PROJECT MANAGEMENT PLAN
(for the time period from 9/3/97 to 9/2/98)

WEST HACKBERRY TERTIARY PROJECT

Cooperative Agreement No. DE-FC22-93BC14963

Amoco Production Company

Date of Report: 9/10/97
Principal Investigator: Travis H. Gillham
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# Project Management Plan (9/3/97-9/2/98)
## West Hackberry Tertiary Project

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1.0 SUMMARY

1.1 Introduction

The following report is the Project Management Plan for the fifth year of the West Hackberry Tertiary Project. This plan will cover the upcoming time period from September 3, 1997 to September 2, 1998. The West Hackberry Tertiary Project is one of four mid-term projects selected by the United States Department of Energy (DOE) as part of the DOE's Class 1 Program for the development of advance recovery technologies in fluvial dominated deltaic reservoirs. Over a 106 month funding period from September 3, 1993 to July 2, 2002, Amoco Production Company and the DOE will each contribute 50% of project costs. As part of the project, the Petroleum Engineering Department at Louisiana State University (LSU) has been subcontracted to provide independent study and technology transfer support.

The West Hackberry Tertiary Project is a field test of the idea that air injection can be combined with the Double Displacement Process to produce a low cost tertiary recovery process which is economic at current oil prices. The Double Displacement Process is the gas displacement of a water invaded oil column for the purpose of recovering tertiary oil by gravity drainage. The Double Displacement Process is based upon the concept that in fields such as West Hackberry waterdrive recoveries are typically 50%-60% of the original oil in place while gravity drainage recoveries average 80%-90% of the original oil in place. Therefore, by injecting a gas into a watered out reservoir, a gas cap will
form and additional oil can be recovered due to gravity drainage. Although the Double Displacement Process has been shown to be successful in recovering tertiary oil in other fields, this project will be the first to utilize air injection in the Double Displacement Process. The use of air injection in this process combines the benefits of air's low cost and universal accessibility with the potential for accelerated oil recovery due to the combustion process. If successful, this project will demonstrate that the use of air injection in the Double Displacement Process will result in an economically viable tertiary process in reservoirs where tertiary oil recovery is presently uneconomical.

The project began air injection on the west flank of the field on November 17, 1994. Since that time, over 1.5 billion standard cubic feet (BSCF) of air has been injected into the west flank of the field. While reservoir pressure has increased by over 500 pounds per square inch (psi), the project has yet to increase oil production. During the first quarter of 1997, the end of Budget Period 1 was extended from April of 1997 to April of 1999 to allow sufficient time for production response to occur in the high pressure reservoirs on the west flank of the field.

During 1996, Amoco and the DOE agreed to expand the project to inject air into low pressure oil reservoirs on the north flank of the field. Injecting air into low pressure oil reservoirs can increase oil recovery by: 1) repositioning the oil rim in close proximity to existing wellbores, 2) increasing reservoir pressure and 3) obtaining additional oil recovery through the double displacement process. Although nitrogen or natural gas injection has been used for this purpose in Gulf Coast reservoirs in the past, this project is unique in the use of air as the injection gas. Air provides the dual advantage of lower cost than
natural gas or nitrogen and total accessibility.

Through July of 1996, air injection into two low pressure reservoirs on the north flank of West Hackberry had increased oil recovery by over 58,000 barrels above the normal decline. Air injection will continue in both the high pressure reservoirs on the west flank and the low pressure reservoirs on the north flank. In addition, air injection will be expanded to a third low pressure reservoir during the last half of 1997.

West Hackberry Field is a salt dome oil field located in southwestern Louisiana. While the original project design envisioned a 15 year project life and 2.9 million barrels of incremental oil production, the 106 month joint funding period is expected to be sufficient to demonstrate the viability of the process and to provide valuable operating experience for future projects.

1.2 Goals

The primary project goals are: 1). Economic Implementation - through the results of this project, demonstrate that future projects can be economic, 2) Process Monitoring - gather sufficient reservoir and production data to understand and document the results and 3) Technology Transfer - through the technology transfer efforts of both Amoco and LSU, give the domestic oil industry the opportunity to learn how to implement similar projects in the future and to improve upon the original project.
2.0 TASKS

2.1 Outline of Tasks

The following nine tasks were defined in the Statement of Work:

Task 1. Environmental Study

Task 2. Construction of Surface Facilities

Task 3. Conversion of Producing Wells to Injection Wells

Task 4. Operations and Maintenance of Injection Facilities

Task 5. Workovers for Monitoring and Producing Wells

Task 6. Production Operations

Task 7. Reservoir Management

Task 8. Louisiana State University Technology Transfer

Task 9. Amoco Technology Transfer

A description of each of these tasks is included in the Statement of Work which is located in Appendix A of this report. In Appendix B of this report is the Work Breakdown Structure which outlines the major components of each task.

2.2 Milestones

As the West Hackberry Tertiary Project moves into the fifth year, the critical milestones are identified as follows: 1) initiation of air injection (11/94), 2) initial oil production resulting from air injection (7/96), 3) demonstrating the process in both low and high pressure reservoirs and 4) technology transfer detailing the success of the project.

The tasks for the project have been defined in the Statement of Work. These tasks have been divided into subtasks which are included on the updated project timetable on the
following page. The most significant change to the project timetable relates to the extension of Budget Period 1 by 24 months. The termination date for Budget Period 1 has been revised to March 31, 1999.

2.2.1 Pre-cooperative Agreement Milestones

In the Program Opportunity Notice for Class 1 Projects, it was envisioned that each DOE Class 1 Project could be divided into three major phases: 1) Planning, 2) Implementation and 3) Technology Transfer. The West Hackberry Tertiary Project was structured with the planning phase taking place at Amoco's sole expense prior to the signing of the cooperative agreement. The Implementation and Technology Transfer Phases are occurring simultaneously during Budget Period's 1 and 2 (after the signing of the cooperative agreement). The following milestones were reached prior to the signing of the cooperative agreement on September 3, 1993:

1. Statement of Work October, 1992
2. Pre-award Cost Proposal March, 1993
3. Audit of Pre-award Cost Proposal March, 1993
4. Formation of the Reservoir-wide Unit June, 1993
5. Completion of Facilities Design August, 1993

2.2.2 Budget Period 1 Milestones

Budget Period 1 commenced on September 3, 1993 with the signing of the cooperative agreement and will run for a period of 67 months to March 31, 1999. The following is a list of milestones for Budget Period 1 along with their current status at the end of the
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fourth year:

Task 2a-2h. Start-up of Air Injection Facilities (Startup on November 17, 1994).

Task 3a-3e. Conversion of Producers to Injectors (Completed on west flank, additional conversions will take place on the north flank).

Task 5a-5e. Workovers for Monitoring & Producing Wells (Recompletions and sidetracks are planned to increase the number of producing wells on the north flank.

Task 6a-6c. Initial Production of Tertiary Oil (Production response on the west flank is expected during the next 12 months. On the north flank, increased production has been observed in two low pressure reservoirs thus far.)

Task 7b. Update of Amoco's Reservoir Model (completed)

Task 7c-7e. Core and Fluid Property Laboratory Tests (completed)

Task 9a-9b. Technology Transfer activities during 1993-1994 (initial stages) and 1996-1997 (mid-project). (All goals for 1993-1994 technology transfer activities were accomplished. Mid-project technology transfer efforts for 1996-1997 are ongoing.)

2.2.3 Budget Period 2 Milestones

Budget Period 2 will last for a period of 39 months from April 1, 1999 to July 1, 2002. During this time, additional production response and reservoir performance will be evaluated. The reservoir model will be updated based upon the additional production response. The updated model will provide a revised prediction of future performance
including a new prediction of ultimate recovery. The results will be publicized through technology transfer activities. The following milestones will be completed during the 39 months of Budget Period 2:

Task 5a-5i. Completion of Workovers for Monitoring and Producing Wells
Task 6e-6f. Initiation of Produced Gas Injection
Task 7b. Update of Reservoir Model and Prediction of Ultimate Recovery
Task 9a-9b. Technology Transfer Activities (final stages)

3.0 PROJECT ORGANIZATION AND TASK RESPONSIBILITIES

3.1 Management Structure for Amoco's Central Business Unit

Amoco's Production Company has been divided into geographically based business units. The West Hackberry Tertiary Project is operated by Amoco's Central Business Unit. The top management position in each business unit is the Business Unit Manager. Reporting directly to the Business Unit Manager is the Resource Development Manager. Each business unit is divided into resource teams. Each resource team is led by Resource Manager who reports to the Resource Development Manager. The resource teams are multi-discipline groups composed of land, engineering, geoscience and support personnel. Once a project is authorized by the Business Unit Manager, the resource team is responsible for project implementation. On the following page is an organization chart which identifies the managers and supervisors in the Central Business Unit who deal with the project to varying degrees.

3.2 Organization of the West Hackberry Tertiary Project Team

Amoco's business unit structure allows for the creation of multi-discipline teams to work
on specific projects. An informal team has been formed to implement the West Hackberry Tertiary Project. The organizational chart which identifies the team members and their responsibilities is included on Page No.13. The project manager coordinates the efforts of the individual team members and ensures that their efforts are directed toward a common goal. The project manager and most of the other members of the team report to the Resource Manager. Appendix F contains the organization charts for the Central Business Unit which identify the reporting relationships between the team members and the various managers within the overall structure of the Southeast Business Unit.

4.0 PROJECT IMPLEMENTATION

Project implementation is divided into four categories: 1) pattern design and injection strategy, 2) well workovers, 3) injection operations and 4) production operations. The following is a general overview of how the project is being implemented in the field.

4.1 Pattern Design and Injection Strategy

Over the next 12 months, the 4 million standard cubic feet per day (MMSCFD) of air injection capacity will be split between targeted fault blocks on the west flank and the north flank of the field. Injecting air into multiple fault blocks provides multiple opportunities to test the recovery process thereby lowering overall project risk. On the west flank of the field, air is injected into two fault blocks. The primary reservoir for west flank air injection is Fault Block IV. In Fault Block IV, the Gulf Land D No.51 is the upstructure air injection well while the Gulf Land D Nos. 44, 45 and 52 serve as the nearest downstructure producing wells. Although the oil rim has not yet reached the
Team Organization Chart
West Hackberry Tertiary Project

- **Sammy McDaniel**
  Resource Manager
  Gulf Coast Oil

- **Tor Kragas**
  Research Engr. (Tulsa Research Center)
  (Research Support)

- **Travis Gillham**
  Project Manager
  (Reservoir Engr., Project Coordination & Technical Reporting Req.)

- **Allen Forsee**
  Prod. Engr./Tech.
  (Workovers & Completions)

- **Dr. Zaki Bassiouni**
  LSU's Petroleum Engineering Dept.
  (LSU's Study & Technology Transfer)

- **Bruce Cerveny**
  Facilities Engr.
  (Design & Ops. of Surface Facilities)

- **Dave Linder**
  Administrative Manager
  (DOE Business Reports and Cost Tracking)

- **Bill Delcambre**
  Sr. Field Foreman
  (E. & W. Hackberry)

- **Karen Martinitz**
  Business Analyst (TDC)
  (Responsible For Billing Charges For Project)

- **Stan Bishop**
  Geologist

- **Laura Reich**
  Geophysicist
  (3-D Interpretation)

- **Field Personnel**
  (E. & W. Hackberry)
downstructure producing wells in Fault Block IV, reservoir pressure has increased and initial production response is expected in the next 12 months.

Fault Block II on the west flank of the field saw premature nitrogen breakthrough and thereafter has been utilized to receive air injection when the other air injection reservoirs are incapable of taking all of the available air injection capacity. In Fault Block II, the Watkins No.18 serves as the upstructure air injector and the Gulf Land D No.56 serves as the downstructure producing well.

On the north flank of the field, air injection begin in July of 1996 in the WH Cam C RB SU. The SL 42 No.155 serves as the upstructure air injector and increased oil production has been noted in four downstructure producing wells. Current plans are to continue air injection and to sidetrack one additional well, the SL 42 No.98, from the gas cap down into the oil rim.

The second north flank reservoir to see air injection was the Bol 3 RC SU. The Gulf Land A R/A C No.245 serves as the air injector in this reservoir. Initial air injection began in December of 1996. Increased oil production has been noted in two downstructure producing wells. Air injection will continue in this reservoir.

The Cam D sand on the north flank will be the third low pressure reservoir on the north flank to see air injection. Workover operations are underway to convert the CPSB No.58 into an air injector. In the near future, additional workovers will be required to repair producing wells that had previously watered out.
4.2 Well Workovers

The goal of the well workover program is to establish a flood pattern with sufficient well density to efficiently produce tertiary oil and to monitor the reservoir performance.

Operating conditions dictate the timing of workovers. Although it is not possible to identify all of the perspective workovers at any given time, the following wells have been identified as workover candidates for the upcoming year:

<table>
<thead>
<tr>
<th>Well Name</th>
<th>Workover Operation (w=west flank, n=north flank)</th>
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<tr>
<td>GLAC No.245 (n)</td>
<td>Injector, wash iron oxide out of gravel pack screen.</td>
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<tr>
<td>GLD No.51 (n)</td>
<td>Injector, wash sand and iron oxide out of gravel pack screen.</td>
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<tr>
<td>CPSB No.58 (n)</td>
<td>Conversion to air injector in WH NF Cam D SU.</td>
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<tr>
<td>CPSB No.26 (n)</td>
<td>Replace failed gravel pack in WH NF Cam D SU.</td>
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<tr>
<td>CPSB No.55 (n)</td>
<td>Recomplete back to Cam D in the WH NF Cam D SU.</td>
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<tr>
<td>SL 42 No.98 (n)</td>
<td>Sidetrack downstructure to oil rim in WH Cam B SU.</td>
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<tr>
<td>SL 42 No.187 (n)</td>
<td>Sidetrack downstructure to oil rim in WH NF Cam D SU.</td>
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<tr>
<td>SL 42 No.172 (n)</td>
<td>Conversion to air injector in WH NF Cam D SU.</td>
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<tr>
<td>SL 42 No.132 (n)</td>
<td>Return to production in WH NF Cam D SU.</td>
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</table>

The project design retains a certain degree of flexibility in relation to the timing of workovers. This flexibility is necessary due to the fact that the need for producing and monitor wells at any given time is dictated by the location of the oil rim and the location of the flood front. Any future well additions or substitutions will be made within the framework of accomplishing the tasks identified in the Statement of Work.
4.3 Air Injection Operations

During the next 12 months air injection will be split between the high pressure reservoirs on the west flank and the low pressure reservoirs on the north flank. The goal is to maximize production response in as many reservoirs as possible as quickly as possible. To achieve this goal, the team will attempt to maximize compressor run time while working to minimize iron oxide plugging in injection wells. To minimize iron oxide plugging, coated tubing will be run in new injectors and filters (located on air injector wellheads) are planned to catch iron oxide from injection flowlines.

4.4 Production Operations

Throughout West Hackberry Field, wells flow to nearby separate, test and boost units (STAB’s) before the produced fluids flow to the central production facilities. STAB’s allow for individual wells to be tested to nearby facilities without being exposed to the back pressure caused by long flowlines to the central production facility. Through the field’s computerized automation system, a field technologist seated at a computer terminal can route the flow from a producing well into a test separator and see the results of the test. Each of the producing wells in the air injection project will be tested at least once a month. Oxygen monitors have been installed at each of the STAB’s in the air injection project along with an oxygen monitor at the central production facility. An oxygen content of greater than 5% in the produced gas stream creates the possibility of an explosive detonation in the production equipment. Gas samples are taken periodically to measure the nitrogen, oxygen, carbon dioxide and natural gas components of the produced gas.
4.5 Monitoring Program

In addition to measuring injection and production volumes, other procedures are in place to monitor reservoir performance. The monitoring program includes bottom hole pressure surveys, pulsed neutron logs, temperature logs, gas analyses and fluid analyses. Bottom hole pressure surveys are measured on a quarterly basis. Compositional gas, water and oil analyses are run periodically to assess the effect of the flood on fluid properties. The frequency of these tests is dependent upon whether the physical characteristics of the produced fluids appear to be stable over time or undergo change.

4.6 Support Provide by Amoco's Tulsa Research Center

Over the next 12 months, representatives from Amoco's Tulsa Research Center will provide consulting and or technical support in the areas of: 1) technical analysis of project performance, 2) benchmarking other air injection projects, 3) reservoir modeling, 4) laboratory tests, 5) interaction with LSU and 6) technology transfer.

5.0 PLAN FOR INTERACTION WITH LSU

5.1 Information Exchange

The Petroleum Engineering Department at Louisiana State University has been contracted to perform independent study of the project and to generate technology transfer activities. LSU is independently modeling the reservoir processes and also performing core tests. In preparation for this work, Amoco has provided LSU with core data, fluid property data, logs, cross-sections, structure maps, reservoir pressure histories, well logs and laboratory test data. Amoco is continuing to provide LSU with injection data, production rates and bottom hole pressure data. In return, LSU provides an independent project
analysis and coordinates technology transfer activities with Amoco. Examples of such coordination includes co-authoring an upcoming article in the November, 1997, issue of “World Oil” and a Petroleum Technology Transfer Council (PTTC) workshop featuring the West Hackberry Project scheduled for September 16, 1997.

5.2 Meetings and Reviews

LSU and Amoco meet at least twice a year. These meetings consist of informal work sessions for the purpose of discussing the results of field operations, reviewing LSU's independent study and planning technology transfer activities.

