size:</td>
</tr>
<tr>
<td>Open: Depth: Bit: Type:</td>
</tr>
<tr>
<td>Fossil: Made:</td>
</tr>
</tbody>
</table>

7:00-7:30 AM Field Meeting, 7:30 AM Rig & Equip.
7:30-8:30 AM Food with TV on: Seeing Total job $5, 128
8:00-8:30 AM TV on: Seeing: Total
9:30-10:30 AM Pipe with 1390 of 2 7/8 Tubing
10:30-11:00 AM Pipe with 1350 of 2 7/8 Tubing
11:00-12:00 AM Pipe with 1325 of 2 7/8 Tubing
12:00-1:00 AM Pipe with 1300 of 2 7/8 Tubing
1:00-2:00 AM Pipe with 1275 of 2 7/8 Tubing
2:00-3:00 AM Pipe with 1250 of 2 7/8 Tubing
3:00-4:00 AM Pipe with 1225 of 2 7/8 Tubing

COMPANY REPRESENTATIVE

JOB NO. 5 ORDER NO. __ CONTRACT NO. __

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

---

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all costs, attorneys' fees, garnishment loss and 10% interest from maturity is hereby authorized.
# Daily Workover Report

**Date:** 12-30-93

<table>
<thead>
<tr>
<th>Field</th>
<th>Parish or County</th>
<th>State</th>
<th>Well No.</th>
<th>Rig No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasant Bayou</td>
<td>Beauregard</td>
<td>Louisiana</td>
<td>26</td>
<td>5</td>
</tr>
</tbody>
</table>

**Present Perforations:**
- Tubing Satun
- Screen Setting Size: [ ]
- Interval Size: [ ]

<table>
<thead>
<tr>
<th>Present Depth</th>
<th>Type Plug</th>
<th>Last Casing Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>Screen Setting Size: [ ]</td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>Tubing Setting Size: [ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.O.P. Test Pressures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: [Hydil]</td>
</tr>
<tr>
<td>Mud Type: [ ]</td>
</tr>
<tr>
<td>Weight: [Va]</td>
</tr>
</tbody>
</table>

**Production Pressure Setting**

**Drill Deeper**

- Bit Size: [ ]
- Size: [ ]
- Depth: [ ]

**Rig Expense**

- Supply Request: [ ]

**3rd Party Charges**

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Unit</th>
<th>Hrs. @ $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drillers</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

**Terms:** Net 30 Days. Accounts over 30 days will be charged 1 1/2% per month not to exceed 18% annually.

**Note:**
- All accounts placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, and attorney fees, will be added thereto.
DAILY WORKOVER REPORT

COMPANY: ROE

FIELD: Pleasant Bayou LEASE: Long Cabin

PARISH OR COUNTY: Iberia County LA STATE: Louisiana RIG NO. 6

Present Perforations: 

Total Depth: 

Type Plug: 

SAFETY MEETING

B.O.P. TEST PRESSURES

PRODUCTION PRESSURE SETTINGS

DRILL DEEPER

600-100-1  Hold safety Meeting

600-200-1  go get food again ready to load out

600-400-1  load out 1/2 1/2

800-200-1  go get Ready to load out

3rd PARTY CHARGES

PERSONNEL

TIME DISTRIBUTION

UNIT 10  HRS. @ $ 1.00

TOOLPUSHER: Douglas Touschet

COMPANY REPRESENTATIVE

JOB NO. 27-5 ORDER NO. CONTRACT NO. JOB 27-5

TERMS: NET 30 DAYS. Accounts over 30 days will be charged 1 1/2% per month not to exceed 16% annually.

