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**WASTE MANAGEMENT PLAN RCRA**

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## **SUBPART A - INTRODUCTION / PURPOSE**

This plan is prepared to provide guidance concerning the proper management and minimization of each type of waste stream generated by Berry Bros.


Waste management includes the proper handling, accumulation, storage, transportation, and disposal of the waste generated. The need for practicing waste minimization is a result of environmental protection awareness and evolving regulatory requirements. This plan is designed to assist in a company-wide effort to provide protection for the environment and comply with environmental laws and regulations regarding proper waste handling. The primary goal of this plan is the reduction of generated waste at the source wherever possible. In the event source reduction is not feasible, recycling options will be the secondary goal. Berry Bros. mission is to eliminate the wastes requiring treatment and/or disposal to the best of its ability.

This plan is an essential tool for assessing waste minimization opportunities. It has been designed to assist field personnel and should provide the information needed to effectively practice waste minimization (i.e., source reduction and recycling) and management (i.e., treatment and disposal), as well as fulfill Berry Bros.' commitment to its Environmental, Health, and Safety Policy.

The plan will be updated regularly as new developments in waste management techniques may provide the opportunity for Berry Bros. to obtain significant benefits. Each waste minimization technique will be investigated for its potential to provide cost savings, increased revenue, improved operating efficiency, reduced regulatory concerns, and improved community relations.

*Using the form in Appendix A, each Berry Bros. employee is encouraged to submit ideas for new waste minimization techniques and suggestions for improving this plan to management.*

Remember, as a Berry Bros. employee, you are the most important member of the team. How you handle waste in field operations is a reflection on Berry Bros. and the oil and gas exploration, production and service industry as whole. Your input is essential to maintaining a current and useful waste management/minimization effort. It is the responsibility of the holder of this plan to ensure that the plan is kept current, all updated information is added, and out-of-date information is discarded.

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## **SUBPART B - POLLUTION PREVENTION**

### **Waste Minimization**


Proper waste management includes waste minimization. Waste minimization is defined as “the reduction of waste generated, treated, stored, or disposed and consists of the development of more environmentally acceptable products, changes in processes and practices, sources reduction, beneficial use, and environmentally sound recycling”. *Waste minimization is also referred to as source reduction, pollution prevention, or energy conservation.* As such, waste, trash, and / or scrap material will be taken into consideration before work begins so as to plan for storage and removal from the job site.

Pollution prevention is an integrated approach for reducing or eliminating pollutant discharges to air, water, and/or land. The achievement of pollution prevention goals will require employees to voluntarily conduct a critical review of their use of materials, their processes and practices, and their products improvement in the methods used for environmental management.

### **Waste Management Hierarchy**

The preferred “**hierarchy of waste management**” reflects this approach. BBGCI will make every effort to reduce waste at the source and if not feasible or possible will attempt to return unused material and then recycle. In order to recycle, employees will be instructed in the proper segregation of wastes. Source reduction is the most preferred option for dealing with a generated waste. In the event source reduction is not technically or economically feasible, the generated waste may be able to be recycled or reused. Together, source reduction and recycling comprise waste minimization. Treatment of generated waste simply transfers the pollutant to a different medium; therefore, treatment is less preferable as a waste management option. Disposal involves the discharging, dumping, injecting, spilling, leaking, or placing of the waste in the air, water, landfills, or subsurface formation making it the least preferred of the waste management options. In summary, the hierarchy of waste management can be presented as follows:



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Most Preferred  
 SOURCE REDUCTION  
 RECYCLING  
 TREATMENT  
 DISPOSAL  
 Least Preferred

### **SUBPART C - RCRA-REQUIRED WASTE CATEGORIES**


Whenever a waste is generated, it is the generator’s responsibility to properly categorize each waste stream as a hazardous waste, a non-hazardous industrial waste, a non-hazardous oilfield waste (NOW), ordinary solid waste/municipal waste, or a special waste. A waste cannot be legally disposed of until the generator has properly identified and categorized the waste. Until the waste is identified and categorized, waste materials should be properly stored and handled to minimize the potential for spill or impact to the environment. During outdoor activities, storage containers must be covered to prevent dispersion of waste materials and to control potential run-off.

A primary concern in determining the classification/category and proper waste management of an oilfield related waste is the status of the waste under the Resource Conservation and Recovery Act (RCRA). RCRA was passed by the U.S. Congress in 1976 and governs the generation, transportation, treatment, storage, and disposal of solid and hazardous wastes. RCRA required the Environmental Protection Agency (EPA) to establish procedures for identifying and managing wastes as either hazardous or non-hazardous. EPA promulgated management requirements for hazardous wastes under RCRA Subtitle C. Non-hazardous wastes, such as ordinary solid waste, are regulated under RCRA Subtitle D.

### **SUBPART D - EXEMPT AND NON-EXEMPT WASTE UNDER RCRA**

RCRA also identifies a waste as either being “exempt” or “non-exempt” from RCRA regulations. Table 1 contains those wastes “exempt” from RCRA hazardous waste regulations, and Table 2 contains the RCRA “non-exempt” wastes. EPA’s lists of “exempt” and “non-exempt” wastes are not comprehensive. They were intended only to provide examples of the types of wastes that fall under each category. A



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determination may need to be made on each of a number of other incidental wastes.