6.0 DOE'S REPORTING REQUIREMENTS

6.1 Schedule of Reports and Responsibilities

In Appendix C of the cooperative agreement, the DOE's has defined its reporting requirements for this project. Over the 106 month project life, a total of 197 reports are scheduled to be submitted. The reports will be prepared by an administrative analyst, a reservoir engineer and an environmental specialist. On the following page is a schedule of mandatory DOE reports and due dates.

7.0 TECHNOLOGY TRANSFER ACTIVITIES

7.1 Technology Transfer Plan

The strategy for technology transfer efforts includes three rounds of technology transfer activities. These activities take place at the beginning (1992-1994), the middle (during Budget Period No.1, 1996-1997), and the end of the project (end of Budget Period No.2, 1999-2000). The middle round of technology transfer activities will be completed during
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†This report requires a draft version submitted to the DOE before the final version is accepted.

‡Report scheduled ahead of schedule during 1985 as per the request of the DOE. (The DOE requested at the 1985 Contractors Review Meeting that quarterly reports be submitted on calendar quarters rather than quarters based upon the contract work-year dates.)

Note: Budget Period 1 will run from Sept. 1, 1983 to March 31, 1984 and Budget Period 2 will run from April 1, 1984 to July 31, 2000.
The mid-project technology transfer activities include: 1) PTTC workshop on September 16, 1997 at LSU which features the West Hackberry Air Injection Project, 2) a talk to the combined Westlake and South Louisiana SPE Study Groups reviewing the West Hackberry Air Injection Project, 3) presentation of an air injection paper at the 1997 SPE Annual Technical Conference and Exhibition on October 6, 1997 and 4) an air injection article in the November, 1997, issue of “World Oil.” In addition, the West Hackberry Air Injection Project received a “Best of the Gulf Coast Award” in the enhanced oil recovery category from the Texas Independent Producers and Royalty Owners Association (TIPRO) in August of 1997.

8.0 QUALITY ASSURANCE PLAN

8.1 Continuous Improvement Through Employee Involvement

Amoco Production Company has defined continuous improvement as the implementation of the progress value through systematic processes to relentlessly look for opportunities to improve ourselves and what we do in service of our customers. Amoco adopted the continuous improvement approach in 1991 and has been training its employees in its principles since that time. Through continuous improvement, work teams are taught to identify their customers and suppliers, define work processes and cycle times, develop action plans and follow their progress through scorecards. Work teams are also taught problem solving skills. Employee involvement empowers employees by delegating responsibility for their work down to their level. Employees have been empowered to make decisions, to take responsibility and to be held accountable for their actions. Staff
meetings which emphasize continuous improvement usually occur on a monthly basis and are held both in the field and in the Houston office. The principles of continuous improvement through employee involvement are being applied throughout the project.

9.0 ENVIRONMENTAL, HEALTH AND SAFETY ISSUES

9.1 Amoco's Environmental, Health, and Safety Program

Amoco Corporation and its subsidiaries support the goals for adhering to high standards of environmental quality, product safety and providing a work place that protects the health and safety of our employees and the communities surrounding our facilities. As an industry leader in environmental stewardship, Amoco was the first major oil company to convert to subsurface salt water disposal in all of its field operations in the State of Louisiana. In the arena of health and safety issues, Amoco's field personnel undergo safety training, hold routine safety meetings and perform safety audits throughout their operations. Amoco's Hackberry field personnel have not experienced a lost time accident since December 28, 1992. Amoco emphasizes safe practices for contractors as well. Safety meetings are routinely held on West Hackberry's workover rig. In order to deal with incidents such as spills, accidents or explosions, Amoco has formulated the Hackberry Emergency Action Plan which is included herein as Appendix C. Copies of the Hackberry Emergency Action Plan reside in both the field and the Houston office.

9.2 Safety Concerns Relating to Air Injection

Safety concerns relating to air injection usually deal with the possibility of explosions. Explosions can occur in the following areas:
1. Surface Production Equipment--Explosions in production equipment can occur when the oxygen content of the produced gas exceeds 5%. Oxygen breakthrough should not be a problem as the combined results of the reservoir model and laboratory tests have indicated that all of the oxygen injected in this project will be consumed in the reservoir due to spontaneous combustion. As an added precaution, oxygen monitors have been installed at the pertinent STAB units and the central production facility to identify the presence of oxygen in the production stream.

2. Surface Injection Equipment--Explosions within and downstream of the air compressors have occurred in past air injection projects due to the mixing of pressurized, heated air with lubricating oil from the air compressors. This problem has been avoided through the use of an oil-less screw compressor, through the use of synthetic lubricating oil in the reciprocating compressor and through periodic cleaning of lubricating oil deposits in the reciprocating compressor piping.

3. Downhole Explosions in Air Injection Wells--In some instances, explosions have occurred downhole in air injection wells. When air injection stops, hydrocarbons may flow into the injection well. When air injection resumes, the mixing of the pressurized, heated air with the hydrocarbons in the wellbore can result in an explosion. A water purge system was installed to fill the injection well with water when air injection is interrupted. The water purge system was in use for the first six months of operations and was discontinued due to problems resulting from severe corrosion. Since that time, air injection has continued without the use of a purge system of any kind with no apparent negative consequences.
APPENDIX A

STATEMENT OF WORK
Background and Objectives

The goal of the West Hackberry Tertiary Project is to demonstrate the technical and economic feasibility of oil recovery using air injection in the Double Displacement Process. The Double Displacement Process is the gas displacement of a water invaded oil column for the purpose of recovering oil through gravity drainage. A novel aspect of this project is the use of air as the injection fluid. This technology will be applicable to reservoirs which have both sufficient bed dip for gravity drainage and sufficient reservoir temperature for the consumption of oxygen. Numerous water-drive reservoirs associated with salt dome fields along the Gulf Coast would be potential follow-up candidates for this technology. The use of air injection in this process offers the benefits of air’s excellent accessibility and low cost combined with potentially greater recovery due to the combustion process. If successful, this project will demonstrate that the use of air injection in the Double Displacement Process can economically recover oil in reservoirs where tertiary oil recovery is presently uneconomical.

Based on a preliminary project design developed prior to commencement of the project, the following basic operational information has been determined for the study: injection rates; selection of reservoirs and fault blocks; required number of producing and injection wells; requirements for new wells versus re-completing existing wells; requirements for continuous injection versus intermittent injection; assessment of the disposal of produced gases by flaring or injection into low pressure reservoirs; unitization; and the design of surface production and injection facilities. The project is designed for injection into two separate fault blocks (Fault Blocks II & IV). In Fault Block IV, the technology will be assessed using a line of four producers at structurally equivalent positions in a heavily developed area. In Fault Block II, the technology will be assessed using a single producer in a sparsely developed area.

A description of each task associated with the project is provided below.

Task 1 - Environmental Study

It is anticipated that this project will be categorically excluded from the DOE NEPA requirements. Upon DOE certification, if this project does qualify for a categorical exclusion, this task will not be required. If this project does not qualify for a categorical exclusion, then this task will involve activities, such as data collection and reporting, that are required by the DOE to meet NEPA requirements.

Task 2 - Construction of Surface Facilities

The necessary permits required for construction of the surface facilities will be obtained. Based on the preliminary project design, Amoco will acquire the necessary equipment/facilities to inject 4-4.5 MMCFD of air at pressures greater than 4000 psi. Surface injection facilities will be installed which consist primarily of the air compressors and water purge system for the injection wells. The timing for the installation of production facilities will be tied to workovers on the producing wells conducted in Task 5. The production facilities will consist of flowlines, possibly an Natural Gas Liquids recovery unit, and a separate-test-and-boost (STAB) facility. After separation and testing, produced fluids will be piped to Amoco’s central production facility. Undesired produced gasses will be flared or injected into low pressure reservoirs.
Task 3 - Conversion of Producing Wells to Injection Wells

Two producing wells will be converted to injection wells. Initially, a single injection well will be dedicated to each of the two fault blocks. Two additional injectors (i.e. converted producing wells) may be required to improve the economics of the process. A typical workover to convert a producing well to an injector would require cleaning out the wellbore, perforating the full prospective injection interval, and completing the well with new packers, tubing, and wellhead (i.e. valves, etc.).

Task 4 - Operations and Maintenance of Injection Facilities

The operation of the high pressure air compressors in the injection facilities requires close attention to safety issues. Synthetic lubricants and periodic cleaning of injection equipment will be conducted to prevent the possibility of a detonation resulting from the combination of high pressure air and hydrocarbon deposits. Additionally, routine maintenance of injection equipment will be conducted to avoid the possibility of catastrophic mechanical failure. Workovers to repair injection wells will be performed on an as needed basis.

Task 5 - Workovers for Monitoring and Producing Wells

A total of 9 wells will be repaired and/or re-completed to serve as producing wells and/or monitoring wells for the project. The timing of the workovers will be dictated by the advance of the flood front. The task of monitoring the flood front is addressed in Task 6. Once the project is underway, workovers to repair producing and monitoring wells will be performed on an as needed basis.

Task 6 - Production Operations

All production operations for the project will be handled by Amoco field personnel assigned to West Hackberry Field. Produced liquids will be transported through existing collection lines to be handled at an Amoco Tank Battery. Initially, producing wells will be gas lifted within Amoco’s field-wide gas lift system. When the produced gasses become concentrated with undesirable components (e.g. nitrogen and carbon dioxide) due to breakthrough, it will be necessary to install a separate gas lift system for the project. The separate gas lift system will require a gas lift compressor. Produced gasses will either be sold, burned as fuel, flared or re-injected into low pressure reservoirs on the north flank of the field. Booster compressors may be required to generate sufficient pressure for injection of produced gasses. A flowline will be installed to the north flank of West Hackberry Field in order to carry the produced gasses to the low pressure reservoirs in that area. Monthly production tests, at a minimum, will be performed on all producing wells. Gas analyses will be conducted periodically to monitor the composition and oxygen content of the produced gasses. Produced oil and water samples will be analyzed periodically to determine their composition and physical properties. Pulsed neutron logs, bottom hole pressure surveys, temperature surveys, and spinner surveys may be run in both producing and monitoring wells in order assess the effectiveness of the project. Periodic replacement of surface production and injection equipment (including flowlines) may also be required due to wear and tear on these items.
Task 7 - Reservoir Management

Reservoir modeling studies will be conducted to effectively manage the project. These studies will assist in assessing the following: distribution of injection volumes; timing of repairs and recompletions; and the determination of monitoring schemes and schedules. Amoco’s "THERM" reservoir model will be used to history match reservoir performance and to predict future reservoir performance. Specialized combustion tests will be conducted at Amoco’s Combustion Laboratory in Tulsa, Oklahoma to assist in monitoring and predicting the performance of the project. Reservoir fluid property analyses will be conducted to calibrate the reservoir model. The results of reservoir management will be continually documented and reported in a manner consistent with the DOE reporting requirements and technology transfer needs of the project.

Task 8 - Louisiana State University Technology Transfer

A yearly Amoco grant will be provided to the Petroleum Engineering Department at Louisiana State University (LSU). LSU will study various aspects of the project and report their findings. LSU will publish and make industry presentations on all results from their analyses. Amoco plans to provide LSU with all pertinent data and information from the project. Examples of typical data and information that will be made available to LSU include the following: individual well production rates; individual well injection rates; structure maps; net pay isopachs; core data; well logs; gas analyses; and fluid property data.

Task 9 - Amoco Technology Transfer

Amoco will assess the technical and economic feasibility of Double Displacement Process based on the data and information acquired from the project. These results will be documented and submitted to various technical conferences for presentation and/or publication. Since the Double Displacement Process will probably have its greatest applicability to salt dome fields along the Gulf Coast, Amoco personnel will focus on technical conferences in the Houston, Texas and New Orleans, Louisiana areas. It is anticipated that presentations and/or papers will be completed at the beginning, middle, and end of the project. Amoco does not intend to regard any data and/or information on this project as proprietary.
APPENDIX B

WORK BREAKDOWN STRUCTURE
APPENDIX B - WORK BREAKDOWN STRUCTURE (Page 2)

3.0 CONVERSION
CONSTRUCTION
OF PRODUCERS
TO INJECTORS
(COMPLETED)

LEVEL 1

3.A. WATKINS
NO. 16
(COMPLETED)

3.B. QLD NO. 61
(COMPLETED)

3.C. GL42 NO. 155
(COMPLETED)

3.D. GPGB NO. 68
(IN PROGRESS)

3.E. GL42 NO. 172

LEVEL II

LEVEL III

3.A.1 WORKOVER
PROCEDURE

3.A.2 PERMIT
RECOMPLETION

3.A.3 PERFORM
RECOMPLETION

3.A.4 OBTAIN UIC
PERMIT

3.B.1 WORKOVER
PROCEDURE

3.B.2 PERMIT
RECOMPLETION

3.B.3 PERFORM
RECOMPLETION

3.B.4 OBTAIN UIC
PERMIT

3.C.1 WORKOVER
PROCEDURE

3.C.2 PERMIT
RECOMPLETION

3.C.3 OBTAIN UIC
PERMIT

3.D.1 WORKOVER
PROCEDURE

3.D.2 PERMIT
RECOMPLETION

3.D.3 PERFORM
RECOMPLETION

3.D.4 OBTAIN UIC
PERMIT

3.E.1 WORKOVER
PROCEDURE

3.E.2 PERMIT
RECOMPLETION

3.E.3 PERFORM
RECOMPLETION

3.E.4 OBTAIN UIC
PERMIT
APPENDIX B - WORK BREAKDOWN STRUCTURE (Page 3)

LEVEL 1

A. OPERATIONS AND MAINTENANCE OF AIR COMPRESSORS
   B. FUEL FOR AIR COMPRESSOR
   C. OPERATION OF PURGE SYSTEM
   D. OPERATION COSTS FOR INJECTION WELLS
   E. REPAIR INJECTION WELLS

LEVEL 2

A.1 OPERATIONS AND MAINTENANCE OF AIR COMPRESSORS
   A.1.1 TRAIN FIELD PERSONNEL
   A.1.2 MONITOR OPERATION & PERFORM REPAIRS AS NEEDED
   A.1.3 PERIODIC MAINTENANCE

   A.2 FUEL FOR AIR COMPRESSOR
   A.2.1 NEGOTIATE GAS PURCHASE CONTRACT
   A.2.2 SUBMIT CONTRACT TO DOE FOR APPROVAL
   A.2.3 PURCHASE GAS

   A.3 OPERATION OF PURGE SYSTEM
   A.3.1 MONITOR OPERATION
   A.3.2 REPLACE INJECTED KCL WATER
   A.3.3 PERFORM MAINTENANCE AND REPAIRS AS NEEDED

   A.4 OPERATION COSTS FOR INJECTION WELLS
   A.4.1 MONITOR INJECTION VOLUMES AND PRESSURES
   A.4.2 PERFORM WORKOVER

   A.5 REPAIR INJECTION WELLS
   A.5.1 PREPARE PROCEDURE

LEVEL 3

A.1.1 OPERATIONS AND MAINTENANCE OF AIR COMPRESSORS
   Ongoing

A.2.1 FUEL FOR AIR COMPRESSOR
   Operation

A.3.1 OPERATION OF PURGE SYSTEM
   Operation

A.4.1 OPERATION COSTS FOR INJECTION WELLS
   Operation

A.5.1 REPAIR INJECTION WELLS
   Repair

MONITOR FIELD PERSONNEL
NEGOTIATE GAS PURCHASE CONTRACT
SUBMIT CONTRACT TO DOE FOR APPROVAL
REPLACE INJECTED KCL WATER
PREPARE WORKOVER

PERIODIC MAINTENANCE

INJECTION WELLS

REPAIR

CONTINUE

CONTINUE

PREPARE

SUBMIT

REPLACE

PERFORM
APPENDIX B - WORK BREAKDOWN STRUCTURE (Page 4)

LEVEL 1

5A. 6L2 NO. 1 (OR WATKINS NO. 24)
5B. 6L2 NO. 13 (68) (COMPLETED)
5C. 6L2 NO. 62 (COMPLETED)
5D. 6L2 65 & 66 (COMPLETED)
5E. 6L2 NO. 28ST
5F. S.6 & Q. CP6B 26 & 65
5H. S.62 NO. 164
5I. 6L2 NO. 167ST
5J, K, L. WATKINS NO. 17,4 & 7
5M. REPAIR PROD. AND MONITORING WELLS

LEVEL II

5A.1 5A 2 PERMIT RECOMPLETION
5B.1 5B 2 PERMIT RE-ENTRY
5C.1 5C 2 PERMIT RECOMPLETION
5D.1 5D 2 PERMIT REWORKER
5E.1 5E 2 PERMIT RECOMPLETION
5F.1 5F 2 PERMIT REWORKER
5G.1 5G 2 PERMIT RECOMPLETION
5H.1 5H 2 PERMIT REWORKER
5I.1 5I 2 PERMIT REWORKER
5J.1 5J 2 PERMIT REWORKER
5K.1 5K 2 PERMIT REWORKER
5L.1 5L 2 PERMIT REWORKER
5M.1 5M 2 PERMIT REWORKER

LEVEL III

5A.2 5A 3 PERFORM WORKOVER
5B.2 5B 3 PERFORM RE-ENTRY
5C.2 5C 3 PERFORM RECOMPLETION
5D.2 5D 3 PERFORM RECOMPLETION
5E.2 5E 3 PERFORM SIDETRACK
5F.2 5F 3 PERFORM WORKOVER
5G.2 5G 3 PERFORM SIDETRACK
5H.2 5H 3 PERFORM WORKOVER
5I.2 5I 3 PERFORM WORKOVER
5J.2 5J 3 PERFORM WORKOVER
5K.2 5K 3 PERFORM WORKOVER
5L.2 5L 3 PERFORM WORKOVER
5M.2 5M 3 PERFORM WORKOVER