If this account is placed with a collection agency or an attorney for collection upon default of payment, a fee of 25% of the unpaid balance, together with all court costs, attorneys' fees, collection fees and 10% interest from maturity is hereby authorized.
## PLEASANT BAYOU NO. 2

### LINE ITEM DESCRIPTION

<table>
<thead>
<tr>
<th>SECTION I:</th>
<th>Kill (final zero surface pressure) the Pleasant Bayou No. 2.</th>
<th>Estimated time to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ NO BID</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION II:</th>
<th>Kill the Pleasant Bayou No. 2 and place a bottom cement plug above the present production perforations. Cement plug (location and size) must comply with all applicable regulations.</th>
<th>Estimated time to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ NO BID</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION III:</th>
<th>Place the bottom cement plug only.</th>
<th>Estimated time to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ NO BID</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION IV:</th>
<th>Complete plug and abandonment (P&amp;A) of the Pleasant Bayou No. 2 after the well has been killed and the bottom cement plug has been placed by someone other than bidder.</th>
<th>Estimated time to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 21,900</td>
<td>180 Hours</td>
</tr>
</tbody>
</table>

---

Bidder's (Company's) Name: PAW Drilling & Well Service, Inc.

Signature of Authorized Company Representative: [Signature]

Date: 4/28/93
TABLE OF CONTENTS

SECTION V: To kill the Pleasant Bayou No. 2, place the bottom cement plug, and complete plug and abandonment (P&A) of the well. $36,900
Estimated time to complete 145 hours

SECTION VI: Cost to provide a "Performance Bond", with "Payment Clause", as described in Note No. 8, Pages 3 and 4, of this IFB. $4,355

SECTION VII: Have any of the above bids been affected by bidder's interest in salvaging any casing/tubing or surface production equipment? XXX YES
If yes, please attach an itemized list of all items bidder is interested in obtaining. All salvageable downhole and surface equip.

SECTION VIII: Plug and abandon (P&A) the Pleasant Bayou SWDW No. 1 $12,250
Estimated time to complete 58 hours

SECTION IX: Has the above bid been affected by bidder's interest in salvaging any casing/tubing or the disposal wellhead? XXX YES
If yes, please attach an itemized list of all items bidder is interested in obtaining. All salvageable downhole and surface equip.

Bidder's (Company's) Name PAW Drilling & Well Service, Inc.
Signature Authorized Company Representative
Date: 1/18/93
Section 7.0

Cost
Identified below are cost savings resulting from Quality Project Management Procedures. A savings of $3.1 million resulted when EG&G Idaho, Inc. replaced the site operator for three geothermal test sites. By proper project management, intensive investigation of work to be performed (resulting in knowing the proper way to accomplish the work) along with day to day control of contracts by the project manager Bennie N. Rinehart the above savings was the result.

DOE cost with the original contractor:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;A Wells (3)</td>
<td>$1,592,442</td>
</tr>
<tr>
<td>Restoration</td>
<td>$347,620</td>
</tr>
<tr>
<td>Administration (11m)</td>
<td>$1,007,776</td>
</tr>
<tr>
<td>NORM Storage (10y)</td>
<td>$158,400</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$3,106,238</strong></td>
</tr>
</tbody>
</table>

Note: The site restoration for Gladys McCall was estimated to be $115,435 by the original contractor. When it was placed out for bid the cost came in at $868,350. EG&G Idaho, Inc. changed the restoration plan and completed it for $78,806. Using this amount then the savings shown below would be increased by $789,544 to $3,191,782.

EG&G Idaho, Inc. cost

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;A Wells (3)</td>
<td>$185,214</td>
</tr>
<tr>
<td>Restoration</td>
<td>$177,000</td>
</tr>
<tr>
<td>Administration (11m)</td>
<td>$60,000</td>
</tr>
<tr>
<td>NORM Disposal</td>
<td>$44,400</td>
</tr>
<tr>
<td>Subcontracts (Engineering &amp; Attorney)</td>
<td>$237,386</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$704,000</strong></td>
</tr>
<tr>
<td><strong>SAVINGS</strong></td>
<td><strong>$2,402,238</strong></td>
</tr>
<tr>
<td>Adjusted Total SAVINGS</td>
<td><strong>$3,191,782</strong></td>
</tr>
</tbody>
</table>

Bennie N. Rinehart
3-28-94