**As seen in Table 1, drilling fluids, produced waters, and other select wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy are “exempt” from regulation under RCRA Subtitle C as hazardous wastes.** *The exemption for oilfield wastes covers only those wastes uniquely associated with primary field operations.* With respect to oil production, primary field operations include activities occurring at or near the wellhead but before the point where the oil is transferred from an individual field facility or a centrally located facility to a carrier for transport to a refiner. Natural Gas: “primary field operations” are those activities occurring at or near the wellhead or at the gas plant but before the point where the gas is transferred from an individual field facility, a centrally located facility, or a gas plant to a carrier for transport to market.

[Note: In the past, a number of the “exempt” oilfield wastes were discharged to state or federal waters instead of hauling to shore for disposal in compliance with NPDES General Permits. Within the past seven years, NPDES General Permits have become more stringent on discharge of these wastes. (These include produced water, used water-based drilling fluids, drill cuttings, used well-work fluids, deck drainage, blowout preventer fluids, uncontaminated seawater and freshwater, excess cement slurry, and other miscellaneous discharges.) Consult the facility discharge permit or contact the Company’s Environmental Department to determine the discharge limitation, prohibitions, and monitoring requirements of these fluids.]

**TABLE 1:**

**WASTES “EXEMPT” FROM RCRA**

**HAZARDOUS WASTE REGULATIONS**


The following wastes are listed as “exempt” in EPA’s Regulatory Determination dated July 6, 1988. It is a list of most, but not all, oil and gas wastes that are “exempt” from hazardous waste regulations.

- Produced water



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- Drilling fluids and drill cuttings
- Drilling fluids and cuttings from offshore operations disposed on-shore
- Rig-wash
- Well completion, treatment, and stimulation fluids
- Work-over wastes
- Basic sediment, water, and other tank bottom sludge from storage facilities that hold product and “exempt” waste
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments
- Pit sludges and contaminated bottoms from storage or disposal of “exempt” wastes
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves
- Gas plant sweetening wastes for sulfur removal, including amine, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge
- Cooling tower blow-down
- Spent filter, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an “exempt” waste stream)
- Packing fluids
- Produced sand
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation
- Pigging wastes from gathering lines
- Wastes from subsurface gas storage and retrieval, except for the listed “non-exempt” wastes
- Constituents removed from produced water before it is injected or otherwise disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Gases removed from the production stream, such as hydrogen sulfide, carbon dioxide, and volatilized hydrocarbons
- Materials ejected from a producing well during blow-down
- Waste crude oil from primary field operations and production
- Light organics volatilized from “exempt” wastes in reserve pits, impoundments, or production equipment
- Liquid and solid wastes generated by crude oil and tank bottom re-claimers

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**Note:** Some of these wastes are further defined under Louisiana Statewide Order 29-B as non-hazardous oilfield waste (NOW).

**TABLE 2:**

**RCRA “NON-EXEMPT” OIL AND GAS WASTES**

EPA’s Regulatory Determination lists the following wastes as “non-exempt” wastes. This is a list of most, but not all, oil and gas wastes that are not “exempt” from regulation as a potentially hazardous waste. However, these “non-exempt” wastes may or may not be hazardous wastes.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids.
- Vacuum truck and drum rinsate from trucks and drums transporting or containing “non-exempt” waste
- Refinery wastes
- Used equipment lubrication oils
- Waste compressor oil, filters, and blow-down
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Boiler scrubber fluids, sludges, and ash
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes

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- Drums, insulation, and miscellaneous solids

## **SUBPART E - HAZARDOUS WASTE “CHARACTERISTICS” TESTING**


Some wastes generated which are not specifically “exempt” from hazardous waste regulations fall into a broad category of “non-exempt” wastes. These types of wastes must be sampled and analyzed for hazardous waste characteristics. If hazardous characteristics exist, the material must be disposed of as hazardous waste. Otherwise, the waste must be disposed of as industrial waste. Examples of specific oilfield-related “non-exempt” wastes include:

- Drilling fluids and raw drilling fluid components, well treatment fluids, or additives that have not been used in drilling or work-over of a well.
- Wash-water recovered from a vessel (barges, tanks, drums, etc.) which has transported a hazardous material.
- Used motor oil or hydraulic fluid that has not been recycled.
- Production chemical residue

Typically RCRA “non-exempt” wastes are not uniquely associated with, or inherent to, exploration and production activity (such as cleaning wastes or...) or are not associated with primary field operations (such as transportation wastes from a crude oil trunk line or a natural gas transmission line). Furthermore, not all of the “non-exempt” wastes will be hazardous wastes. For example, empty drums and insulation will probably not be hazardous waste. However, some wastes such as spent solvents, unused fracturing materials which can no longer be used for their intended purpose, or contaminated media resulting from a transportation pipeline spill may be hazardous. Figure 1, Berry Bros. Facility Waste Flow sheet, and the waste data sheets contained in Section IV of this plan outline and categorize each waste stream generated in the NAR.

Berry Bros.’ status as a hazardous waste generator will depend on the volumes of “non-exempt” hazardous waste generated. In general, the less hazardous waste an operator generates, the less stringent are the requirements and operational limitations of the regulations. Since Berry Bros. centrally located facilities generate more than 220 pounds and up to 2,200 pounds of hazardous waste per month, each facility is considered a small quantity generator (SQG). Since this plan was written for Berry Bros. facilities classified as SQGs, it will be revised if this status



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changes to reflect the appropriate requirements. The EPA hazardous waste generator numbers assigned to Berry Bros. facilities are contained in Appendix B.