REVISED 09/09/07
THM/PM
APPENDIX B - WORK BREAKDOWN STRUCTURE (Page 6)

LEVEL 1

- T.1. RESEARCH ENGINEERING SUPPORT (ONGOING)
- T.2. FLUID CHARACTERIZATION (COMPLETED)
- T.3. COMBUSTION TUBE & ARC TESTS (COMPLETED)
- T.4. REPORTING REQUIREMENTS (ONGOING)

LEVEL II

- T.1.1. MONITOR PROJECT PERFORMANCE
- T.1.2. PERFORM TESTS
- T.1.3. PROVIDE TECHNICAL SUPPORT
- T.1.4. ANALYZE PROJECT PERFORMANCE

- T.2.1. OBTAIN FLUID AND CORE SAMPLES
- T.2.2. PERFORM TESTS
- T.2.3. PREPARE MANAGEMENT REPORTS AS REQUIRED

LEVEL III

- T.1.1. OBTAIN FLUID SAMPLES & RECOMBINE
- T.2.1. OBTAIN FLUID AND CORE SAMPLES
- T.3.1. PREPARE TECHNICAL REPORTS AS REQUIRED

- T.3. COORDINATE PROJECT IMPLEMENTATION
- T.1. UPDATE RESERVOIR MODEL
- T.2. PERFORM TESTS
- T.4. MONITOR PERFORMANCE

- T.2.1. PREPARE TECHNICAL REPORTS AS REQUIRED

- T.3.1. REPORTING REQUIREMENTS
- T.4.1. ANALYZE PROJECT PERFORMANCE

- T.4.1. PROJECT MANAGEMENT & RESERVOIR ANALYSIS (ONGOING)
APPENDIX B - WORK BREAKDOWN STRUCTURE (Page 8)

LEVEL I

LEVEL II

LEVEL III

AMOCO'S TECHNOLOGY TRANSFER (ONGOING)

LEVEL I

LEVEL II

LEVEL III

RESERVOIR ENGINEER

RESEARCH ENGINEER

TALKS AND PAPERS

TALKS AND PAPERS
APPENDIX C

HACKBERRY EMERGENCY ACTION PLAN
Southeast Business Unit

Emergency Action Plan

Date of last revision: March 26, 1996
EMERGENCY ACTION PLAN HACKBERRY (on site)

HACKBERRY IS LOCATED — SECTION 23, TOWNSHIP 12S - RANGE 10W, CAMERON PARISH, LOUISIANA
APPROXIMATELY 15 MILES SOUTH OF SULPHUR, LOUISIANA
LATITUDE: 30 DEGREES, 0 MINUTES, 18 SECONDS
LONGITUDE: 93 DEGREES, 21 MINUTES, 17 SECONDS

290 AMOCO ROAD
HACKBERRY LA. 70645
318/762-3503

FROM INTERSTATE 10 AT SULPHUR, LA. TAKE HWY. 27 SOUTH TO HACKBERRY (APPROXIMATELY 17 MILES). TURN RIGHT ONTO AMOCO ROAD. (BROWN FOOD CENTER). OFFICE IS LOCATED AT THE END OF THE ROAD.

SUPERVISORS TO BE NOTIFIED

BILL DELCAMBRE
OFFICE: 318/989-5551
PAGER: 318/438-0052
MOBILE: 318/496-5600
HOME: 318/762-4234

BILL GEIDEL
OFFICE: 713/366-5489
PAGER: 318/268-1224
MOBILE: 318/278-5627
HOME: 318/981-9423

HOUSTON HOTLINE: 1-800-332-4668
IN CASE OF EMERGENCY YOU CAN CALL LOCAL 911 NUMBER

HOTLINE PROCEDURES ARE FOUND ON PAGE 34 OF THE EMERGENCY ACTION PLAN BOOK (THIS BOOK).

IF YOU CAN NOT GET BILL DELCAMBRE NOTIFY THE FOLLOWING PERSONNEL

BERNIE JINKS
OFFICE: 318/762-3503
PAGER: 318/438-0053
HOME: 318/625-2105

MARCUS FONTENOT
OFFICE: 318/762-3503
PAGER: 318/493-4804
HOME: 318/474-8288

OTHER PERSONNEL TO BE NOTIFIED

NAME
BRYAN BARROW
C. J. BOURGEOIS
SHELBY CELESTINE
JOE EAST
MELVIN EASTER
LARRY GEORGE
FRANK MILLER
PHIL POURTEAU
TRAP ROBERTS
DWAYNE SANNER
ROBERT SILVER
DONNIE SIMAR
CLARENCE SMITH
DEREK VAN NORMAN
U.S. COAST GUARD (LOCAL)

PAGER
318/493-4805
318/493-4813
318/493-4809
318/431-3604
318/438-0079
318/437-1366
318/437-1365
318/438-0083
318/493-4806
318/438-0056
318/493-4808
318/493-4714
318/493-4807
318/438-0055

HOME
318/786-4479
318/477-1763
318/734-3749
318/762-4494
318/625-3644
318/494-1644
318/625-3087
318/477-2659
318/478-9219
318/762-3878
318/762-4730
318/762-3826
318/786-2313
318/855-3142
318/433-3765
HACKBERRY FIELD - SUPPORT

CRANE

AAA CONSTRUCTION (TRIPLE A) ——— 318/762-3880
WEST CAL CONSTRUCTION ———— 318/882-1238

DIRT WORK EQUIPMENT

AAA CONSTRUCTION (TRIPLE A) ——— 318/762-3880
ABSHIRE CONSTRUCTION ———— 318/762-3992
TAB’S INC. ———— 318/762-3370
TANNER CONSTRUCTION ———— 318/624-8199 OR 318/234-3433

DISPOSAL CONTRACTOR

CAMPBELL WELL SERVICE ——— 318/588-4468
WASTE MANAGEMENT ———— 318/436-7229
WESTERN WASTE ———— 318/474-9830

ELECTRIC SERVICE COMPANIES

CROCHET ELECTRIC ———— 318/824-0438
ENTERGY ———— 318/527-5242
WATSON ELECTRIC ———— 318/824-2489

ENVIRONMENTAL CONTRACTORS

OVAC, INC. ———— 318/433-1602
CLEAN GULF ASSOCIATES ——— 800-444-7830
LARCO ENVIRONMENTAL ———— 318/474-3660

ENVIRONMENTAL SUPPLIES & EQUIPMENT

OVAC, INC. ———— 318/433-1602
CLEAN GULF ASSOCIATES ——— 800-444-7830

ROUSTABOUT CREWS

AAA CONSTRUCTION (TRIPLE A) ——— 318/762-3880
ABSHIRE CONSTRUCTION ——— 318/762-3992
CAMERON CONSTRUCTION ——— 318/775-5522
CRAINE BROTHERS ——— 318/538-2411
OVAC, INC. ——— 318/433-1602
TAB’S INC. ———— 318/762-3370
TANNER CONSTRUCTION ———— 800-624-8199

SPILL CONTRACTORS

OVAC INC. ———— 318/433-1602
LARCO ———— 318/474-3660
VACUUM TRUCKS/WATER TRANSPORTING

CALCASIEU RENTAL ---------------------- 318/433-5929
LOUISIANA TANK ----------------------- 318/436-1000

WELDERS

WELCH WELDING SERVICE ---------------- 318/762-4481
ABSHIRE CONSTRUCTION ---------------- 318/762-3992
LEGER WELDING ------------------------ 318/762-3912
SOUTHSIDE MACHINE --------------------- 318/478-1096
TANNER CONSTRUCTION ------------------- 800-624-8199
SHORTY’S ----------------------------- 318/666-2905
Serious Illness or Injury

Oxygen is available at:

HACKBERRY FIRE DEPT
HWY 27 SOUTH
HACKBERRY
318/762-3333
(OR CALL FOR AMBULANCE)

Resuscitator is available at:

HACKBERRY FIRE DEPT
HWY 27 SOUTH
HACKBERRY
318/762-3333
(OR CALL FOR AMBULANCE)

Ambulance: Phone 318/527-8322 - LAND/SULPHUR
318/433-1668 - AIR/LAKE CHARLES

Doctors to be used:

Address and Phone
DR. C. ANDERSON 318/477-8252
PROFESSIONAL MEDICAL CORP
630 EAST SCHOOL ROAD
LAKE CHARLES

Hospitals to be used:

Address and Phone
WEST CAL/CAM HOSPITAL 318/527-4270 (SULPHUR)
701 EAST CYPRESS STREET
SULPHUR

Fire Department: Phone 318/762-3333 (HACKBERRY)
IF NO ANSWER, DIAL: 318/762-4701

Law Enforcement:

Police: Phone 318/762-4701 (HACKBERRY)
Sheriff: Phone 318/775-5111 (CAMERON)
Highway Patrol: Phone 318/491-2511 (LAKE CHARLES STATE POLICE)

Supervisors to be Notified

Address and Phone
BILL DELCAMBRE 318/989-5551
BILL GEIDEL 318/981-9423
OFFICE: 318/989-5551
OFFICE: 318/989-5489
PAGER: 318/438-0052
PAGER: 318/268-1224
MOBILE: 318/496-5600
MOBILE: 318/278-5627
HOME: 318/762-4234
HOME: 318/981-9423
HOUSTON HOTLINE: 1-800-332-4668
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# Emergency Contact Information

- **HOTLINE 800-332-4668**
- **HOTLINE Procedures 800-332-4668**
- **Corporate Security**
- **Houston Support**
- **Business Unit Support**
  - Incident Command System
  - BU Emergency Phone List
- **Contractor Support**
  - Cranes
  - Dirt Work Equipment
  - Disposal Contractors
  - Electric Service Companies
  - Environmental Contractors
  - Environmental Supplies
  - Environmental Equipment
  - Miscellaneous
  - Roustabout Crews
  - Safety Contractors
  - Service Units
  - Spill Contractors
  - Trucking/Hot Shot
  - Vacuum Trucks/Water Transporting
  - Welders
- **Pipeline Companies**
- **Outside Producing Companies**
- **Sales Companies**
- **Government Agencies**
  - All Sites
  - Louisiana
  - Texas
  - Alabama
- **Site Specific Contacts**
  - Kalkaska OC
  - Lafayette OC
  - Longview OC
  - Oak Grove OC
  - Old Ocean OC

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- **Public Relations**
- **EAP Plan Updating & Training**
- **Site Locations**
  - Bastian Bay
  - Bayou Des Allemands
  - Blocker Field Office
  - Blocker Plant
  - Chalybeat Springs Field Office
  - Cheniere
  - Judge Digby
  - Hackberry - East & West

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*SBU Emergency Action Plan*
Overview

Preface & Statement of Company Policy

Amoco Production Company is committed to conducting its operations in accordance with the values set forth by the employees of Amoco Production Company. These values state that:

We pledge to protect the environment and the health and safety of our employees, products, and the communities in which we operate. We give this meaning by:

- Developing better ways to protect the environment.
- Striving for a healthy, accident-free workplace.
- Providing information and assistance that allows for safe handling and use of our products.
- Maintaining a state of preparedness for responding to accidents and emergencies.
- Assisting employees in maintaining their health.

Correct, effective and safe response to emergency incidents is critical to these values.

An effective and viable Emergency Action Plan is intended to provide for prior planning and guidance in responding to emergency incidents. The primary considerations in its development were personnel and public safety, protection of company and public property, and protection of the environment.

Although the plan addresses varied emergency situations, it recognizes that flexibility and the use of the organization's knowledge and experience is critical to safe resolution of emergency incidents. Response actions outlined in the plan provide a framework which may be placed into operation without confusion while promoting quick and decisive actions and protecting the safety of personnel and the public.

Every effort has been taken to minimize or eliminate all potentially hazardous situations and avoid accidents due to equipment failure by the dedicated efforts of our people in maintaining a preventive maintenance program.

The Field Teams, Safety Engineer and Environmental Coordinators are responsible/accountable for implementation, evaluation, and maintenance of this Emergency Action Plan in accordance with Amoco Safety Standards.
What’s in This Plan

This plan is constructed in modules which address the various steps to be taken in responding to emergency situations within Southeast Business Unit.

The plan contains the following modules:

Emergency Notification & Response Chart. This is a flow chart depicting the notification and priority actions of key personnel.

Areas of Responsibility in an Emergency addresses the responsibilities of Amoco personnel, contractors, and civil authorities in an emergency in more detail than does the Emergency Notification & Response Chart and includes who may initiate Emergency Shutdown and Who Does What.

Amoco Emergency Roles and Responsibilities. This section gives further detail on the roles and responsibilities of the key Amoco personnel during an emergency.

Emergencies & Response Actions. This section has information on various emergencies and specific actions that should be taken: Fires or Explosions, Spills, Hydrocarbon Vapor Clouds, Hydrogen Sulfide (H₂S) Release, HAZWOPER Response, Bomb Threat, Natural Disasters, Hazard Exposure (NORM), and Personal Injury & Death are addressed.

Emergency Contact Information contains information on contacting the HOTLINE 800-332-4668; Corporate Security 312-856-6161; Houston Support; Business Unit Support; Contractor Support; Pipeline Companies; Outside Producing Companies; Sales Companies; Government Agencies; and Site Specific Contacts for each Operating Center.

The plan also includes:
• Incident Classifications.
• Public Relations.
• EAP Plan Updating & Training.
• Site Locations. Directions to all SBU sites are given.
• Response Equipment.
Statement of Company Policy

Amoco Corporation and its subsidiaries support the goals for adhering to high standards of environmental quality, product safety, and providing a work place that protects the health and safety of our employees and the communities surrounding our facilities. In accordance with these goals, our corporate policy is:

- To conduct activities in a manner consistent with appropriate safety, health and environmental considerations.
- To manufacture and market our products and furnish user information on them in a manner consistent with appropriate safety, health and environmental considerations.
- To establish and maintain corporate controls, including periodic reviews, to assure that the Company's policy is being properly implemented and maintained.
- To work with all levels of government in the furtherance and development of appropriate public policies supportive of environmental quality, product safety, and occupational health and safety.
- To comply with applicable environmental quality, occupational health and safety, and product safety laws and regulations.
- To design, construct, and operate our facilities in a manner to protect the environment, and the health and safety of our employees and of individuals in the surrounding communities.
- To safeguard our employees' health through appropriate medical programs.

This policy will be administered by each subsidiary through its line management and by appropriate corporate management, and supersedes the policy approved July 29, 1986.
Plan Revision Dates

The latest revision dates for the information for each of the Operating Centers are:

<table>
<thead>
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<th>Operating Center</th>
<th>Latest Revision Date</th>
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<tr>
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<tr>
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<td>Oak Grove</td>
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</tr>
<tr>
<td>Old Ocean</td>
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</tbody>
</table>
**Emergency Notification & Response Chart**

**Any Amoco Employee**
- Evaluates the situation
- Notifies Team leader or functions as the emergency coordinator
- Initiates rescue & first aid as the situation safely allows
- Attempts control only if the situation safely allows
- Initiates Emergency shut-down and evacuation when necessary

**Team Leader (On-Scene Commander)**
- Accounts for Amoco and Contract Personnel
- Obtains all required personal protective equipment
- Makes tactical decisions
- Coordinates Isolation efforts or equipment shut-down/field shut-in
- Report situation status to Operations Foreman

**Civil Authorities**
- Fire Department; Fire control & evacuation
- Law Enforcement; traffic control and evacuation
- EMS; Medical treatment & transportation

**Company Personnel**
- Responsible for containment and repair
- Will assist civil authorities as needed

**Contract Personnel**
- Will account for their personnel
- Will assist civil authorities as needed

**Operations Foreman (Incident Commander)**
- Ensures notification of additional key response personnel and civil authorities as needed
- Notifies Amoco Emergency Hotline (1-800-332-4668)
- Handles all media contact
- Note: The Operations Foreman will be headquartered in the Emergency Command Center

**Business Unit Emergency Task Group**
(See BUETG Manual)
- Notifies immediately if beyond Operation Center's ability to resolve the emergency

**Safety Engineer**
- Goes immediately to emergency site (unless otherwise directed by the Operations Foreman) for hazard assessment and public/personal safety.

**Field Environmental Coordinator**
- Verifies that appropriate agencies have been notified.
- Goes immediately to the emergency site (unless otherwise directed by the Operations Foreman) for environmental assessment.

**Business Unit Operations Manager**

**Note:** During an emergency, the Operations Foreman assumes command of the incident. The designated Command Center will normally be the Operating Center. The alternate Command Center will be the corresponding Field Office.

**PANDA** Model for Emergency Response:
- P - People first
- A - Act & Alert to solve problem
- N - Notify
- D - Document
- A - Appraise & Access

**Business Unit Environmental Safety and Regulatory Affairs**
- Provides support and consultation requested by the Operations Foreman, Safety Engineer and Field Environmental Coordinator
Areas of Responsibility in an Emergency

Emergency Shutdown

Any Amoco employee has the discretionary authority to initiate a shutdown of the field or facility if his assessment of the situation indicates an immediate shutdown is necessary. Often, during normal daylight hours, this decision would be deferred to the team leader; however, this decision may be left up to the judgment of the employee involved when a supervisor cannot be immediately contacted.

Who Does What

Please see the Emergency Notification & Response Chart for a simplified graph of this information.