### Hazardous Waste Determination

A “non-exempt” waste that is either a RCRA “listed” hazardous waste (as identified in 40 CFR 261) or which exhibits hazardous waste characteristics (as listed on the Material Safety Data Sheet (MSDS) or as tested by a laboratory) is categorized as a hazardous waste.

### “Listed” Hazardous “Non-exempt” Oil and Gas Wastes

EPA listed numerous types or classes of solid wastes as hazardous wastes in 40 CFR 261 because they either:

- Exhibit one or more of the four characteristics of hazardous waste.
- Have been shown to meet certain human toxicity criteria.
- Contain any one of the chemical compounds or substances listed as hazardous constituents.

40 CFR 261 contains over 400 hazardous wastes separated into the following four “lists”. The “P” list wastes are considered acutely hazardous and so dangerous that small amounts of these wastes are regulated the same way as are large amounts of other hazardous wastes.

- Hazardous waste from nonspecific sources (“F” List).
- Hazardous waste from specific sources (“K” List).
- Commercial chemical products that become acute hazardous waste when disposed of (“P” List).
- Commercial chemical products that become toxic wastes when disposed of (“U” List).

### Characteristically Hazardous “Non-exempt” Oil and Gas wastes (“D” List)

Even though a “non-exempt” waste is not a RCRA “listed” hazardous waste, it can still be classified as a hazardous waste if it exhibits any one of four hazardous waste characteristics including *ignitability*, *corrosivity*, *reactivity*, and *toxicity*.



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The following are examples of hazardous wastes for each hazardous waste characteristic:

*Ignitability* – Examples include cleaning solvents (which may also be a “listed” hazardous waste), certain degreasers, transportation-pipeline pigging wastes, and paint wastes.

*Corrosivity* – Examples include acid or caustic cleaning wastes, unused well acidizing fluids (that have not been down the borehole or have not been neutralized), rust removers, and waste battery acid.

*Reactivity* – examples include waste oxidizers.

Toxicity – these involve materials that have the potential to contaminate groundwater by leaching as determined in a laboratory using the Toxicity Characteristic Leaching Procedure (TCLP) test. Examples include unused pipe dope (containing lead), unused biocides (containing chromium), cleaning wastes or solvents (containing benzene or toluene), and transportation-pipeline pigging wastes (containing benzene). TCLP leachable components of oil and gas waste that will cause the waste to test hazardous are:

Organics:	Benzene	>=	0.5 mg/L
Metals:	Arsenic	>=	5.0 mg/L
	Barium	>=	100.0 mg/L
	Cadmium	>=	1.0 mg/L
	Chromium	>=	5.0 mg/L
	Lead	>=	5.0 mg/L
	Mercury	>=	0.2 mg/L
	Selenium	>=	1.0 mg/L
	Silver	>=	5.0 mg/L

To determine whether a waste is characteristically hazardous, the waste may be tested using the accepted EPA analytical method (TCLP test) or by applying process knowledge. Regulations do allow a generator of waste to apply knowledge of the process (i.e. the work that is performed at the site) to make the determination as to which category a particular waste belongs. For example, if one’s knowledge of the process that generated a particular waste



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allows that person to be certain that there is no possibility that the waste could be hazardous; the waste may be categorized as non-hazardous without further laboratory testing. However, unless the generator is certain based on knowledge of the process that the waste is not hazardous, a characteristic test must be performed on the waste to ensure that it is not a hazardous waste.

Without a laboratory analysis, MSDS information, or process knowledge to determine that a waste is not hazardous, the disposal of a waste as a non-hazardous waste is illegal.

Any “non-exempt” waste should be tested whenever there is reason to believe that it may exhibit one of the hazardous waste characteristics. The application of process knowledge must also be correct in the determination. Berry Bros. keeps profiles of commonly generated wastes to eliminate unnecessary repetitive testing of the same waste.


## **SUBPART F - EPA’S MIXTURE RULE**

Currently, EPA hazardous waste regulations contain a “mixture rule” that states that if even a small amount of any “listed” hazardous waste is mixed with a non-hazardous waste, the entire mixture is required to be disposed of as a hazardous waste. The intent of this rule is to prevent generators from avoiding hazardous waste regulations by using dilution. EPA, as a general rule, prohibits the dilution of a waste material if the purpose of such dilution is merely to destroy the hazardous waste characteristic.

A mixture of “exempt” and “non-exempt” wastes creates a special set of problems. Determining whether a mixture is an “exempt” or “non-exempt” waste requires the application of the “mixture rule” and in some instances may require a detailed chemical analysis of the mixture. Whenever possible, mixing “non-exempt” wastes with “exempt” wastes should be avoided since the resulting mixture may become a “non-exempt” hazardous waste.

Below are some basic examples for determining if a mixture is an “exempt” or “non-exempt” waste:



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- A mixture of a “listed” hazardous waste with a non-hazardous “exempt” or “non-exempt” waste, regardless of the proportions, is a “non-exempt” hazardous waste whether or not the mixture exhibits any of the characteristics of a hazardous waste.
- A mixture of a “non-exempt” characteristically hazardous waste (“D” list) with an “exempt” or “non-exempt” non-hazardous waste is a “non-exempt” hazardous waste if the resulting mixture exhibits any of the same hazardous characteristics as the hazardous waste (ignitability, corrosivity, reactivity, or toxicity).
- A mixture of a “non-exempt” characteristically hazardous waste (“D” list) with an “exempt” waste is “exempt” if the resulting mixture does not exhibit any of the same characteristics as the hazardous waste (even if it exhibits some other hazardous waste characteristic).
- A mixture of a “non-exempt” characteristically hazardous waste (“D” list) with a non-hazardous “non-exempt” waste is a non-hazardous “non-exempt” waste if the resulting mixture does not exhibit any of the same characteristics as the hazardous waste (even if it exhibits some other hazardous waste characteristic).
- A mixture of a non-hazardous (“exempt” or “non-exempt”) waste with an “exempt” waste is also “exempt”.