The Person being notified or discovering the potential emergency situation:
- Evaluates and notifies appropriate personnel.
- Initiates the Emergency Action Plan.
- Initiates Rescue and First Aid as situation dictates
- Relinquishes or establishes role as Coordinator for the emergency situation.

The Emergency Coordinator at the site:
- Notifies the Operations Foreman or his relief.
- Delegates assignments relative to contacting all company, contract and emergency response personnel.
- Coordinates deployment of emergency equipment and additional manpower as the situation dictates.
- Remains on site until the emergency is over.
- Assures that the completion of repairs and the situation are under control before releasing emergency personnel.

Company Personnel are responsible for:
- Notifying the Emergency Coordinator of their location.
- Containment, notifications, and repair of hazardous condition.
- Assisting civil authorities as requested by Amoco.
- Utilization of civil authorities or other expertise as needed relative to hazards.
**Contract Personnel:**

- Immediately evacuate to a "SAFE AREA" as identified during their site orientation.
- May be asked to remain in the area to assist Amoco personnel and civil authorities as requested when it is safe to do so and adequate training has been provided.

**Civil Authorities** (Law Enforcement, Fire, EMS) are responsible for:

- Traffic Control,
- Evacuation,
- Rescue,
- Medical Treatment,
- and Fire Control.
Amoco Emergency Roles and Responsibilities

Key Amoco personnel responsibilities for incident response are:

- **Operations Foreman** or his authorized representative serves as the Incident Commander. He is responsible for contacting and activating the Business Unit Emergency Task Group (BUETG), and contacting the Field Environmental Coordinator, the Safety Engineer and the Operations Manager as needed. He is also responsible for all documentation. His relief designee assumes these responsibilities in his absence.

- **Field/Plant Team Leader** or **Emergency Coordinator** serves as the On-Scene Commander. His primary responsibility is to ensure proper evaluation and control of the emergency incident. It is his responsibility to notify or delegate notifications of all Amoco and contract personnel as well as the civil authorities needed for emergency response. He directs the actions of all personnel on-site and makes tactical decisions. The Leader/Coordinator decides if a total evacuation is necessary and designates the mustering point. He also determines when an emergency is considered over. In his absence, his relief designee assumes these responsibilities.

- **Field/Plant Tech.** In the event of an incident requiring control or monitoring, the Field/Plant Tech notifies the Team Leader if time permits or functions as the Emergency Coordinator and takes control of the situation until the Team Leader arrives.

- **Environmental Coordinator** notifies the appropriate regulatory agencies whenever environmental concerns and regulations dictate. Additionally, he provides clean-up directions, requirements for spill remediation and disposal guidelines. He may also activate the Business Unit Oil Spill Contingency Plan (OSCP) for major spills or as otherwise required. The Environmental Coordinator coordinates the investigation and post-appraisal of environmental incidents and critiques the outcome.

- **Safety Engineer** and/or **Safety Coordinator** assesses the hazards of the situation, assures the safety of the response personnel, and assists in acquiring and deploying the appropriate personal protective equipment as needed. The Safety Engineer or Safety Coordinator critiques the outcome of the situation and coordinates the investigation and post-appraisal of non-environmental incidents. He coordinates all required regulatory agency and Houston office notifications in the event of serious injury or death. The Safety Engineer or Safety Coordinator performs other duties as requested by the Safety Supervisor, Operations Manager, or Operations Foreman. He also works with contractors to make sure they are aware of all the Amoco safety policies.
Emergencies & Response Actions

Fires or Explosions

Fire-Fighting Philosophy

The field operation personnel will extinguish incipient or first-stage fires, control disaster or potential disaster situations, and perform or assist in rescue operations. The responding fire department will be given primacy when they have received a call from an Amoco representative requesting assistance in controlling a fire on any Amoco property.

Contract and Amoco Personnel Deployment

The first priority of each Amoco and contract supervisor in a major fire situation is to ascertain the location and condition of his personnel.

The contract labor foreman should report the status of his employees to the Amoco supervisor and wait for directions on assisting in resolving the emergency. If personnel are missing or injured, a search and rescue should be initiated. The safety of personnel and care for the injured will take precedence over any action taken.

After all personnel have been accounted for, they will be given instructions by the supervisors in charge.
Fire Extinguishment Procedures

- **Incipient stage**: Extinguish fire if possible. Notify supervisor and recharge or replace fire extinguisher(s). Evaluate cause.


The radio system will be used to alert personnel and pinpoint the nature and area of the fire. **Radio priority is then given to personnel directly involved with the incident.** Information on the safety of either contract or company employees in the affected area should be relayed to the Team Leader.

**Normal Working Hours**: There should be adequate personnel on site to man all positions and functions of the emergency. Follow steps 1 and 2 above.

**Night Shifts, Weekends, and Holidays**: During off hours when you may have a reduction in personnel, the following procedures should be implemented.

- As always, primary consideration will be given to the safety of personnel and care for the injured.
- If an incipient stage fire is in process and can be handled by the available personnel, it should be extinguished only after another Amoco employee or foreman has been notified.
- If the fire is not manageable, notifications should be made and the employees should evacuate the area as necessary. Initiate an Emergency Shut-Down if deemed necessary.
Spills

DO NOT MAKE ASSUMPTIONS REGARDING NOTIFICATIONS.
IF YOU EXPECT THE HOTLINE PERSONNEL TO MAKE LOCAL NOTIFICATIONS, TAKE A FEW MINUTES TO CLARIFY THAT WITH THE HOTLINE STAFF. INFORM THEM OF YOUR NEEDS REGARDING NOTIFICATIONS.

Oil and Produced Water Spills

In the event of an oil or produced water spill, the person discovering it should immediately assess the situation and, if it may be safely accomplished, stop the source of the spill. He should assess the need for additional assistance and equipment. Upon assessment he should immediately contact the HOTLINE (800-332-4668). He may elect to have the HOTLINE notify his Operations Foreman and the Environmental Coordinator as appropriate or he may make those notifications himself. The Safety Engineer should be contacted as needed.

Chemical Spills

Initial Response

CAUTION
Approaching spills of unknown chemicals can be deadly. If a chemical and its characteristics are not readily known, do NOT attempt identification.

The person discovering the spill should attempt to identify the chemical only if the label is safely accessible.
If the name of the chemical is known, consult the Material Safety Data Sheet (MSDS) for hazardous characteristics and proper handling procedures.
Do not attempt identification, control or containment of the chemical without the proper personal protective equipment.
Contact the Field Environmental Coordinator or other EH&S staff through the HOTLINE.
Chemtrec (800-424-9300) may be contacted for questions concerning response or chemical hazards.

Clean-Up

After proper handling procedures have been identified, control and containment should begin. The individual in charge should:
• Proceed to the spill site and direct activities.
• Assess the need for additional equipment and assistance.
• Inform the Operations Foreman, the Field Environmental Coordinator, and the HOTLINE of his assessment. The Operations Foreman will contact SBU BUETG for major spills.
Hydrocarbon Vapor Clouds

Upon discovery of a hydrocarbon vapor cloud release, take immediate safety precautions to protect any company personnel or others who might be in the area.

Emergency actions should be initiated only by trained personnel.

Do the following:

- Notify local Amoco personnel immediately.
- Determine wind direction. Sample/monitor area for flammable atmosphere.
- Do not drive or walk into the vapor cloud. Do not approach a vapor cloud from the downwind direction.
- Evacuate everyone for one mile in each direction and two miles in the downwind direction. Local law enforcement agencies should be involved in evacuation.
- Barricade the area of exposure. Provide medical help or call an ambulance for any victims.
- Eliminate all sources of ignition which you can access safely. (Engines, electric motors, pilot lights, some cellular phones, smoking materials, even a dome light in your vehicle can be a source of ignition.)
- Maintain contact with plant and/or pipeline personnel.
- Do not attempt to extinguish any fires at the source of the release. As long as there is a flame, control of the vapor release can be maintained. An explosion could result if the fire is extinguished.
- If the engine of your vehicle stops unexpectedly, do not attempt to start it until you are certain it did not stop due to lack of oxygen.

Amoco personnel will assist the responding civil authorities as necessary with emergency first aid, evacuations, and road blocks as the situation dictates.

Company and contract personnel will be responsible for containment and repairs to return the situation to normal. They will perform duties as requested by the Team Leader.

Primary consideration should always be given to the protection of responding personnel and the general public. Utilize every safety measure and proper PPE.
Hydrogen Sulfide (H₂S) Release

Scope
This contingency plan covers Amoco Production Company's operations involving Hydrogen Sulfide (H₂S) from the R. R. Birdwell, G. R. Kitchen, A. W. Schwarz, and P. F. Tudyk leases in Jourdanton Field, Atascosa County, Texas. This operation is subject to the provisions of the Statewide Rules for Oil, Gas and Geothermal Operations, Railroad Commission of Texas, Rule 36, revised September 15, 1985.

Purpose
The purpose of the contingency plan is to provide written procedures to be followed in the event of an accidental release of a potentially hazardous volume of H₂S.

General Description
The Jourdanton Field is located approximately five miles southwest of Jourdanton, Atascosa County, Texas. The solution gas produced from this field is from the Edwards Limestone Formation. The H₂S content ranges from 2.29 mole percent (22,900 ppm) to 3.98 mole percent (39,800 ppm). Prevailing wind conditions for this area are generally from the southeast. Suggested escape routes include FM 1332 and a gravel road south of the Jourdanton Plant. This area is relatively flat without any significant topographic features. However, the terrain gently drops in elevation south and east of the Jourdanton Plant.

Hazards and Characteristics of Hydrogen Sulfide (H₂S)
Hydrogen Sulfide (H₂S) is an acid gas which is sometimes present in natural gas, crude oil, and produced water. In low concentrations, it has the characteristic odor of rotten eggs and a sweet taste. In higher concentrations, the sense of smell is quickly paralyzed. The sense of smell can never be relied upon to indicate the amount of H₂S present.

H₂S is heavier than air, having a specific gravity of 1.189 with respect to air, so heavier concentrations will be found in low areas, such as well cellars, open ditches and topographical low spots.

Hydrogen Sulfide is highly flammable and has an explosive range of 4.3% to 45.5% by volume in air and an ignition temperature of 500 degrees Fahrenheit.

Necessity for an Emergency Action Plan
Hydrogen Sulfide in high concentrations is a poisonous gas. In the event of an accidental release it is essential that all individuals act quickly and effectively to avoid problems. An emergency plan of action is an important tool which enables Amoco, emergency response officials, and the public to act in a safe, efficient, and coordinated manner. Emergency plans are designed to save lives and mitigate potentially dangerous situations.

Sources of Hydrogen Sulfide Within an Area of Exposure
Essentially, Hydrogen Sulfide gas may be encountered at the gas injection well, Birdwell Lease; the production well east), Kitchen Lease; the production well nearest road, Tudyk Lease; the Jourdanton Plant and the production well north of the Tony Wilburn residence.

Instructions for Reporting a Gas Leak
A gas leak should be reported to the following numbers:
512-394-6900 - Freer office 7 a.m. to 5 p.m.
512-358-2006 - 24-hour answering service
Manner in Which the Public will be Notified of an Emergency

The public will be notified by telephone or in person by Amoco Production Company employees, law enforcement, and/or emergency response personnel.

Emergency Action Plan if Hydrogen Sulfide (H₂S) Release Occurs

If you have been advised to leave the area due to an accidental release of Hydrogen Sulfide gas, please do so immediately. Travel upwind of the release if possible and avoid low areas as the gas is heavier than air. Do not go back into the affected area without checking with Amoco personnel first.

Steps to Take in Case of an Emergency

Amoco personnel at location will determine if the discharge may prove hazardous to the public. An air vapor sampling pump and detector tubes such as the Drager Model 31 and/or General Monitors sensors at wells, tank batteries, road crossings, and Jourdanton Plant will be used to determine the atmospheric concentration of H₂S. If the discharge is potentially hazardous to the public, Amoco personnel at location will undertake the following procedures:

• Take immediate steps to eliminate the discharge which can be performed within a time frame that will not cause exposure to the public.
• Notify the first available supervisor listed on Jourdanton Area Emergency Assistance Call List #1.
• The supervisor who was contacted notifies other supervisors and either calls or arranges for notification of personnel on Jourdanton Area Emergency Assistance Call List #2. Following this, the supervisor calls the HOTLINE.
• Amoco personnel at the location will move to a safe site with self-contained breathing apparatus and block access to the area by unauthorized personnel and other persons until the arrival of public safety personnel.
• Amoco personnel will assist public safety and emergency officials to:
  • Set-up road blocks to cordon off area of exposure.
  • Monitor H₂S concentrations, wind velocity and direction, and area of exposure.

If the H₂S release source has not been shut off, Amoco or trained emergency personnel will don appropriate personal protective equipment and take necessary action to safely secure the release; then wait for the area to be inspected by Amoco management before permitting re-entry. As a minimum, there must be at least two persons entering an H₂S zone to mitigate a release.

Once the discharge has been stopped, no further action will be taken until the area has been carefully monitored and found to be safe. No self-contained breathing apparatus will be removed within the affected area until it has been declared safe by Amoco management.
HAZWOPER Response

The intent of the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation is to protect the safety and health of workers at hazardous waste sites and of responders to emergency incidents.

Applicability to Amoco

HAZWOPER regulates employee safety and health in three exposure scenarios:

(1) uncontrolled hazardous waste sites (i.e., Superfund or RCRA corrective action sites);
(2) hazardous waste treatment, storage and disposal (TDS) sites; and
(3) emergency response to releases of hazardous substances.

It is primarily the requirements listed in the third area, emergency response, that have potential applicability within Amoco operations.

For the purpose of this regulation, crude oil is considered a hazardous material because it is listed in the DOT list of hazardous materials. Therefore, oil spills will trigger HAZWOPER requirements if the incident meets the criteria of HAZWOPER emergency response. (See the HAZWOPER Decision Tree.)

In addition to crude oil spills, releases of hazardous gases such as hydrogen sulfide, sulfur dioxide, natural gas liquids or carbon dioxide which occur in typical production operations could also trigger, under the right circumstances, these same requirements. Therefore, the initial key to clarifying when and where HAZWOPER requirements apply is to define situations that constitute a HAZWOPER "emergency response" for APC operations.

OSHA defines emergency response within these regulations as a response effort by employees from outside the immediate release area or by other designated responders (i.e., local fire departments, mutual aid groups, designated HAZMAT teams, etc.) to an occurrence which results or potentially results in an uncontrolled release of a hazardous substance. OSHA has excluded from the emergency response definition any response to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel. Furthermore, responses to hazardous substance releases posing no potential safety and health hazard are not considered to be emergency responses. A "controlled release" would include releases that are contained by in-place facilities or safeguards, does not go off property, can be stopped by closing valve(s), or absorbed/neutralized and promptly contained at the time of release.
Levels of Training - Definitions & Requirements

Clean-up Operations of Hazardous Wastes Sites

General Site Workers
Those routinely exposed to various hazards at the site:
- minimum of 40 hours of instruction on site
- plus three days actual supervised field experience.

Occasional Workers
Those who work on the site only occasionally for a specific limited task:
- minimum of 24 hours of instruction on site
- plus one day actual supervised field experience.

Management & Supervisors
On-site managers and supervisors who are responsible for the safety and health of others:
- minimum of 40 hours of instruction on site
- plus one day actual supervised field experience
- plus at least eight additional hours of management-related training.

Refresher Training
For all levels, eight hours annually.

Certain Operations Conducted Under RCRA

New Employees
Minimum of 24 hours of instruction on-site.

Current Employees
Documentation demonstrating equivalent training specified.

Refresher Training
Eight hours annually.
Emergency Response to Hazardous Substance Release

Skilled Support Employees

Those who are skilled in operations of certain equipment and who are needed temporarily to perform immediate emergency support work, and who may be exposed to the hazards of emergency response scene, are not required to meet the training required for the employer's regular employees. However, skilled employees must receive an initial briefing that includes:

- Instruction in wearing PPE,
- Information on chemical hazards involved, and
- Information on the duties to be performed.

Specialist Employees

Those who are called upon to provide technical advice or assistance at a hazardous-substance-release incident to the individual in charge must receive training or demonstrate competency in the area of their specialization annually.

First Responder - Awareness Level

Those who may discover or report the spill must receive sufficient training in the understanding and identification of hazardous substances, risks, potential outcomes, and their role as responders.

First Responder - Operations Level

Those who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to secure, control, and contain the release from a safe distance:

- minimum of eight hours of training.

Hazardous Material Technician

Those who respond to the incident for the purpose of stopping the release, e.g., plug or patch. They are more highly trained and experienced than First Responder Operations Level personnel:

- minimum of 24 hours equivalent to Operations Level
- plus additional training on implementation of emergency response plan, use of field survey instruments, specialized PPE, incident command system, hazard/risk-assessment techniques, advance control/containment operations, decontamination, and chemical & toxicological terminology & behavior.

Hazardous Material Specialist

Those who respond with and provide support to hazardous material technicians. These individuals have more direct knowledge of the materials that may be handled. They also act as a technical liaison with various agencies.

- minimum of 24 hours equivalent to Technician Level
- plus more in-depth training in same areas as well as knowledge of the local/state emergency response plans and site health & safety plan.
**On-Scene Incident Commander**

The person who organizes and controls the complete spill response:

- Minimum of 24 hours equivalent to Hazardous Material Technician Level
- Plus additional training in decision-making process required of position.