Do NOT dispose of unused commercial products with oilfield wastes. All reasonable efforts should be made to completely use commercial products, return them to their vendor, or segregate them from other wastes for management and disposal. The importance of segregating “non-exempt” waste from “exempt” wastes should be stressed. When segregation is not practical, the “non-exempt” waste should be examined closely to ensure that it is not a hazardous waste.

**SUBPART G - “NON-EXEMPT” NON-HAZARDOUS INDUSTRIAL WASTE**

Non-hazardous industrial waste is defined as “non-exempt” waste generated by a manufacturing, industrial, or mining process, or which is contaminated by “non-exempt” waste generated by such a process. To be a non-hazardous industrial waste, a waste must be distinctly different from normal trash or construction debris. These wastes are intermediate between municipal and hazardous wastes. Many of the industrial wastes generated are recyclable. See Figure 1 for a list of industrial wastes generated by the NAR.



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#### “Exempt” Non-hazardous Oilfield Waste (NOW)

Some of the RCRA “exempt” wastes from Table 1 are further defined under Louisiana Statewide Order 29-B as NOW. These wastes are uniquely associated with the exploration, development or production of crude oil and natural gas and are exempt from RCRA hazardous regulations. NOW includes drilling fluids, drill cuttings, well completion fluids, work-over fluids, well treatment fluids, stimulation fluids, rig-wash, pit sludges, tank sludges, storm-water, produced sand, and other wastes that are essential to primary field locations. A rule of thumb for determining whether a waste can be classified as NOW is that if the waste has been down-hole in a well or used for the purpose of primary oil and gas recovery. However, if there is uncertainty as to whether a waste is NOW, contact the Environmental Department for clarification.

### **SUBPART H - ORDINARY SOLID WASTE/ MUNICIPAL WASTE**

This category is made up of everyday non-hazardous household wastes including trash, paper, plastic, garbage, empty drums, pallets, wood, empty paint cans, and other forms of ordinary domestic refuse. This category is a catchall category for all wastes that are not hazardous wastes, non-hazardous industrial wastes, or NOW. Municipal waste is practically identical to regular trash generated by a household.

Appendix E provides a flow sheet to assist in determining which category a waste belongs. However, if there is a difficulty in deciding a waste category, contact the Environmental Department or review the applicable waste data sheet for that waste stream in Section IV of this plan.

### **SUBPART I - WASTE MANAGEMENT**

A material is not a waste until it is declared a waste. In order for a material to be a waste, it must be considered as “discarded” or ready to get rid of or eliminate from use.



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- A material to eliminate is considered: Abandoned – disposed of, burned or incinerated, or accumulated, stored or treated before or in lieu of being abandoned.
- Recycled – burned for energy recovery, reclaimed or returned to a vendor, or used as a product.
- Considered inherently waste-like.

Materials that no longer have a use at a facility should only be deemed a waste when it cannot be used at other Berry Bros. locations or returned to the vendor. Therefore, to minimize or eliminate a potential waste, calculate material needs carefully to avoid surplus, use all of the material, or return surplus materials to the vendor.

## **SUBPART J - WASTE ACCUMULATION REQUIREMENTS**

### **Hazardous Waste**

Since Berry Bros.' centrally located facilities generate more than 220 pounds and up to 2,200 pounds of hazardous waste per month, each facility is considered a small quantity generator (SQG). The EPA hazardous waste generator numbers assigned to Berry Bros. facilities are contained in Appendix B.

Surplus materials that may be classified as a hazardous waste (such as surplus chemicals, paint, and/ or solvents) that will no longer be used at facilities not listed in Appendix B (i.e. not a centrally located facility) should be brought to the associated central location to determine its future use or to declare it a waste.

Note: non-production operations including drilling, well work, and construction which generate surplus materials that may be classified as a hazardous waste and that cannot be returned to the vendor or sent to a re-claimer should send the material to the central location listed above for placement in the hazardous waste accumulation point. However, all non-hazardous waste (i.e. industrial, municipal, NOW, or special wastes) from any non-production operation should be handled by the non-production facility in accordance with the waste management methods outlined in the applicable waste data sheet for that waste stream.



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In the event that an unknown material is discovered in an accumulation drum intended only for a non-hazardous waste, it will be the responsibility of the area where the drum originated to identify the unknown material in the drum. If the unknown waste can still not be identified, the waste will have to be sampled and analyzed by a lab to determine the category of the waste.

Each hazardous waste should be accumulated in a DOT approved industrial waste drum. Drums should be kept with the lid in place to prevent contamination of rainwater and to prevent air emissions. The facility operator must attach a yellow "hazardous waste" label to each drum and indicate the accumulation start date on the label. When the drum is filled, the facility operator should also record the date filled on the drum label.

Each hazardous waste container must only be placed in the central location hazardous waste accumulation point. Non-hazardous wastes should be segregated and should NOT be placed in the hazardous waste accumulation point.

Hazardous waste cannot be kept more than 190 days from the accumulation start date, and each central location cannot accumulate more than 2,200 pounds (approximately four drums) of hazardous waste per month. Hazardous waste containers must be stored in a designated accumulation area with containment capabilities (i.e. on the solid deck of facility or in containment pans). Hazardous waste accumulation points must be maintained in good condition and must be inspected weekly by the facility operator using Berry Bros.' "hazardous waste accumulation point weekly inspection log" contained in Appendix C. Areas where containers are stored must be inspected for leaks and deterioration caused by corrosion or other factors. Inspection records must be maintained on-site for at least three (3) years from the date of inspection.

In the event of a fire, facility personnel should attempt to extinguish it using a fire-extinguishing device. In the event of a spill, personnel should contain the spill and clean up the hazardous waste and any contaminated materials. A leaking drum should be placed in an over-pack and labeled like the drum. Contaminated rags/absorbents should be placed in the drum with the hazardous waste. If a spill reaches the surface water, the facility operator must notify the National Response Center (NRC) immediately at (800) 424-



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8802 if the volume spilled is more than the reportable quantity. (See the material MSDS or contact the Environmental Department to determine the reportable quantity of the material).

Regulations require facilities accumulating hazardous waste to post the following near the facility telephone:

- Name and telephone number of the emergency coordinator.
- The telephone number of the nearest fire department (if applicable).
- The location of fire extinguishers, spill control equipment, and fire alarms

### **Industrial Waste**

Whether recycled or disposed of, each “non-exempt” Non-hazardous industrial waste should be accumulated in a DOT approved container and stored separately from other wastes, including other non-hazardous industrial wastes. The container should be labeled to indicate the drum contents, location, and start date of accumulation. Containers should be kept with the lid in place to prevent contamination of rainwater. Industrial wastes do not have to be brought to the associated central production platform in the field prior to being sent in to shore for disposal or recycling.

### **Ordinary Solid Waste / Municipal Waste**

The collection, handling, and storage of municipal waste (ordinary solid waste) must not create a health hazard or cause a threat to the surrounding waters. Locations with bulk refuse containers should ensure containers are covered to prevent the accumulation of rainwater. Only non-hazardous ordinary solid waste should be placed in trash containers intended for municipal waste. Local landfills will not accept this waste if contaminated with hazardous wastes, non-hazardous industrial wastes, or NOW. Therefore, do not mix municipal waste with other waste streams.

## **SUBPART K - OFFSITE MANAGEMENT OF WASTE**

To facilitate the identification of each waste stream, all wastes that are shipped from offshore must be properly identified with appropriate identification markings





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and labels. If applicable, the proper MSDS must be shipped with every waste. Unidentified wastes will be returned to the point of origin for identification unless special arrangements have been made with the shore base transportation coordinator prior to shipment.

Hazardous waste must be disposed of at an approved hazardous waste disposal or recycling facility. The facility operator must coordinate the disposal of the hazardous waste with Omega Waste Management, Inc. at (504) 399-5100. Omega will provide a proposed date of pickup for shipping. When shipping the hazardous waste the hazardous waste manifest should be completed, and a copy of the MSDS for the material should be attached to the manifests (if applicable). A copy of all completed manifests should be maintained at Berry Bros.' main facility for at least three years.

Non-hazardous industrial waste cannot be sent to a municipal waste landfill for disposal. Therefore, industrial waste cannot be mixed with ordinary solid waste. If the industrial waste is not sent to a recycler, it must be sent to an approved non-hazardous industrial waste landfill or an approved liquid, non-hazardous class II injection well. The facility operator must coordinate the disposal of the waste with an approved waste management facility/company. When shipping the industrial waste a shipping manifest must be completed, and a copy of the MSDS for the material should be attached to the manifest (if applicable). A copy of the completed manifest should be maintained at the main facility for at least three years. The supervisor should transfer drums to the designated accumulation site within 48 hours.

Non-hazardous oilfield waste (NOW) not returned to the production system should be accumulated in DOT approved containers (i.e. Marine Portable tanks, cutting boxes, etc.) for shipment directly to a specified Environmental disposal facility. Different NOW can be commingled in the same container, provided the materials are compatible. The shipping manifest and an NOW Shipping Control Ticket should be completed when sending the waste offsite. A copy of the completed manifests should be maintained in the facility files for at least three years, and a copy (the green copy) should be sent to the HS&E Department

Ordinary solid waste/municipal waste should be sent to the dock for disposal. The dock supervisor will coordinate disposal at the Municipal Trash Dump in Berwick, LA.



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## **SUBPART L - TRAINING**

Employees will be instructed on the proper disposal methods for wastes. This will include general instruction on disposal of non-hazardous waste, trash, and or scrap materials. In addition, if the wastes are identified as hazardous, then employees will be trained to ensure proper handling and disposal methods.

All training will be documented and records retained.



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**Appendix A**

**WASTE MINIMIZATION IDEA SUBMITTAL FORM**

As part of Berry Bros.' Commitment to continual improvement, a Waste Minimization Program includes an idea submittal form. This allows employees to become minimization aware and generate ideas to better manage the wastes at BBGCI.

**Berry Bros. Waste Minimization Idea Submittal Form**

Each Berry Bros. employee is encouraged to submit to the Environmental Department ideas for new waste minimization and suggestions for improving this plan.