**Post-Emergency Response**

Those who remove and clean-up hazardous materials from the site:

- Minimum of 40 hours equivalent to General Site Workers at hazardous waste sites
- Or, if the clean-up is conducted on Amoco property by Amoco personnel, the employees are required to have training on emergency response and fire prevention plans, hazard communication, respiratory protection, and other appropriate safety and health training as required for the task they are expected to perform, e.g. use of PPE, decontamination procedures.
Decontamination

Personnel responding to hazardous substance incidents may become contaminated in a number of ways and by various materials. To any emergency response where contamination of individuals, PPE, tools and equipment or clothing may result, this decontamination procedure should be considered by the incident commander.

Responsibilities

The incident commander is responsible for the determining the initiation of this decontamination procedure in the event of an emergency involving hazardous substances. The incident commander will assign responsibility for organizing and running the decontamination station to the appropriately trained personnel.

Contamination and Contaminants

Personnel may become contaminated by:

- Contacting vapors, gases, mists or particulates in air.
- Being splashed by materials while sampling or opening containers.
- Walking through materials or contaminated soil.
- Using contaminated tools or equipment.

Contaminates to be considered include:

- Caustics
- Acids
- Hydrocarbon products
- Chemical additives and components

Methods of Decontamination

Several methods of decontamination may be employed, depending on the contaminant and material contaminated. These methods include:

- Dilution - Simple flushing with water, soap.
- Absorption - Absorbing or "picking-up" material with a neutral absorbent.
- Chemical degradation - Altering the chemical structure of the material in order to neutralize.
- Isolation - isolation of material for future retrieval.
Decontamination Procedures (9-Step)

The following procedure should be utilized, either in-part or in whole, depending on the level and type of contamination present.

Remember, those performing the decontamination procedures will require PPE in order to avoid being contaminated themselves.

Step 1: Establish an entry point. The point should be established and clearly marked. It should be located in the contamination reduction zone leading from the Hot Zone.

Step 2: Primary Decontamination. Remove as much solid and/or liquid material as possible from contaminated personnel by showering (SCBA on).

Step 3: SCBA Removal. Highly contaminated SCBA should be removed and isolated for complete decontamination.

Step 4: Removal and isolation of protective clothing.

Step 5: Removal of personal clothing (as necessary). In certain extremely hazardous situations, complete removal of personal clothing may be dictated.

Step 6: Decontamination of the body (as necessary).

Step 7: Drying and provision of clean garments (as necessary).

Step 8: Medical evaluation (as necessary).

Step 9: Transportation (as necessary) to observation, rest and recovery area.

For high risk contaminants, which require all nine steps, further medical evaluation may be required.
Solutions

The following are examples that may be used for decontamination of some common materials found in the facility. For specific chemical hazards, refer to the MSDS for that material.

- **For Basic/Caustic Products:**
  2. Concentrate solution mixed with 8 liters of water in sprayer.
  3. Mixture will be 4.5% solution.
  4. Examples of products to use for:
     - Sodium Hydroxide
     - Anhydrous Ammonia (will form Ammonium Hydroxide with water)
     - Solutions with high pH.

- **For Acidic Products:**
  5. Concentrate premix solution: Sodium Hydroxide in water.
  6. Concentrate solution mixed with 8 liters of water in sprayer.
  7. Mixture will be .5M concentration.
  8. Examples of products to use for:
     - Sulfuric Acid
     - Chlorine (will form HCL with water)
     - Solutions with low pH.

- **For Hydrocarbon Products**
  10. Concentrate solution mixed with 8 liters of water in sprayer.
  11. Examples of products used for:
      - Gasoline/naphtha products
      - Aromatics including benzene
      - Heavy fuel oils
Bomb Threat

In the event of a bomb threat, the person receiving the call should try to get as much information as possible from the caller. Utilize the Bomb Threat Checklist.

Evacuation of the field should be initiated.

The person receiving the call should immediately contact other team members and the HOTLINE. Corporate Security will be notified via the HOTLINE.

Road blocks may be needed at intersections.

The person contacted should:

- Realize that every bomb threat is serious.
- Assure that the HOTLINE and Corporate Security have been notified.
- Inform the local Police or Sheriff's Department.
- Inform the local Fire Department.
- Contact team members to organize search efforts through the assistance of the local law enforcement agencies.
- If a bomb is actually located or a bombing does occur, the Corporate Security Department will need to notify the Alcohol, Tobacco & Firearms Commission. They are qualified to respond to an emergency of this nature.
- The Team Leader (or his designee) will notify the Operations Manager (or the next available level of authority). The Team Leader will work with the media and initiate documentation efforts.
Bomb Threat Checklist

Date: ___________________ Name of Company: __________________________________________

Name & Position of person taking call: __________________________________________________

Telephone number call came in on: _____________________________________________________

FILL OUT AS COMPLETELY AS POSSIBLE IMMEDIATELY AFTER BOMB THREAT.

1. When is the bomb set to explode? ___________________________________________________

2. Where is the bomb located? _______________________________________________________

3. What does the bomb look like? ____________________________________________________

4. What type of bomb is it? _________________________________________________________

5. What will cause the bomb to explode? ______________________________________________

6. Did the caller place the bomb? ____________________________________________________

7. Why did the caller place the bomb? _________________________________________________

8. What is the caller's name and address? _____________________________________________

9. Caller's Sex ______ Age ______ Accent? _____________________________________________

10. Length of call: _________________________________________________________________

DESCRIPTION OF CALLER'S VOICE (Check all that apply)

___ Calm ___ Laughing ___ Lisp ___ Disguised
___ Angry ___ Crying ___ Raspy ___ Accent
___ Excited ___ Normal ___ Deep ___ Stutter
___ Slow ___ Distinct ___ High ___ Clearing Throat
___ Rapid ___ Slurred ___ Ragged ___ Deep Breathing
___ Loud ___ Nasal ___ Familiar (Who did it sound like?)

Comments: _______________________________________________________________________

________________________________________________________________________________

PLEASE COMPLETE NEXT PAGE ALSO.
BOMB THREAT CHECKLIST (cont.)

BACKGROUND SOUNDS:

- __ Street Noises  __ House Noises  __ Factory  __ Local Call
- __ Machinery  __ Animal Noises  __ Music  __ Long Distance
- __ Crockery  __ Motor  __ Static  __ Phone Booth
- __ Voices  __ Office  __ Clear  __ PA System
- __ Other

THREAT LANGUAGE:

- __ Well-Spoken  __ Foul  __ Incoherent  __ Irrational
- __ Taped  __ Message Read by Threat Maker

REMARKS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Natural Disasters

Tornadoes

If you see a tornado, notify others in the area by radio contact. If you have had "spotter" training through the National Weather Service, contact the Sheriff's Office to report funnel clouds or tornadoes. Personnel should seek cover in a low-lying area away from power lines (e.g. ditch or culvert). Office personnel should seek cover in an internal room with no windows. After the tornado has passed, steps shall be taken to coordinate accounting for all personnel and damage assessments. The Emergency Action Plan will remain in effect until safe operation is assured.

Hurricanes

Track hurricane movement. If the hurricane appears to be approaching the field location the Team Leaders should discuss and implement hurricane preparation.

Field Preparation
I. Secure all loose objects or put them inside a building.
II. Fill all stock tanks at least half full.
III. Depending on how bad it is expected to be:
   ◦ Shut in wells.
   ◦ Get generator for communications.
IV. Important Numbers:
   ◦ National Weather Service 318-478-4810
   ◦ Gulf States Utilities 504-383-7011
Hazard Exposure (NORM)

NORM stands for Naturally Occurring Radioactive Material. NORM occurs naturally in the earth's crust, in soil, plants, and in many living organisms. NORM scale can be produced where naturally occurring radium and thorium in formation shale are dissolved into water. Production of gas and water can transport these materials to the surface where they may be deposited in pipes, vessels and other equipment. For Amoco's purposes, this radiation could be found in scale inside of heater treaters, separators, tubing, flowlines, pumps, filters, and on occasions inside short sections of process pipe downstream from elbows or transitions. The buildup of the scale can cause low but measurable levels of different types of radioactivity such as alpha particles, beta and gamma rays.

While NORM exposure is not a concern from external radiation, procedures are in place to protect employees from internal exposure. This means that, while we may be exposed to radiation "rays," they are determined to be within acceptable limits. Therefore, our only concern is with the possibility of persons ingesting or inhaling scale containing radiation particles.

Working With NORM

1. **Exposure Limit = 1,250 MilliRems per Calendar Quarter**
   (Industry studies have estimated that the highest employee exposure from NORM contaminated equipment would average less than 10% of the acceptable exposure limit.)

2. **Exposure Routes**
   - Ingestion: eating, dipping, smoking, drinking
   - Inhalation
   - Open wounds

3. **Exposure control**
   - Wash hands before eating, drinking, smoking, or dipping tobacco.
   - Keep scale wet to prevent dust from being inhaled.
   - Protect wounds or open cuts with bandages.
   - Use protective clothing, Air Purifying Respirators, gloves, boots while handling.

**NOTE:** Frequently media coverage on radiation is not favorable. While different types of radiation do have devastating potential, the radiation we are dealing with is minute in comparison. Due to the complexity of understanding it, there is often fear associated with radiation. This fear could prompt persons to react to NORM-cleaning procedures with alarm and/or calls to local media. We have included this section in the Emergency Action Plan because of this concern. **NORM scale in itself is not an emergency.**
Personal Injury & Death

Initial Response to Injury/Death

After making a call for assistance, first aid for the victim should be administered. This is the responsibility of all trained individuals. Treatment should be concentrated toward life-threatening conditions.

Do not move the victim unless in a hazardous environment or a situation which causes imminent danger to the victim or the responders.

An ambulance should be summoned for any injury which appears to be serious or fatal.

Reporting Procedures

In the event of a serious injury or death to an Amoco employee or Contractor, the following procedure is to be followed:

- Immediately report the accident to the Operations Foreman, Field Foreman and the Safety Engineer.
- The Operations Foreman will verify that internal HOTLINE notifications have been made as necessary.
- The Safety Engineer will coordinate the accident investigation and will coordinate the appropriate contacts to the Environmental, Health & Safety Department and to the Claims Attorney.
- If the victim is conscious and able to talk, he should make family contacts, unless he requests otherwise. If the victim is unable to make contacts, it is preferable to have the immediate supervisor or a close work associate make the family contact.

In the event of a fatality. The Team Leader at the location should notify the next of kin in person. The Team Leader may elect to have another employee and/or a representative from Human Resources or the local law enforcement agency assist him in the notification. Human Resource personnel are skilled in providing support and humanitarian assistance to family members or co-workers in the event of the death of an employee. HR representatives will also be able to answer various questions regarding benefits.
Emergency Contact Information

HOTLINE 800-332-4668

800-332-4668 Socon 8-321-7500

The emergency HOTLINE is a 24-hour number designed to assist with notifications in the event of an emergency or an unplanned event. The emergency HOTLINE should be notified in the event of:

- Serious Injury
- Death
- Fires/Explosions
- Spills/Upsets
- Natural Disasters causing destruction (tornadoes, hurricanes)
- Bomb Threats
- Any media-producing event

The purpose of the HOTLINE is to make necessary internal (within Amoco) notifications and to make some external notifications (such as some governmental agencies) when any of the above events occur.

The intent of the HOTLINE notification procedure is three-fold.

- First, to insure prompt communication of emergency situations throughout the company and to outside agencies.
- Second, to decrease the burden of phone communications in the area involved.
- Third, to act as a one-point contact for additional assistance should the location require it. (If additional support is required, the HOTLINE can make contact for you.)

The HOTLINE is answered by an Amoco employee during working hours and by the Security Service at the Houston office in off hours. The person answering the phone will ask for certain information; please be prepared to provide them with as much information as possible. You should request the name of the person taking the call for your records.

After the call is received from the field, internal notifications will begin. Under certain circumstances Governmental agencies will be notified. The HOTLINE personnel will keep you informed via PROFS of what notifications have been made.

HOTLINE Procedures 800-332-4668

Call is made by Field or Operations Center
Call is received by Amoco or Security Personnel.
Security Personnel contact Amoco person on call in Houston to begin internal assessment/notifications.
**Internal Notifications**

"Event" is evaluated by Houston Amoco personnel for seriousness, regulatory impact and/or media potential. Internal notification needs are determined by evaluation of event.

- Houston internal notifications begin. The following may be notified:
  - Environmental, Health and Safety Manager
  - Operations Manager
  - Business Unit Manager
  - Claims Attorney
  - Corporate Security
  - Public and Government Affairs (media)
  - Chicago Notification Center

- Location initiating call is notified of internal notifications via electronic mail.
- The Field/Operations Center is responsible for local notifications, such as the Environmental Coordinator, Safety Coordinator, Operations Foreman, etc.

**External Notifications**

The Field/Operations Center is responsible for local notifications, such as police, fire departments. HOTLINE personnel will contact the following Governmental Agencies:

- **SPILLS**
  - National Response Center
  - Louisiana Department of Environmental Quality (DEQ)
  - Louisiana State Police (LSP)

- **DEATHS/SERIOUS INJURIES**
  - No outside notifications are made by the HOTLINE. Contact the Safety Engineer and/or the Safety Supervisor. OSHA and/or the U.S. Coast Guard may need notification. (See Personal Injury and Death section.)

- **BOMB THREATS**
  - No outside notifications are made by the HOTLINE. The local police department should be notified. The Alcohol, Tobacco & Fire Arms Group (U.S. Dept. of Treasury) is notified by the local or state police department. Corporate Security will verify that they have been notified as necessary.

- **FIRES/EXPLOSIONS**
  - The HOTLINE will notify the agencies listed under spills if asked to do so.

- **NATURAL DISASTERS**
  - The HOTLINE will notify the agencies listed under spills if asked to do so.

If requested the HOTLINE will make all notifications. You must make sure the person taking the call understands that you are expecting them to make the notifications.
Corporate Security

EMERGENCY NUMBER ANSWERED 24 HOURS A DAY 312-856-6161

Notify to assist in providing site security for all major emergencies & spills or response for any bomb threats or terrorists activities or contact:

**For Texas & Louisiana**
R. Gary Boudreaux, Coordinator
ZRGB03 HOUVMA
Secretary

<table>
<thead>
<tr>
<th></th>
<th>Work</th>
<th>Socon</th>
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<tr>
<td>Work</td>
<td>713-366-2594</td>
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<tr>
<td>Home</td>
<td>713-391-8835</td>
<td>Socon</td>
<td>8-321-4476</td>
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<td>Work</td>
<td>713-366-4476</td>
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**For Alabama**
John Manelos
Secretary

<table>
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<tr>
<td>Work</td>
<td>404-618-4063</td>
<td>Socon</td>
<td>8-523-4062</td>
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<tr>
<td>Home</td>
<td>404-428-8353</td>
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<td>8-523-4062</td>
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<tr>
<td>Pager</td>
<td>800-759-7243</td>
<td>Id# 56536</td>
<td>8-523-4062</td>
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<tr>
<td>Work</td>
<td>404-618-4062</td>
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</table>
## Houston Support

### Claims Attorney
- **K. L. George**
  - Work: 713-366-3735  
  - Home: 713-681-4989  
  - Socon: 8-321-3735

### Computer Support
- **Joe Higgs**
  - Work: 713-366-3293  
  - Home: 713-246-2316  
  - Socon: 8-321-3293

### Engineering
- **Pat McGrievy**
  - Work: 713-366-7746  
  - Home: 713-493-4662  
  - Socon: 8-321-7746

- **W. S. Young**
  - Work: 713-366-7644  
  - Home: 713-292-2416  
  - Pager: 713-964-1057  
  - Alt. Phone: 713-584-7411  
  - Socon: 8-321-7644

### Human Resources
- **Daniel A. Prusak**
  - Work: 713-366-4250  
  - Home: 713-937-8339  
  - Pager: 800-443-7243  
  - Pin #041061  
  - Socon: 8-321-4250

- **Bruce Carmichael**
  - Work: 713-366-7690  
  - Home: 713-589-1018  
  - Mobile: 713-248-5271  
  - Socon: 8-321-7690

### Material Support
- **Ken Mathis**
  - Work: 713-366-7206  
  - Home: 713-391-2568  
  - Pager: 800-946-4646  
  - Pin #2298382  
  - Socon: 8-321-7206

- **Jack Ensor**
  - Work: 713-366-3969  
  - Home: 713-492-8285  
  - Pager: 800-946-4646  
  - Pin #1096823  
  - Socon: 8-321-3969

### Production
- **John C. Morris**
  - Operations Manager
    - Work: 713-366-3012  
    - Home: 713-578-9306  
    - Portable: 713-248-5264  
    - Pager: 800-759-7243+835-1529  
    - Socon: 8-321-3012

- **R. J. Giguere**
  - Business Unit Mgr.
    - Work: 713-366-2450  
    - Home: 713-537-5493  
    - Socon: 8-321-2450  
    - Socon: 8-321-7981
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Work Phone</th>
<th>Home Phone</th>
<th>Pager</th>
<th>Emergency Phone</th>
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<tbody>
<tr>
<td>George Tucker</td>
<td>EH&amp;S Manager</td>
<td>713-366-4736</td>
<td>713-379-6241</td>
<td>8-321-4736</td>
<td></td>
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<tr>
<td>Curt Stapleton</td>
<td>Safety Engineer</td>
<td>713-366-2423</td>
<td>713-849-4605</td>
<td>8-321-2423</td>
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<td></td>
<td></td>
<td>713-248-5269</td>
<td>800-946-4646</td>
<td>Pin #255-1684</td>
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</tr>
</tbody>
</table>
Business Unit Support

Incident Command System

A major incident may exceed the resources available at the field offices. Additional resources are available through the Incident Command System (ICS) in the following areas:

- Administrative
- Communications
- Engineering
- Environmental
- Facility Design
- Human Resources
- Legal/Claims
- New Ideas
- Press & Media
- Safety
- Security
- Transportation & Logistics
- Well Control

Additional Transportation Available Locally

If any additional vehicles are necessary, they can be obtained from a local Rental Agency. Company aircraft will be made available for the transportation of key personnel in the event of a major emergency.
## BU Emergency Phone List

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Work</th>
<th>Home</th>
<th>Portable</th>
<th>Pager</th>
<th>Work</th>
<th>Home</th>
<th>Cellular</th>
<th>Work</th>
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<td>Secretary</td>
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</tr>
</tbody>
</table>

**SBU Emergency Action Plan**

**Emergency Contact Information**
# Contractor Support

## Cranes

- **Oak Grove OC**
  - Steel City Crane Rental
    - 205-853-7170
    - Birmingham, AL

- **Lafayette OC**
  - West Cal Construction
    - 318-882-1238
    - Lake Charles, LA

## Dirt Work Equipment

- **Lafayette OC**
  - AAA Construction (Triple A)
    - 318-762-3880
  - Abshire Construction
    - 318-762-3992
  - Broussard Bros.
    - 318-893-5303
  - Bollinger Machine
    - 504-532-2554
  - Cameron Construction
    - 318-775-5522
  - Central Industries
    - 318-233-3171
  - Crain Bros.
    - 318-538-2411
  - R.W. Delaney Construction
    - 800-541-7189
  - Bill Hawkins
    - 504-686-2193 + 0689
  - Frank Jordan Backhoe
    - 504-261-384
  - Mark Olinde
    - 504-638-3554
  - Murphey's Lease
    - 318-893-3836
  - D. E. Page Construction
    - 318-433-0801
  - Soloco
    - 800-960-1972
  - Tabs, Inc.
    - 318-762-3370
  - Tanner Construction
    - 800-624-8199 or 318-234-3433
  - Tidewater Dock
    - 504-475-5000

- **Longview OC**
  - Texas Oil & Gas
    - 903-759-0140
  - Capps Construction
    - 903-693-2580
  - Palestine Contractors
    - 903-693-3824

- **Oak Grove OC**
  - Buddy Jones Excavating
    - 205-553-4520
    - Peterson, AL

- **Old Ocean OC**
  - P&W Materials
    - 409-647-4771
Disposal Contractors

*Lafayette OC*

- BFI: 504-356-2478
- Campbell Well Service: 318-588-4468
- Dufrene's Disposal: 504-532-2726
- Francis Drilling: 800-252-3104
- Hidco: 318-893-9175
- Waste Management: 318-456-7229
- Western Waste: 318-474-9830

*Electric Service Companies*

*Lafayette OC*

- A & O Electric: 504-648-2528
- Bollinger Machine: 504-532-2554
- Bill Hawkins & Son: 504-686-2193 +0689
- Crochet Electric: 318-824-0438
- Delta Electric: 504-924-5529
- Dixie Electric: 318-365-3824
- Gulf States Utilities: 318-527-5242
- Gulf So. Armature: 504-872-0486
- Gulf Western Electric, Inc: 504-766-5527
- Jeff. Davis Electric: 318-775-5332
- Point Coupee Electric: 504-638-3751
- Slemcco: 318-643-6565
- Watson Electric: 318-824-2489

*Longview OC*

- SWEPCO: 903-938-4343
- Panola Harrison: 903-935-7936
- Upshur Rural: 903-843-2536
- Rusk County Electric Coop: 903-657-4571

*Oak Grove OC*

- Alabama Power: 205-226-1271
- Tide Contractors, Inc: 205-226-1970

*Old Ocean OC*

- Atascosa: 210-569-8769
- Coonrod: 512-364-1493
- Martin Electric: 409-543-6421
- Sinton: 512-882-5622
- Jourdanton: 512-882-5622
- Corpus Christi: 512-882-5622

*Emergency Contact Information*
Environmental Contractors

**Lafayette OC**

<table>
<thead>
<tr>
<th>Company</th>
<th>Phone Numbers</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Gulf Associates</td>
<td>409-983-5646 or 800-444-7830</td>
<td>South Kaplan</td>
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<tr>
<td>Crain Bros.</td>
<td>318-538-2411</td>
<td></td>
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<tr>
<td>Craine Environmental</td>
<td>318-583-4736</td>
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<tr>
<td>Garner Environmental</td>
<td>409-983-5646</td>
<td></td>
</tr>
<tr>
<td>Industrial Clean-Up, Inc. (ICI)</td>
<td>800-436-0883 or 318-234-5104</td>
<td></td>
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<tr>
<td>LARCO Environmental</td>
<td>318-474-3660</td>
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<tr>
<td>OVAC, Inc.</td>
<td>318-433-1602</td>
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<tr>
<td>Rydell Peterson</td>
<td>504-254-3600</td>
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Environmental Supplies

**Lafayette OC**

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<tr>
<td>BIMAR (Wisconsin)</td>
<td>414-544-0960</td>
<td>Eastside</td>
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<tr>
<td>Clean Gulf Associates</td>
<td>409-983-5646</td>
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<tr>
<td>Charles Holston, Inc.</td>
<td>318-824-8184</td>
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<tr>
<td>J &amp; T Environmental Products</td>
<td>318-269-8860</td>
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<tr>
<td>National Supply</td>
<td>800-228-2688</td>
<td>New Iberia</td>
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<td></td>
<td>800-659-1217</td>
<td>Harvey</td>
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<tr>
<td>OVAC, Inc.</td>
<td>318-433-1602</td>
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<tr>
<td>Petro Boom Environmental</td>
<td>713-449-7745</td>
<td>Houston</td>
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<tr>
<td>Spill Control Service</td>
<td>800-880-8913</td>
<td>Corpus Christi</td>
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<td>Will pay freight</td>
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Environmental Equipment

**Lafayette OC**

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<td>409-983-5646</td>
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<tr>
<td>Craine Environmental</td>
<td>318-583-4736</td>
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<tr>
<td>Industrial Cleanup, Inc.</td>
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<td>LO-VAC, Inc.</td>
<td>800-638-3634</td>
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<td>OVAC, Inc.</td>
<td>318-433-1602</td>
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<td>Sanson</td>
<td>504-346-0002</td>
<td>Eastside</td>
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Miscellaneous

**Old Ocean OC**
Mission Petroleum 713-943-8250
M. O. Inc. 713-351-9847
Siefert Lease 409-244-1700
Beck Bros. 512-358-2957
Hahn's Const. 512-334-2157
J&B 512-358-3221
Mike's Hot Oil 409-567-9148
Scurlock 409-535-7594
R&R Construction 512-289-2813
Central Services 512-769-2884
Hutco 512-358-8497
Midcoast 512-526-4636
D&S Services 512-576-0640

**Roustabout Crews**

**Lafayette OC**
AAA Construction (Triple A) 318-762-3880
A & O Electrical Contractors 504-921-4701
Abshire Construction 318-762-3992
Bill Hawkins & Associates 504-686-2193 or 506-893-9380
Bolinger Machine 504-532-0998
Broussard Bros. 318-893-5303
Cameron Construction 318-775-5522
Craine Brothers 318-538-2411
Curtis Hunt 601-384-5363 or 2505
D. E. Page Construction 318-433-0801
K. L. Philips Const. 504-359-9508 or 504-359-6068
M & N Connectors, Inc. 318-563-4553
Murpheys Lease 318-893-3836
OVAC, Inc. 318-433-1602
R. W. Delaney Construction 800-541-7189
Soloco 800-960-1972
Tanner Construction 800-624-8199
318-234-3433
Tidewater Dock 504-475-5000

**Longview OC**
Texas Oil & Gas 903-759-0140
Capps Construction 903-693-2580
Palestine Contractors 903-693-3824

**Oak Grove OC**
Buddy Jones Excavating, Peterson, AL 205-553-4520

**Old Ocean OC**
Burt Lease Service 409-244-5524
W. E. Hayden Lease 512-771-3684
The contractors listed above are HAZWOPER trained and maintain an inventory of spill control equipment.
**Longview OC**

**JDW Services, Inc.**
- Office in Gladewater, Texas
- 20 employees that are HAZWOPER trained; they also manufacture their own pads and booms.

**J & H Plant Construction**
- Contact: Hack Thompson
- Office in White Oak, Texas
- 11 Employees are HAZWOPER trained.

**Palestine Contractors**
- Contact Clifton Henigan
- Office in Marshall yard.
- 20 employees that are HAZWOPER trained; they are an area distributor of peat absorbent.

The following are environmental contractors that can be used in a HAZWOPER situation, but please note that these are only recommended contractors, as other contractors can be used as you deem appropriate.

**ICI (Industrial Cleanup, Inc.)**
- Contact: Bennett Simar
- Offices in Lafayette, New Orleans, LA
- 50-60 employees that are HAZWOPER trained. Manufacture their own pads and booms. Trained to operate Clean Gulf Associates equipment.

**Riedel-Peterson Environmental Services**
- Contact: Don Edgington
- Offices in Deer Park, TX, New Orleans, LA
- 40 employees that are HAZWOPER trained.

**Garner Environmental Services**
- Contact: L.D. (Lynn) Garner
- Offices in Houston and Texas City, TX
- Garner is a distributor of pads and booms.
- Warehouse located in Houston that stores large inventory of sorbents.

**Crain Environmental Services, Inc.**
- Contact: Ned Wilson and Lynn Boudreaux
- Offices in Sulphur and Cameron, LA
- 40 employees that are HAZWOPER trained.

**OVAC, Inc.**
- Contact: Kirby Vinson
- Offices in Lake Charles and New Orleans, LA
- Approximately 25 employees are HAZWOPER trained.
Oak Grove OC

Buddy Jones Excavating
Contact: Carl Price
Office in Peterson, AL
3 employees that are HAZWOPER trained.

The following are environmental contractors that can be used in a HAZWOPER situation, but please note that these are only recommended contractors, as other contractors can be used as you deem appropriate.

ICI (Industrial Cleanup, Inc.)
Contact: Bennett Simar
Offices in Lafayette, New Orleans, LA
and LaMarque, TX
50-60 employees that are HAZWOPER trained. Manufacture their own pads and booms. Trained to operate Clean Gulf Associates equipment.

Riedel-Peterson Environmental Services
Contact Don Edgington
Offices in Deer Park, TX, New Orleans, LA
713-479-5295 (24 hour number)
504-254-3600 or 800-334-0004.

Garner Environmental Services
Contact L.D. (Lynn) Garner
Offices in Houston and Texas City, TX
713-920-1300
Garner is a distributor of pads and booms. Warehouse located in Houston that stores large inventory of sorbents.

Crain Environmental Services, Inc.
Contact Ned Wilson and Lynn Boudreaux
Offices in Sulphur and Cameron, LA.
40 employees that are HAZWOPER trained.

OVAC, Inc.
Contact Kirby Vinson
Offices in Lake Charles and New Orleans, LA
318-433-1602 or 800-256-SPIL
Approximately 25 employees are HAZWOPER trained.

Trucking/Hot Shot

Oak Grove OC
Buddy Jones Excavating, Peterson, AL 205-553-4520
Warrior Service Co., Peterson, AL 205-553-2000
Vacuum Trucks/Water Transporting

**Lafayette OC**
- Calcasieu Rental 318-433-5929
- Delaney Construction 800-541-7189
- Francis Drilling 318-775-5006
- LO-VAC, Inc. 800-638-3634 or 318-638-3634
- Louisiana Tank 318-436-1000
- Sanson 504-346-0002  Eastside
- Vanguard Vacuum Truck 504-851-0998  BDA/Bastian Bay

**Longview OC**
- Taylor Service Company 800-333-8163
- Mobley Company Inc. 903-984-8646
- Lodi Drilling and Services Company 903-665-2507

**Oak Grove OC**
- Warrior Service Co., Peterson, AL 205-553-2000

**Old Ocean OC**
- B&G Wireline 409-548-2848
- Brothers Vacuum Service 409-543-6851
- Goetz 512-358-2923  Beeville
- 512-576-5259  Victoria
- G&G 512-394-6568  Freer
- HSI 512-394-6661  Freer
- Pool 512-449-2281  George West
- Pronto 512-449-1541  George West
- Mel Ryan 512-769-2960  Jourdanton
- Transportation Mud Services 512-595-1621  Kingsville
- 800-521-7184
- Claybrook 512-526-2641  Refugio
- Pool 512-526-4314  Refugio
- Wilco 512-526-2161  Robstown
- Nueces Vac 512-884-9642  Freer
- HSI 512-394-6661
# Welders

**Lafayette OC**
- Abshire Construction
  - Lafayette, LA
  - Phone: 318-762-3992
- Belaires Welding
  - Eastside
  - Phone: 318-845-4906
- Bill Hawkins & Associates
  - S. Florence, WWL
  - Phone: 504-686-2190 +0689
- Bollinger Machine Shop
  - Eastside
  - Phone: 504-532-0998
- Cameron Construction
  - Eastside
  - Phone: 318-775-5522
- Crain Bros.
  - Eastside
  - Phone: 800-737-2767
- Ed Delatte Welding Service
  - Eastside
  - Phone: 504-447-4104
- Leger Welding
  - BDA/Bastian Bay
  - Phone: 318-762-3912
- Patins Welding Service
  - BDA/Bastian Bay
  - Phone: 318-332-2512
- Southside Machine
  - BDA/Bastian Bay
  - Phone: 318-478-1096
- Tanner Construction
  - BDA/Bastian Bay
  - Phone: 800-624-8199 or 318-234-3433
- Tidewater Dock
  - BDA/Bastian Bay
  - Phone: 504-475-5000
- Wilkes Welding Service
  - BDA/Bastian Bay
  - Phone: 318-985-2314

**Longview OC**
- Gary Barnett
  - Mobile
  - Phone: 903-738-1166
- Joe Risinger Welding
  - Home
  - Phone: 903-297-5511
  - Phone: 903-822-3571

**Oak Grove OC**
- Buddy Jones Excavating,
  - Peterson, AL
  - Phone: 205-553-4520
- Thornton Welding
  - Tuscaloosa, AL
  - Phone: 205-758-5296

**Old Ocean OC**
- Albert Foytik
  - Bay City
  - Phone: 409-244-3613
- Billy Webel
  - El Campo
  - Phone: 409-543-6946
- Matagorda Welding
  - El Campo
  - Phone: 409-244-7421
- R&R Construction
  - Corpus Christi
  - Phone: 512-289-0755
## Pipeline Companies

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Phone</th>
<th>At Sites...</th>
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<tbody>
<tr>
<td>Acadian</td>
<td>504-446-2768, 504-446-6718</td>
<td>Morganza, Judge Digby</td>
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<tr>
<td>Dispatcher</td>
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<tr>
<td>Amoco Pipeline</td>
<td>504-654-3894; 504-654-0085</td>
<td>Eastside - Port Hudson, Lockhart Crossing</td>
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<tr>
<td></td>
<td>318-762-3505</td>
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<td></td>
<td>409-835-5381 (Beaumont)</td>
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<tr>
<td>Amoco gas line to TSMA field</td>
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<td>South Florence</td>
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<tr>
<td>Colonial Pipeline</td>
<td>504-654-4572</td>
<td>Eastside - Port Hudson, Lockhart Crossing</td>
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<tr>
<td>CSX-Enron</td>
<td>318-643-8315</td>
<td>TSMA</td>
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<td>Exxon Pipeline</td>
<td>318537-5211</td>
<td>Bayou Des Allemands</td>
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<tr>
<td>Florida Gas</td>
<td>713-853-5555</td>
<td>Eastside - Port Hudson, Lockhart Crossing</td>
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<td>Judge Digby, others</td>
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<tr>
<td>Florida Gas (Enron)</td>
<td>318-942-6535 or 318-237-6831</td>
<td>TSMA</td>
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<td>L. I. G.</td>
<td>318-445-4568</td>
<td>Moore Sams, Judge Digby</td>
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<td>Louisiana Gas Service</td>
<td>504-564-3862</td>
<td>Bastian Bay</td>
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<td>Louisiana Intrastate Gas (LIG)</td>
<td>318-233-8945 or 318-445-4568</td>
<td>TSMA; Eastside - Port Hudson, Lockhart Crossing</td>
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<td>LRC</td>
<td>318-237-8586</td>
<td>West White Lake</td>
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<td>Southern Natural</td>
<td>504-545-3951, 504-839-2393</td>
<td>Eastside - Port Hudson, Lockhart Crossing</td>
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<td>Texas Eastern</td>
<td>504-638-8322, 800-366-3839</td>
<td>Judge Digby</td>
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<td>Texas-Gas</td>
<td>713-658-8048</td>
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<td>Transco</td>
<td>713-951-7851</td>
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<td>Office</td>
<td>504-654-2047</td>
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<td>Dispatcher</td>
<td>713-439-2550</td>
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<td>Trunkline</td>
<td>318-234-7481</td>
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<td>Transco</td>
<td>713-626-3061</td>
<td>Bayou Des Allemands</td>
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<td>United Gas</td>
<td>318-869-3367</td>
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## Outside Producing Companies

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<th>Company Name</th>
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<tbody>
<tr>
<td>Amerada Hess</td>
<td>504-758-7576 or 318-233-4635</td>
<td>Bayou Des Allemands &amp; Bastian Bay</td>
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<tr>
<td>BTA</td>
<td>915-687-3753</td>
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<tr>
<td>Rep: Tom Williams</td>
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<tr>
<td>Callon Petroleum</td>
<td>504-665-5800 (Denham Springs)</td>
<td>Lockhart Crossing</td>
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<tr>
<td>Chevron USA</td>
<td>318-762-3388</td>
<td>Hackberry</td>
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<tr>
<td>Energy Prod. Co.</td>
<td>214-692-8581</td>
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<tr>
<td>Rep: Joe Vaugh</td>
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<tr>
<td>Exxon</td>
<td>504-537-5211 or 713-656-1234 (24 hrs.)</td>
<td>Bayou Des Allemands &amp; Bastian Bay</td>
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<tr>
<td>Grant Chemical Co.</td>
<td>504-654-6801 (across from PH plant)</td>
<td>Port Hudson</td>
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<tr>
<td>Mobil Oil Corp</td>
<td>318-762-4740 or 318-775-3300</td>
<td>Hackberry</td>
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<tr>
<td>Texaco</td>
<td>318-762-3526</td>
<td>Hackberry</td>
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<tr>
<td>Rep: Ernest Kyle</td>
<td>318-762-4658 (Rep’s home)</td>
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# Sales Companies

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<td>Dow Chemical Company</td>
<td>713-978-3081</td>
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<tr>
<td>Phillips Petroleum Company</td>
<td>409-491-2384</td>
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<tr>
<td>Houston Natural Gas Company</td>
<td>800-392-1965</td>
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<tr>
<td>Phillips Sea Gas</td>
<td>409-647-4694</td>
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<tr>
<td>Amoco Gas Company</td>
<td>713-228-4040</td>
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<td>Channel Gas Company</td>
<td>713-877-8716</td>
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<td>NGPL Company</td>
<td>713-621-9030</td>
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<tr>
<td>Amoco Pipeline Company</td>
<td>800-332-1825</td>
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<tr>
<td>Tufco</td>
<td>214-944-7403</td>
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<tr>
<td>Valero</td>
<td>209-657-2703</td>
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Government Agencies

All Sites

Notification of the Amoco HOTLINE will result in the following agencies being notified, as needed:

- National Response Center (NRC) 800-424-8802
  NRC will notify U.S. Coast Guard, EPA and other agencies as needed.
- Occupational Safety & Health Administration (OSHA) 214-767-4731 Dallas Office
  205-731-1534

  The HOTLINE does NOT notify OSHA. (Notification is required within eight hours for fatal cases and-for injuries to three or more persons). Contact your Safety Engineer.