**Submittal of New Waste Minimization Ideas**

Indicate the waste stream this submittal is referencing:

Provide a detailed explanation of idea(s):

**Which of the following can the new waste minimization technique provide?**

- Cost Savings
- Improved Operating Efficiency
- Improved Community Relations
- Reduced Regulatory Concern
- Increased Revenue

**Suggestions for Improving Waste Plan**

Present details of suggestions below:




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Remember, as a Berry Bros. employee, you are the most important member of the team. How you handle waste in field operations is a reflection on Berry Bros. and the oil and gas exploration and production industry. Your input is essential to maintaining a current and useful waste management/minimization effort.

Remember:

**MOST PREFERRED  
SOURCE REDUCTION  
RECYCLING  
TREATMENT  
DISPOSAL  
LEAST PREFERRED**

**APPENDIX B**

***Facilities with Hazardous Waste Generator Numbers***

Berry Remediation is the only facility that has a hazardous waste generator number and generates hazardous radioactive waste due to its services, which include...

**List of BBGCI Facilities with Hazardous Waste Generator ID Numbers**

The following is a list of Berry Bros. facilities that are designated hazardous waste accumulation points. These are the only Berry Bros. facilities allowed to accumulate hazardous waste. Surplus materials that could be used at another Berry Bros. property should be sent there (with proper paper trail). If the surplus is determined as unusable anywhere at Berry Bros. property, it should be properly labeled and shipped to the appropriate facility for disposal.

If a material is declared a hazardous waste, it must be stored at a designated "hazardous waste accumulation point", or sent directly to the facility for disposal. Non-hazardous wastes should be segregated and should not be placed in the hazardous waste accumulation point.

<b>FACILITY</b>	<b>NUMBER</b>
BBGCI Main Yard	LAR 000021576
Berry Remediation	
BBGCI Shreveport Fabrication Shop	



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BBGCI Mansfield	
BBGCI Colorado	
BBGCI North Dakota	
BBGCI Kansas	

NOTE: Non-production operations (drilling, well work, and construction) that generate surplus materials:

- This could be classified as a hazardous waste.
- That cannot be returned to the vendor or sent to a re-claimer.

Should send the material to the associated central production platform listed above for placement in the hazardous waste accumulation point.

However, all non-hazardous waste (i.e. industrial, municipal, NOW, or special wastes) from any non-production operation should be handled by the non-production facility in accordance with the waste management methods outlined in the applicable waste data sheet for that waste stream.

*Summary of this page:* Hazardous waste associated with drilling, well workovers, and construction are handled through our Hazardous waste procedures – through designated accumulation points. Non-hazardous waste associated with drilling, well workovers and construction are shipped directly to the dock with appropriate paperwork.



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**APPENDIX C**

***Berry Bros. Hazardous Waste Accumulation Point Weekly Inspection Log***

**Berry Bros.**

**Hazardous Waste Accumulation Point Weekly Inspection Log**

To be filled out weekly and kept in Environmental files under HAZINSPECT for 3 years.

Facility Location: \_\_\_\_\_ Inspected by: \_\_\_\_\_

Date: \_\_\_\_\_ No. of Containers: \_\_\_\_\_ Signature: \_\_\_\_\_

**Accumulation Point/Hazardous Waste Containers**

1. Is the accumulation point area clean?
2. Is there adequate space between the drums for accessibility to each drum label and to allow unobstructed movement for emergency response?
3. Is each drum properly labeled with a "Hazardous Waste" marking, the accumulation start date, facility location, and the drum contents?
4. Are the proper signs posted and in good condition?

Yes	No

If any of the above was marked "NO", describe actions to correct problem and date problem corrected.

Description of Problem	Date Corrected

5. Are any containers open?
6. Are any containers severely rusted?
7. Are any container heads bulging?
8. Are any containers leaking?

Yes	No

If any of the above was marked "YES", describe actions to correct problem and date problem corrected.

Description of Problem	Date Corrected

**Emergency Response Equipment**

Yes	No



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- 9. Is an empty salvage drum available near area?
- 10. Is unused absorbent material available near area?
- 11. Are personal protective equipment (gloves, goggles, respirator, etc.) available?
- 12. Is a fully charged fire extinguisher readily available and accessible?


If any of the above was marked "NO", describe actions to correct problem and date problem corrected.

Description of Problem	Date Corrected

**APPENDIX D**

***Berry Bros. Approved Waste Disposal Companies***

**Waste Disposal Companies and Management Contractors**

The dock supervisor or the Waste Coordinator must coordinate the disposal of all wastes generated from Berry Bros. operated and/or contracted facilities. (See the applicable waste data sheet to determine who is responsible for the coordination of waste disposal). The following is a list of the Berry Bros. approved disposal companies or management contractors for each category of waste.

**Tires**

Name of Company/Contact Name	City/Phone Number
Colt Tire Company	Scott, LA 800-259-8311

**Hazardous Waste / Asbestos / Cooking Oil**

Name of Company/Contact Name	City/Phone Number
Omega Waste Management, Inc.	Patterson, LA 985-399-5888

**Industrial Waste**

Name of Company/Contact Name	City/Phone Number
Omega Waste Management, Inc.	Patterson, LA 985-399-5888

**Non-hazardous Oilfield Waste (NOW)**

Name of Company/Contact Name	City/Phone Number
U. S. Liquids	Berwick, LA 985-702-1441
Newpark	Morgan City, LA 985-384-6154

**NORM**

Name of Company/Contact Name	City/Phone Number
Newpark	Big Hill, TX



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**Lead-Acid Batteries**

Name of Company/Contact Name  
Studdard

City/Phone Number  
Patterson, LA985-395-5970

**Used Oil**

Name of Company/Contact Name  
Bodin Oil

City/Phone Number  
Abbeville, LA 337-893-3972

**Appendix E**

**Classification of Hazardous Waste**

**Step 1**

**# 1 - Is Your Material a Solid Waste?**

The first step is to determine if the material in question is classified as a solid waste. If the material is NOT a solid waste, it cannot be a hazardous waste.

- The statutory definition of a solid waste is completely irrespective of the physical form of the waste. A "solid" waste can be just as easily liquid or gas. A material is considered a solid waste if it:
  - Is a solid, semi-solid, liquid, or contained gaseous material which is discarded or has served its intended purpose?
  - Is abandoned?
  - Is being recycled by being placed on the ground (and that is not the normal use), burned for energy recovery, reclaimed, or accumulated more than one year.
  - Is inherently waste-like (e.g., dioxin wastes)?
- If the material in question meets any of the provisions above, you may have a solid waste. If you answered NO to all of the above provisions, you do not have a solid waste.

**Do you have a solid waste?**

**YES** - [click here to go to Step #2 below.](#)

**NO** - the material does not qualify as a solid waste, and therefore cannot be regulated under RCRA Subtitle C.





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**Step 2**

**# 2 - Is Your Solid Waste Excluded from Hazardous Waste Regulations?**

After you have determined that you have a solid waste on hand, the next step is to determine if that solid waste is excluded from RCRA regulation.

- EPA grants specific exclusions from some hazardous waste regulations if certain conditions are met. Some materials are excluded from the definition of solid waste, while some solid wastes are excluded from the definition of hazardous waste. Knowing these exclusions can be helpful in waste management programs.
- Some materials that are excluded from the definition of solid waste (and therefore are NOT hazardous) include:
  - Domestic sewage
  - Industrial wastewater discharges
  - Radioactive waste
  - Spent wood preserving solutions that are reclaimed and reused in the wood preserving process
  - Processed scrap metal
  - Irrigation return flow
  - In situ mining waste
  - Secondary materials that are reclaimed and returned to the original process, if the reclamation and return process is totally enclosed.

These wastes are not hazardous because they are not considered solid waste.

- Some solid wastes are excluded from the definition of hazardous wastes:
  - Household waste (pesticides, cleaners)
  - Some agricultural wastes that are returned to the soils as fertilizers
  - Fossil fuel combustion wastes
  - Cement kiln dust (unless the facility burns hazardous waste as fuel)
  - Arsenically treated wood wastes generated from a person using wood for its intended purpose
  - Petroleum-contaminated media that is subject to the UST corrective action program
  - Used oil filters that have been hot drained
  - Used chlorofluorocarbon refrigerants that are being reclaimed for further use.

These solid wastes are excluded from the definition of hazardous waste by EPA.



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- In addition, some recycled materials are not classified as solid waste. Materials are not solid wastes IF:
  - They are being used as substitutes for commercial products
  - Returned back to the original process without first being reclaimed or land disposed.

This exemption is not valid if the materials are burned for energy recovery or used to make a product that will be applied to the land.

- Samples collected for lab analysis are exempt from RCRA regulation until it is determined that they are to be disposed of.
- Used oil that exhibits hazardous characteristics can be excluded if recycled. It is regulated under Standards for the Management of Used Oil ([40 CFR Part 279](#)).
- [Universal wastes](#) (including batteries, pesticides, mercury-containing thermostats, switches, and thermometers, and electric lamps) may also qualify for reduced regulation.
- The list above is NOT comprehensive. If your waste is not on the list above, it may still be excluded from RCRA regulation. See [40 CFR 261.4](#) for a complete list of those wastes exempt from hazardous waste regulation. Furthermore, if your waste IS listed above, that does not mean you are automatically exempt. Each exemption above is conditional and facility managers should review applicable sections of [40 CFR 261](#) and contact their State's hazardous waste program for clarification on exemptions.

**Is the solid waste excluded from hazardous waste regulation?**

**YES** - the waste is exempt (not regulated) under RCRA Subtitle C.

**NO** - [click here to go to Step #3 below.](#)

**Step 3**

**#3 - Is Your Solid Waste a Listed Waste?**

Once you have determined that your solid waste is not excluded from RCRA requirements, the next step is to determine if the material is a "listed waste".

- EPA "lists" hazardous wastes that fall into four categories;
  - **F-listed wastes:** The F list includes wastes from common industrial processes. Because they are not specific to one type of industry, they are called wastes from non-specific sources. This list includes for example many types of spent (or used) solvents. See [40 CFR 261.31](#) to see if your waste is F-listed.



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- **K-listed wastes:** The K list includes wastes from specific industrial processes, such as wood preservation, organic chemical production, and pesticide manufacturing. See [40 CFR 261.32](#) for the complete list of manufacturing process wastes to see if your facility might have a K-listed waste.
- **P- and U-listed wastes:** These two lists designate certain commercial chemical products as hazardous when disposed of unused. These unused chemicals may become wastes in a number of ways. Some can be spilled while in use while others can be intentionally discarded if out of specification. For a waste to qualify as a P- or U-listed waste, it must meet all three of the following criteria:
  - The formulation must contain at least one chemical on the P or U list
  - The chemical in the waste must be unused
  - The chemical in the waste must be in the form of a CCP.  
*\*A CCP is a chemical that is of technical (commercial) grade, 100% pure, and the only active ingredient in the formulation.*

There are hundreds of P- and U-listed wastes. Facility managers should look in 40 CFR 261.33 to see if chemicals present on-site are hazardous if disposed of unused. Please note that the chemicals with the "P" code are acutely hazardous. Generators with acutely hazardous waste are subject to different accumulation limits for those wastes.