- Environmental Protection Agency (EPA) 404-347-4727

NOTE: Changing conditions may require a second notification of the HOTLINE and/or more involvement from the support offices.

Inform the HOTLINE when additional assistance is required from the Operations Center or the Houston Office (such as Media Support.)
Louisiana

Notification of the Amoco HOTLINE will result in the following agencies being notified, as needed:

Department of Environmental Quality (DEQ)  504-342-1234  Water Pollution Control Division
State Police (LSP) Right-to-Know  504-925-6595

LSP will notify local agencies as necessary.

Texas

TNRCC  903-595-2639  Air Program
  903-595-5466  Water Program
  903-595-5466  Waste Program

Railroad Commission (TRRC)  903-984-3026
Department of Health  903-595-3585
OSHA  214-320-2400
Environmental Protection Agency (EPA)
  Permit Branch  214-655-6444
  214-655-6770
Longview Water Intake Facility  903-759-1053
National Response Center  800-424-8802  (U. S. Coast Guard)
U.S. Army Corps of Engineers
  817-334-2300  Dallas, TX
  817-334-2150  Night (Public Affairs)
  507-378-5695  Little Rock, AR

Texas Forest Service  903-938-8712

Alabama

State Oil and Gas Commission  205-349-2852  Board of Alabama (Birmingham)
Department of Environmental Mgt. (ADEM)  205-942-6168  (Birmingham)

Public Service Commission Gas Pipeline Div.
  John Harris  205-242-5778  (Montgomery)
  Route 6, Box 362, Hartselle, AL 35640
  David Snoddy  205-773-6505  After Hours Call:
  P. O. Box 299, Rogersville, AL 35652
  205-247-0612
Site Specific Contacts

Kalkaska OC

Information on this site is not available at this time.
Lafayette OC

OC Support

Production
Bill Geidel
Team Leader, Lafayette  
Work 318-989-5489  Socon 8-352-5489  
Home 318-981-9423  
Pager 318-268-1224  
Car 318-278-5627

Communication
Tony Girouard  
Communication Tech  
Work 318-989-5430  Socon 8-352-5430  
Home 318-837-1011  
Pager 318-268-1088  
Car 318-278-3309  
Radio KKVU225 Unit 1149  
Answer Service 318-234-1311

Safety and Environmental
Doug Woodrow  
Safety Coordinator  
HAZWOPER 40 Hours Incident Commander  
Work 504-665-3200  
Home 504-664-1629  
Pager 504-339-9736  
Car 504-933-9153  
Radio Unit # 1333

R. L. Romero  
Field Environmental  
HAZWOPER Incident Commander 40 Hours  
Work 318-989-5429  Socon 8-352-5429  
Home 318-845-4481  
Pager 318-267-6470  
Car 318-278-0666  
Radio KKVU225 Unit 1148

E. L. Benoit  
Field Environmental  
Work 318-989-5426  Socon 8-352-5426  
Home 318-734-2426  
Pager 318-266-2496  
Car 318-278-4708  
Radio KKVU225 Unit 1648

Process Safety Management
Teresa Hoffman  
FRAC (Field Risk Assessment Coordinator)  
Work 318-989-5458  Socon 8-352-5458  
Home 318-643-7127  
Pager 318-265-4321  
Car 318-288-5055

Materials Coordinator
H. L. McFarlain  
Field Materials  
Work 318-989-5415  Socon 8-352-5415  
Home 318-235-8612  
Pager 318-268-1532  
Car 318-278-1489

SBU Emergency Action Plan  
Emergency Contact Information • 44
Computer Support
Mike Woods
Production Services

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<tr>
<td>Work</td>
<td>318-989-5422</td>
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<td>318-981-9213</td>
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<td>Pager</td>
<td>318-273-5491</td>
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<td>Socon</td>
<td>8-352-5422</td>
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<tr>
<td>Name</td>
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<td>Ayo, B.J.</td>
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<td>Beard, H.L.</td>
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<td>Bendily, J.A.</td>
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<td>Bertrand, E.J.</td>
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<td>Carroll, B.L.</td>
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<td>Cronan, J.C.</td>
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<td>Harkless, C. E.</td>
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<td>Landry, M.K.</td>
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<td>Landry, H. H.</td>
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<td>Parr, John</td>
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<td>Richoux, Randy</td>
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<td>Rollins, M. C.</td>
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<td>Schexnider, Darrell</td>
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# Hackberry

## Team Personnel

**Team Leader**

<table>
<thead>
<tr>
<th>Name</th>
<th>Work</th>
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<tr>
<td>W. H. Delcambre</td>
<td>318-762-3503</td>
<td>318-762-4234</td>
<td>318-438-0052</td>
<td>8-352-5551</td>
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## Field Employees

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<tr>
<th>Name</th>
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<tr>
<td>Barrow, Bryan</td>
<td>318-762-3586</td>
<td>318-493-4805</td>
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<td>Bourgeois, C.J.</td>
<td>318-477-1763</td>
<td>318-493-4813</td>
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<td>Celestine, Shelby</td>
<td>318-734-3749</td>
<td>318-493-4809</td>
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<td>East, Joe</td>
<td>318-762-4494</td>
<td>318-431-3618</td>
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<td>Easter, Melvin</td>
<td>318-625-3644</td>
<td>318-438-0079</td>
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<td>Fontenot, Marcus</td>
<td>318-474-8288</td>
<td>318-493-4804</td>
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<td>George, Larry</td>
<td>318-494-1644</td>
<td>318-437-1366</td>
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<td>Jinks, Bernie</td>
<td>318-625-2105</td>
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<td>Miller, Frank</td>
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<td>Pourteau, Phil</td>
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<td>Roberts, Earl</td>
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<td>Simar, James</td>
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<td>Van Norman, Derek</td>
<td>318-474-3921</td>
<td>318-438-0055</td>
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Outside Support

Ambulance 318-527-8322 Cal/Cam/Sulphur
Air Ambulance 318-527-5287 Air Lake Charles

Airports
Lake Charles Municipal 318-477-6081
Southland Field, Carlyss 318-583-9144

Longitude: 93 degrees, 22 minutes, 34 seconds
Latitude: 30 degrees, 7 minutes, 53 seconds

Chemtrec 800-424-9300 (for questions concerning chemical spills)

Fire Department 318-762-3333 Hackberry Fire Dept.
318-762-4701

Law Enforcement
Police 318-762-4701 Hackberry
Sheriff 318-775-5111 Cameron
State Police 318-491-2511 Lake Charles

Hospitals
Humana Hospital 318-474-6370 4200 Nelson Road, Lake Charles, LA
Lake Charles Memorial Hospital 318-494-3000 1701 Oak Park Blvd., Lake Charles, LA
St. Patrick Hospital 318-436-2511 524 South Ryan, Lake Charles, LA
West Cal/Cam Hospital 318-527-4270 701 East Cypress, Sulphur, LA

Physicians
Dr. Robert C. Looney 318-433-1048 Medical Art Center, 401 South Ryan Street, Lake Charles, LA
Incident Classifications

Incidents are classified as either "minor," "medium," or "major" based upon severity as determined by the field management. HOTLINE notification should be made on all spills regardless of the "classification."

KEEP IN MIND THAT THE DEFINITION OF "INCIDENT" IN REGARD TO THE PROCESS SAFETY MANAGEMENT (PSM) REGULATION VARIES FROM THE DEFINITIONS LISTED BELOW. PSM MAY REQUIRE INVESTIGATION OF ANY OF THE BELOW LISTED CLASSIFICATIONS OF INCIDENTS.

**Minor Incident:** A minor incident is one that can be immediately resolved by the observer and/or other field personnel without activating the Emergency Action Plan, e.g. an incipient stage fire immediately extinguished with a hand-held extinguisher.

**Medium Incident:** A medium incident is one that cannot be immediately resolved by the observer and/or other field personnel without activating the Emergency Action Plan. Such an incident requires organized control efforts to correct but does not exceed the capabilities of the field operations organization. A medium incident does not result in serious personnel injury or death nor in extensive property damage, e.g. a large hydrocarbon gas release which results in a battery shut-down and subsequent field shut-in.

**Major Incident:** A major incident is one that poses an imminent danger to personnel, impacts public health or safety, results in extensive economic impact to the company, or causes significant environmental damage. Major incidents include, but are not limited to, those which result in the following:

- Serious personal injury or death.
- Public exposure.
- Extensive property and/or production losses.
- Significant media interest or public concern.
- Chemical or toxic materials releases greater than the regulatory reportable quantity.
- Major oil spills.
- Any incident which exceeds the response capabilities of the field personnel.
- Major emergencies will require notification of and responses by the Houston Emergency Task Group (BUETG).
Public Relations

Amoco recognizes that the news media have a legitimate interest in incidents at Amoco facilities which could affect the public. It is to the company's benefit to cooperate with the news media when incidents occur because these media are our best liaison with the public.

Our objective is to see that all reports of any emergency are factual and represent the company's position fairly and accurately. Cooperation with news media representatives is the most reliable guarantee that this objective will be met.

This can best be accomplished by an effective public relations response to emergencies and oil or chemical spills in the manner outlined in the LEAP (Local Emergency Action Plan) Manual.

Team Leaders and other designated employees will receive an eight-hour course ("Respond") in Media and Public Relations.
EAP Plan Updating & Training

The Emergency Action Plan will be updated annually and reviewed with all affected personnel at least annually. Revisions to the plan will be reviewed with team members upon completion of the plan changes. Training/review is to be documented and should be maintained in the individual training files.

New employees and employees recently assigned to the operations center must receive training on the Emergency Action Plan within the first week of employment. Contract personnel who routinely enter worksites will receive a briefing of their responsibilities in an emergency situation prior to entering the workplace.

All personnel are currently trained in the following areas necessary for proper execution of the emergency responses for which this plan was developed:

1. Dry chemical fire extinguisher use (annual).
2. Use of portable gas detection equipment (periodic).
3. Proper use of personal protective equipment (ongoing but at least annually).
4. Initial eight-hour First Aid/CPR Course (with refresher training every two years).

Drills will be conducted at least annually to test Emergency Action Plans and enhance employee preparedness. The following emergency drills will be conducted periodically:

1. Fire and Explosion
2. Bomb threat
3. Spill Response
4. Rescue & Medical emergency
5. Vapor Cloud
Site Locations

Bastian Bay

Section 36, Township 20S, Range 29E, Plaquemines Parish, Louisiana
Approximately 4 miles south of Empire, LA

From Highway 90 at New Orleans, take Highway 23 south toward Buras, LA. Before you get to Buras, you will pass through the small community of Empire, LA, and then over a tall bridge. Joshua Marine is located on the right side of the road almost directly across from a tall radio tower on the left. Stop at the marina and ask for Amoco; someone at the marina can help you. The Bastian Bay field requires a boat ride of approximately five minutes.

Bayou Des Allemands

Section 18, Township 15S, Range 21E, St. Charles Parish, Louisiana
Approximately 10 miles NW of Bayou Gauge, Louisiana

From Raceland office, drive Highway 90 East towards New Orleans. Turn right on Highway 306 at Paradis, LA. Drive approximately 7 miles. Boat dock is next to Amerada Hess on the bayou side.

Blocker Field Office

From Interstate 20 at Marshall, Texas, take Highway 43 South for 6-1/2 miles to Terrapin Neck Road. Turn left on Terrapin Neck Road and go 1/4 mile to Blocker Field Office at left.

From Tatum, Texas (intersection of Highway 149 & Highway 43), go North on Highway 43 approximately 6 miles to Terrapin Neck Road. Turn right on Terrapin Neck Road and go 1/4 mile to Blocker Field Office on left.

Blocker Plant

From Interstate 20 at Marshall, Texas, take Highway 43 South for 6-1/2 miles to Terrapin Neck Road. Turn left on Terrapin Neck Road and go .8 mile. Take a left and travel .4 mile to the Blocker Plant.

From Tatum, Texas (intersection of Highway 149 & Highway 43), go North on Highway 43 approximately 6 miles to Terrapin Neck Road. Turn right on Terrapin Neck Road and go .8 mile. Take a left and travel .4 mile to the Blocker Plant.

Chalybeat Springs Field Office

Go to Emerson, Arkansas. Highway 79. Turn on Columbia County Road No. 23. Stay on blacktop for 7.8 miles to the four-way stop. Turn left at stop sign and go .4 mile. Turn right at Amoco sign. Go .6 mile, turn right to plant and office.

Cheniere

Follow Interstate 20 to near West Monroe, LA, Exit 112 onto Wells Road. Turn right (South) to stop sign, turn right, go 4-1/2 mile, office on left (beside Community Grocery).
Judge Digby
Section 48, Township 5S, Range 9E, Pointe Coupee Parish, Louisiana
Approximately 6 miles NW of Livonia, LA

5968 Parlange Lane, Livonia, LA 70755
504-637-4944
From Highway 190 in Livonia, LA, take Highway 78 North for approximately 6 miles. Judge Digby is on the right.

Hackberry - East & West
Section 23, Township 12S, Range 10W, Cameron Parish, Louisiana
Approximately 15 miles South of Sulphur, Louisiana

Latitude: 30 degrees, 0 minutes, 18 seconds
Longitude: 93 degrees, 21 minutes, 17 seconds

290 Amoco Road, Hackberry, Louisiana
318-762-3503
From Interstate 10 at Sulphur, LA, take Highway 27 south to Hackberry (approximately 17 miles). Turn right onto Amoco Road. (Brown's Food Center is on corner.) Office is located at the end of Amoco Road.

Lockhart Crossing
Section 17, Township 6S, Range 3E, Livingston Parish, Louisiana in the township of Denham Springs.
31285 Linder Road, Denham Springs, LA 70726
504-665-3200
From Interstate 12 at Denham Springs exit, take Range Avenue North to Junction Highway 1030 (Cockerhan Road), turn right, proceed .8 miles to stoplight at junction of Highway 1026, proceed straight across onto Linder Road. Office is on left, one mile ahead.

Longview
From Highway 80 in Longview, turn North on Pine Tree Road. Go 2.4 miles to FM 2605, turn left. Go .2 miles to Stanolind Street, turn left to office.

Moore-Sams
Section 3, Township 4S, Range 10E, Pointe Coupee Parish, Louisiana.
Approximately 1 mile NW of New Roads, LA

7827 Amoco Road, New Roads, LA 70760
504-638-6232
From New Roads, LA, go North one mile on Highway 1. Turn left at Amoco sign; facility is 1.3 miles off Highway.
Morganza
Section 95, Township 4S, Range 8E, Pointe Coupee Parish, Louisiana
Approximately 2 miles SW of Morganza, Louisiana

6271 Callegan Road West, Morganza, LA 70759
504-694-3411

From Highway 190 at Livonia, LA, turn North on Highway 77. Continue NW on Highway 77 to junction of Highway 10, continue North on Highway 10 for approximately 5 miles. Look for a large radio tower on the right. Turn right on to Waranka Road (narrow blacktop road immediately past the radio tower). Go 1-1/2 miles down the road, turn left on the gravel road.

Oak Grove Operations Office
13314 Lock 17 Road, Adger, AL 35006

Port Hudson Field
Section 79, Township 5S, Range 1W, East Baton Rouge Parish, Louisiana.
Approximately 11 miles North of Baton Rouge, LA.