**Is the solid waste a listed waste (F, K, P, U)?**

**YES** - the waste is a listed waste and is therefore regulated under RCRA Subtitle C.

**NO** - [click here to go to Step #4 below.](#)

**Step 4**

**#4 - Is Your Solid Waste a Characteristic Waste?**

If your waste is not listed in [40 CFR Part 261](#), it may still be a hazardous waste. The next step is to see if your waste is a characteristic hazardous waste.

- Solid wastes that are not directly listed in [40 CFR Part 261](#) may still be hazardous. EPA uses a classification system based on the four properties of solid wastes. **If a material exhibits at least one of these characteristics, it is classified as a hazardous waste.** The four properties are:
  - **IGNITABILITY**  
A substance is ignitable if it displays any of the following properties.
    - A liquid with a flashpoint of less than 60° C (140° F);



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- A non-liquid that is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes, and when ignited, burns so vigorously and persistently that it creates a hazard;
- An ignitable compressed gas;
- An oxidizer (such as a chlorate or peroxide).

Details on the ignitability characteristic are included in [40 CFR 261.21](#).

○ **CORROSIVITY**

A substance is corrosive if it displays any of the following properties:

- An aqueous material with a pH less than or equal to 2 or greater than or equal to 12.5;
- A liquid that corrodes steel at a rate of at least 0.25 inches per year at 55° C (130° F); **NOTE:** A waste that is not aqueous and contains no liquid falls outside the definition of EPA corrosivity.

Details on the corrosivity characteristic are included in [40 CFR 261.22](#).

○ **REACTIVITY**

A substance is reactive if it displays any of the following properties.

- Normally unstable and readily undergoes violent change without detonating;
- Reacts violently with water;
- Forms potentially explosive mixtures with water;
- A cyanide or sulfide bearing waste which can generate fumes in a quantity sufficient to present a danger to human health.
- Capable of detonation
- A forbidden explosive, or a Class A or Class B explosive, as defined in Department of Transportation regulations in [49 CFR Part 173](#).

Details on the reactivity characteristic are included in [40 CFR 261.23](#).

○ **TOXICITY**

A substance is toxic if it exceeds the concentrations for contaminants listed in the "**Maximum Concentration of Contaminants for the Toxicity Characteristic**" table, presented in [40 CFR 261.24](#). A specific test, the **Toxicity Characteristic Leaching Procedure (TCLP)** must be conducted to determine if the waste is classified as toxic. Details on the toxicity characteristic are included in [40 CFR 261.24](#).



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- EPA designates specific, standardized test methods that are to be used when determining the characteristics of a waste. These techniques are listed in the above mentioned sections.

**Is the solid waste a characteristic hazardous waste?**

**YES** - the waste is a characteristic waste and is therefore regulated under RCRA Subtitle C.

**NO** - [click here to go to Step #5 below.](#)

**Step 5**

**#5 - Is Your Solid Waste Subject to the Mixture Rule?**

Even though your solid waste is not a listed or characteristic waste, it could become a hazardous waste if mixed with materials classified as hazardous. The next step is to determine if your waste is a mixture of a solid waste and a hazardous waste.

- The "**Mixture Rule**" states that mixtures of solid waste and listed hazardous waste must be regulated as hazardous waste. There are two ways to determine if a material is regulated under the mixture rule:
  - If the material is a mixture of a solid waste and a hazardous waste, and the mixture exhibits one or more of the characteristics of hazardous waste;
  - If the material is a mixture of a solid waste and a listed waste. The mixture rule is intended to discourage generators from mixing wastestreams. More information can be reviewed at [40 CFR 261.3\(a\)\(iii\) and \(iv\)](#).

**Is the solid waste subject to the mixture rule?**

**YES** - the waste is subject to the mixture rule and is therefore regulated under RCRA Subtitle C.

**NO** - [click here to go to Step #6 below.](#)

**Step 6**

**#6 - Is Your Solid Waste Subject to the Derived-From Rule?**

Your material is not a listed or characteristic waste, nor is it classified as hazardous due to the mixture rule. Yet the material might still be a hazardous waste. Hazardous waste treatment, storage, and disposal processes often generate residues that may contain high concentrations of hazardous constituents. The derived-from rule governs the regulatory status of such waste residues.



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- According to the Rule, any solid waste derived from the treatment, storage, or disposal of a hazardous waste is considered hazardous. "Derived from" wastes include sludges, spill residue, ash, emission control dust, and leachate. Some examples are drums that have been used for storage of a hazardous waste, or ash from the incineration of hazardous waste. This principle applies regardless of the actual risk to human or environmental health. More details about the "derived-from" rule and exemptions to the rule are included in [40 CFR Part 261.3 \(c\) and \(d\)](#).

**Is the solid waste subject to the derived-from rule?**

**YES** - the waste is subject to the derived-from rule and is therefore regulated under RCRA Subtitle C.

**NO** - the waste is not classified as hazardous under RCRA Subtitle C.