716 Port Hudson Cemetery Road, Zachary, LA 70791
504-654-0596

From Interstate 10 at Baton Rouge, take Interstate 110 North to Highway 61. (Currently Interstate 110 ends at Highway 61.) Go North = 11 miles to Highway 3113. Turn left on Highway 3113 and go = 1 mile. CTB is on the right, just past Amoco Pipeline terminal.

Port Hudson GSF
Section 79, Township 5S, Range 1W, East Baton Rouge, Louisiana
Approximately 11 miles North of Baton Rouge, LA, off of Highway 61.

138 West Irene Road, Baton Rouge, LA 70791
504-654-0782

From Interstate 10 at the Mississippi Bridge in Baton Rouge, LA, take Interstate 110 North to Highway 61. (Currently Interstate 110 ends at Highway 61.) Continue North on Highway 61 for approximately 10 miles. Look for a tall tower on the left, take a left just before the tower off 61 onto Irene Road. Port Hudson is on your right; Grant Chemical is on your left.

Raceland Office
From Highway 90, exit Highway 308 north. Drive approximately 2 miles. The office is on the bayou side across the highway from Raceland Elementary School

South Florence Canal Dock Facility

NOTE:  The West White Lake and South Florence fields cannot be accessed by land. These are water locations. Arrangements must be made with the field personnel for water transportation. Helicopter access can be arranged in extreme emergencies.
From Interstate 10 at Crowley, LA, take Highway 13 south to Highway 14. Take a right on Highway 14, go approximately 8 miles to Highway 711. Turn left (south) on 711. Stay on 711 until you come to Highway 3143; take a right on 3143. Proceed to Highway 91. Turn left on 91 and follow it to the end where you will see the Amoco signs.

South Florence Field
Section 1, Township 14S, Range 2W, Vermilion Parish, Louisiana
Approximately 18 miles south of Gueydan, Louisiana

Latitude, 29 degrees, 45 minutes, 36 seconds, north
Longitude, 92 degrees, 29 minutes, 37 seconds, west

South Kaplan Field
Section 13, Township 13S, Range 1W, Vermilion Parish, Louisiana.
Approximately 7 miles south of Intersection of Highways 14 & 3093

Latitude: 29 degrees, 54 minute, 38 seconds
Longitude: 92 degrees, 25 minutes, 2 seconds

Route 3 Box 250, Kaplan, LA 70548
318-989-5418

From Interstate 10 at Crowley, LA, take Highway 13 south to Highway 14, turn right (west). Turn left (south) off of Highway 14 onto Highway 3093. The Amoco office is approximately 7 miles down Highway 3093 on the right.

West White Lake Field
NOTE: The West White Lake and South Florence fields cannot be accessed by land. These are water locations. Arrangements must be made with the field personnel for water transportation. Helicopter access can be arranged in extreme emergencies.

Section 19, Township 14S, Range 2W, Vermilion Parish, Louisiana
Approximately 18 miles south of Gueydan, Louisiana

Latitude, 29 degrees, 48 minutes, 29.4 seconds, north
Longitude, 92 degrees, 35 minutes, 38.8 seconds, west

Woodlawn
6-1/2 Miles North of Marshall on Highway 59, west side of the road. Two tall radio antennas are located at the office.
Response Equipment

Spill Control Equipment

*Lafayette OC*

**Bastian Bay**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spill booms</td>
<td>1000'</td>
<td>3 1/2” Flex-skirted</td>
</tr>
<tr>
<td>Pads</td>
<td>3 bundles</td>
<td>Absorbent</td>
</tr>
</tbody>
</table>

**Bayou Des Allemands**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat</td>
<td>1 ea.</td>
<td>18’ Outboard 120 HP - work boat</td>
</tr>
<tr>
<td>Spill booms</td>
<td>1 ea.</td>
<td>400’ - 3 1/2” fiberglass</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>300’ - Flex-skirted</td>
</tr>
<tr>
<td>Pads</td>
<td>3 bundles</td>
<td>Absorbent</td>
</tr>
</tbody>
</table>

**Hackberry**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boats</td>
<td>1 ea.</td>
<td>43’ Tug boat (Christy) - 300 HP Detroit inboard diesel (671)</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>36’ Breaux Baycraft aluminum - 335 Cummins inboard diesel - work boat</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>36' Breaux Baycraft aluminum with 3408 Dit Cat. inboard diesel - work boat</td>
</tr>
<tr>
<td></td>
<td>6 ea.</td>
<td>26’ Monark aluminum - 197 HP Detroit inboard engine - utility boat</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>27’ Monark aluminum - 197 HP Detroit inboard engine - utility boat</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>14’ Alumaweld aluminum - 9.9 HP outboard Johnson - skiff</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>20’ Delcraft aluminum - 135 HP Mercury outboard Black Mac</td>
</tr>
<tr>
<td>Steel barges</td>
<td></td>
<td>with one tank (freshwater) 90’ x 30’ x 7’</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>350 bbl. bolted horizontal tank for freshwater</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>National J-150 plunger pump with 371 Detroit engine With dragline, spud 1-1/4 yd company dragline on barge 120’ x 30’ x 7’</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Deck cargo 90’ x 30’ x 7’ with 3 tanks - saltwater 90’ x 30’ x 7’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300 bbl Fiberglass tanks for saltwater</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deck cargo 82’ x 22’ x 6’ with cutting and welding equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deck cargo 82’ x 22’ x 6’</td>
</tr>
<tr>
<td>Spill booms</td>
<td>1 ea.</td>
<td>2000’ - 6’ x 10’ American Marine, Inc. with 7’ x 12’ hauling trailer</td>
</tr>
<tr>
<td>Pumps</td>
<td>1 ea.</td>
<td>Manta Ray skimmer</td>
</tr>
<tr>
<td>Oil mops</td>
<td>1 ea.</td>
<td>With 10 gal. wringers</td>
</tr>
<tr>
<td>Mops</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Pads</td>
<td>3000</td>
<td>Absorbent</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>Absorbent - 3’ x 50’ roll</td>
</tr>
<tr>
<td></td>
<td>10 ea.</td>
<td>Selective absorbent bags</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1 ea.</td>
<td>Butane burner</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Stakes to hold booms</td>
</tr>
</tbody>
</table>

**Judge Digby**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boats</td>
<td>1 ea.</td>
<td>10’ Aluminum flat-bottom</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>14’ Aluminum flat-bottom with 35 HP motor</td>
</tr>
<tr>
<td>Pads</td>
<td>2 bundles</td>
<td>Absorbent</td>
</tr>
<tr>
<td>Spill booms</td>
<td>4 ea.</td>
<td>Absorbent boom in 10’ section</td>
</tr>
</tbody>
</table>
**Morganza**
- **Pads**: 200 Absorbent

**Port Hudson**
- **Boat**: 1 ea. 15’ Aluminum flat-bottom with 15 HP motor
- **Pads**: 10 bundles Absorbent
- **Pump**: 1 ea. 4” Homelite diesel pump with 20’ suction hose & 100’ discharge hose

**South Florence**
- **Boats**: 2 ea. 18’ outboard 135 HP - work boat
  - 1 ea. 24’ Volvo inboard diesel - work boat (Mozelle)
  - 1 ea. Flat-bottom aluminum with 25 HP motor
- **Pads**: 4 bundles Absorbent
- **Spill Boom**: 1 ea. 450’ - Flex-skirted

**West White Lake**
- **Boat**: 1 ea. 22’ outboard 175 HP - work boat (Criss ‘M’)
  - 1 ea. 24’ Volvo inboard diesel - work boat (Scope)
  - 1 ea. Flat-bottom aluminum with 25 HP Motor
  - 1 ea. 14’ Flat-bottom aluminum
- **Pads**: 4 bundles Absorbent
- **Spill booms**: 1 ea. 550’ - Flex-skirted
<table>
<thead>
<tr>
<th>Location</th>
<th>Item Description</th>
<th>Quantity/Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longview OC</td>
<td><strong>Chalybeat Springs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boom</td>
<td>1 ea.</td>
</tr>
<tr>
<td></td>
<td>Absorbents</td>
<td>30 ea.</td>
</tr>
<tr>
<td></td>
<td>Pads</td>
<td>800 pads</td>
</tr>
<tr>
<td></td>
<td>Pump</td>
<td>1 ea.</td>
</tr>
<tr>
<td></td>
<td><strong>Cheniere</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boom</td>
<td>2 ea.</td>
</tr>
<tr>
<td></td>
<td>Pads</td>
<td>100 pads</td>
</tr>
<tr>
<td></td>
<td><strong>Woodlawn</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absorbent</td>
<td>9 ea.</td>
</tr>
<tr>
<td></td>
<td>Pads</td>
<td>100 pads</td>
</tr>
<tr>
<td></td>
<td>Pump</td>
<td>1 ea.</td>
</tr>
<tr>
<td></td>
<td><strong>Blocker</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spill Trailer</td>
<td>200’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>400</td>
</tr>
<tr>
<td></td>
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<td>40 bags</td>
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<td>3 pair</td>
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<td></td>
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<td>6 pair</td>
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<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Absorbents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 ea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 ea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 ea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pads</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spray machine</td>
</tr>
<tr>
<td></td>
<td><strong>Carthage</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absorbents</td>
<td>20 ea.</td>
</tr>
<tr>
<td></td>
<td>Boat</td>
<td>1 ea.</td>
</tr>
<tr>
<td></td>
<td>Pads</td>
<td>300 pads</td>
</tr>
<tr>
<td></td>
<td>Pump</td>
<td>1 ea.</td>
</tr>
<tr>
<td></td>
<td>Spray machine</td>
<td>1 ea.</td>
</tr>
<tr>
<td><strong>Lonview</strong></td>
<td>200'</td>
<td>Containment boom (6&quot; freeboard, 12&quot; skirt), 30-4&quot;x4'</td>
</tr>
<tr>
<td>-------------</td>
<td>------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Spill Trailer</td>
<td></td>
<td>Oclansorb socks</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>4&quot;x8&quot; Oclansorb socks</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>18# Sacks of Oclansorb</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>Oclansorb peat pads</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>18&quot;x18&quot;x3/8&quot; Absorbent pads</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Fire extinguisher</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>First aid kit</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Portable generator with lights</td>
</tr>
<tr>
<td></td>
<td>3 Pairs</td>
<td>Rubber boots</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Various gloves, ropes &amp; small tools</td>
</tr>
<tr>
<td>Absorbents</td>
<td>60 ea.</td>
<td>Sacks of Peat Sorb (2 cu. ft. bags)</td>
</tr>
<tr>
<td></td>
<td>1 ea.</td>
<td>Absorbent Roll (150' x 36&quot; x 3/8&quot;)</td>
</tr>
<tr>
<td></td>
<td>8 ea.</td>
<td>Absorbent Socks (Oclansorb 4' x 4&quot;)</td>
</tr>
<tr>
<td>Boat</td>
<td>1 ea.</td>
<td>14' Aluminum flat-bottom with 9 HP motor</td>
</tr>
<tr>
<td>Spray machine</td>
<td>1 ea.</td>
<td>Trailer-mounted compressor</td>
</tr>
</tbody>
</table>
## Old Ocean OC

### Beaumont
- **Boom**: 1 ea. 80' Uniroyal - seal boom (2 - 40' lengths)
- **Absorbent boom**: 1 ea. 16' Aluminum flat-bottom (BRLD)
- **Absorbent boom**: 4 ea. Mark IV Slick Bar 100' x 4" 1K current 6" skirt
- **Pads**: 1 ea. Absorbent mat 50' x 8' x 1/2"

### Old Ocean Field Yard
- **Boats**: 1 ea. 12' Aluminum flat-bottom (BRLD)
- **Boats**: 1 ea. 16' Aluminum flat-bottom
- **Boom**: 4 ea. Uniroyal 36" std. sections seal type 12" freeboard, 24" draft
- **Boom**: 1 ea. Absorbent boom 8" x 10' sections (new)
- **Absorbents**: 14 ea. Absorbent boom 8" x 10' sections (used)
- **Absorbents**: 9 ea. Bales SPC - 5
Safety and Fire-Fighting Equipment

*Lafayette OC*

All Amoco safety and fire-fighting equipment is available on location.

There are no Fire Water Systems in these fields. See the following pages for field listings of Response Equipment.

**NOTE:** All vehicles and boats are equipped with Fire Extinguisher, First Aid Kit, and Blood-borne Pathogen kit. Some vehicles are equipped with Gas Detecting equipment.
<table>
<thead>
<tr>
<th>TYPE OF EQUIPMENT</th>
<th>MORGANZA</th>
<th>MOORE-SAMS</th>
<th>JUDGE DIGBY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRE-FIGHTING EQUIPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5# or 1 portable</td>
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<td></td>
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</tr>
<tr>
<td>6 - 10# portable</td>
<td></td>
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</tr>
<tr>
<td>10 - 29# portable</td>
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<td></td>
</tr>
<tr>
<td>30 # portable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>350 # wheeled units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Halon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Halon System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Hydrant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AIR MONITORING EQUIPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L0222</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMX (ISC)</td>
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<td></td>
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</tr>
<tr>
<td>HMX (ISC)</td>
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<td></td>
</tr>
<tr>
<td>TRAK-IT</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>GAS-TRAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAEGER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SENSIDYNE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EMERGENCY/FIRST AID EQUIPMENT</strong></td>
<td></td>
<td></td>
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*T Tally only equipment designated for Emergency Response. Do not include routinely used equipment.*
South Kaplan, South Florence, West White Lake, Raceland

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<td>Hearing Protection</td>
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<tr>
<td>Gloves</td>
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<tr>
<td>Eye Protection</td>
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<tr>
<td>Rubber Boots</td>
<td></td>
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<tr>
<td>Slickers</td>
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<tr>
<td>Zero Hoods</td>
<td></td>
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<tr>
<td>Life Jackets</td>
<td></td>
</tr>
<tr>
<td>Aprons</td>
<td></td>
</tr>
<tr>
<td>Disposable FRC</td>
<td></td>
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<tr>
<td>Disposable Coveralls Non-FRC</td>
<td></td>
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<tr>
<td>Air Purifying Respirators (APR)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>MISC. EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>Portable Radios</td>
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<tr>
<td>Cellular Phones</td>
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<tr>
<td>Portable Generators</td>
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<tr>
<td>Flat-bottom Boats</td>
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<tr>
<td>Other</td>
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</tbody>
</table>

* Tally only equipment designated for Emergency Response. Do not include routinely used equipment.
FOR FLOW CHART— EVACUATION ROUTES — WEST HACKBERRY BATTERY #5 DEPENDING ON THE INCIDENT AND LOCATION, CHECK WIND SOCK, ( WHICH IS LOCATED ON TOP OF THE ROD BUILDING SOUTH WEST OF THE LAKE), IF THE LOCATION ACCESS ROAD IS CLEAR TO EXIT, THEN IT SHOULD BE USED WHEN THE WIND IS OUT OF THE NORTH. IF THE WIND IS OUT OF THE SOUTH, USE THE ROAD EASEMENT WHICH TRAVELS BEHIND COMPRESSOR #6 WHICH JOINS THE MAIN ACCESS ROAD EAST OF THE FACILITY LOCATION.

SAFE AREA

BY SLAB EAST OF COMPRESSOR #4 — OR SOUTH OF MAIN ROAD.
APPENDIX D

ORGANIZATION CHARTS FOR AMOCO'S CENTRAL BUSINESS UNIT
54120

J. R. Duncan*
Human Resources Manager

Admin. Assistant
T. Parker
(Included in Williamson Count)

Human Resources Representatives
D.A. Prusak*
G. Farnham*

Human Resources Assistant
K.B. Fleckman*

*Duncan, Fleckman, Prusak, Farnham
incl. in AEGNA HR count

August 1, 1997
R A Powell
Operations Foreman
SOAT
24

Field Foreman
D M Wallace

Sr. Field Foreman
F J Edens

Well Repairs
D B Walden

Environmental Operations Specialist
J L Balentine

Field Technician - Operations
B D Kelley (Clarksville)
W B Mills
R C Weight

Operations Specialist
J W Goodin

Operations
Field Technician
T S Blackburn
B Blackwood
L T Bowen
M T Sanchez
J D Layn

Field Technician-Operations
C A Anderson
D T Campbell
W A Coppenbarger
K G Gilby
D G Locke
T W McFadden
K R Finnick
D R Way
B O Hill

C A Reeves, Safety Engr.
(Reports to EH&S)
I. J. Parsons, Fld Mail Coor
(Reports to J L Austin)
August 1, 1997

Jeff Braun
General Manager
US Onshore Oil
Resource Development

73618

S. Chontos
BIS
Resource Manager

10

Engineers
M.A. DelHerrera
J M Kristan
R D Orona
B Brooks
J K Lohrenz

Geophysicist
R E Roberts

Geologist
R L Brogdon

PT's
S A Lebsack
D R Nylander

Admin, Assistant
Jeanine Schmidt

SOAT
Resource Manager

10

Engineers
T R Coleman
D W Taylor

Geologists
E J. Biler
E S Lewis
O L Olson

Geophysicists
K J Laughlin
S L Peyton

Land Negotiators
J W. Webb

PT's
A. Fornea
D. Jones
O. Esparza

S. McDaniel
Gulf Coast Oil
Resource Manager

19

Engineers
A. Kutch
A. Nelson
E. Niccum
J. Chance

P. Julian
Bravo Dome
JOMT Manager

19

C. Carr
Bairroll

43

D. Millage
Elk Basin - 73675 - 44
Salt Creek - 73676 - 38

Eerin Long - Summer Intern