




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 22 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

**MEMORANDUM**

**SUBJECT:** Final Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) Under CERCLA ("Waste-in" Guidance)

**FROM:** Bruce M. Diamond, Director   
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**TO:** Director, Waste Management Division,  
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Director, Emergency and Remedial Response Division,  
Region II  
Director, Hazardous Waste Management Division,  
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Director, Hazardous Waste Division,  
Region X

This memorandum transmits to you our "Final Guidance on Preparing Waste-in Lists and Volumetric Rankings for Release to Potentially Responsible Parties (PRPs) Under CERCLA," which has been referred to as the "waste-in" guidance.

If EPA invokes special notice procedures under CERCLA section 122(e)(1), the Agency must provide PRPs with the names and addresses of all PRPs, the volumes and types of substances sent to the site by each PRP, and the volumes of all substances present at the site. To the extent such information is available, it must be released with the special notice letter.

This document provides guidance on the compilation and release of waste-in lists and volumetric rankings to help you comply with the information release requirements of CERCLA section 122(e) and the information release and exchange policies outlined in OSWER Directives 9835.12 and 9834.10.

Based on Regional input, we made several significant changes to the guidance relating to information release with RI/FS special notice, commonly contributed volumes, and the status of "mom and pop" gas station waste oil generators on waste-in lists. I thank you for your assistance.

Attachment

cc: Superfund Branch Chiefs, Regions I - X  
"Waste-in" Guidance Contacts, Regions I - X

**GUIDANCE ON PREPARING WASTE-IN LISTS  
AND VOLUMETRIC RANKINGS FOR RELEASE  
TO POTENTIALLY RESPONSIBLE PARTIES (PRPs) UNDER CERCLA**

**FINAL**

**February 20, 1991**

This guidance and any internal procedures adopted for its implementation are intended solely as guidance for employees of the U.S. Environmental Protection Agency. Such guidance and procedures do not constitute rulemaking by the Agency and may not be relied upon to create a right or benefit, substantive or procedural, enforceable at law or in equity, by any person. The Agency may take action at variance with this guidance and its internal implementing procedures.

**GUIDANCE ON PREPARING WASTE-IN LISTS  
AND VOLUMETRIC RANKINGS FOR RELEASE  
TO POTENTIALLY RESPONSIBLE PARTIES (PRPs) UNDER CERCLA**

**I. INTRODUCTION**

This document provides guidance on the compilation and release of waste-in lists and volumetric rankings. A waste-in list gives the volume and nature of substances contributed by each PRP identified at a facility. A volumetric ranking is a ranking by volume of the hazardous substances at a facility.

If EPA invokes special notice procedures under CERCLA section 122(e)(1), the Agency must provide PRPs with waste-in lists, volumetric rankings and a list of PRP names and addresses "to the extent that such information is available." This information facilitates the information exchange process with PRPs that can expedite a settlement agreement. Where available, waste-in information is sent to PRPs before formal negotiations begin. For more information on the Agency's policy on releasing information to PRPs at CERCLA sites, see Releasing Information to Potentially Responsible Parties at CERCLA Sites, OSWER, March 1, 1990, OSWER Directive 9835.12, and references cited there.

**II. BACKGROUND**

Experience has demonstrated that waste-in lists and volumetric rankings are a valuable tool in bringing about settlements at Superfund sites. When presented with an estimate of the nature and volume of hazardous substances contributed to a site, PRPs are more able to coalesce into committees and determine allocations among themselves, and often are more willing to participate in settlement negotiations with EPA. While not all sites are logical candidates for waste-in lists or volumetric rankings, production of waste-in lists and rankings is generally beneficial, whenever practicable.

In the Management Review of Superfund (June, 1989) the Administrator called for guidance to "ensure effective information collection, information exchange, and enforcement of information requests to encourage Potentially Responsible Party (PRP) participation in the settlement process." The recommendation emphasized the importance of a consistent approach when releasing information to PRPs about the identity and relative contributions of PRPs and the type and quantity of

wastes at a site, the latter of which is referred to in this guidance as "waste-in information."

Because waste-in lists have proven a valuable tool in initiating PRP negotiations and bringing about settlements, the Agency is providing guidance to improve the process of information gathering, waste-in compilation, and information release to PRPs. Production of waste-in lists will vary widely, depending upon the classes of PRPs (e.g., owner/operator vs. multigenerator) and available information. Where sufficient information is available, Regions should provide waste-in lists to PRPs.

Increasingly, and particularly at large, complex Superfund sites with multiple contributors, PRPs have been requesting EPA to furnish them with waste-in information in order to reach a settlement among themselves and with the Agency. This represents a shift from past experience, where PRPs often preferred to compile waste-in lists themselves. Whether EPA produces waste-in information on a site, or chooses to use or adopt waste-in information developed, at least in part, by PRPs must be a site-specific determination reflecting the Region's or PRPs' respective resources, willingness, familiarity with the site and experience with transactional databases. Where PRPs compile waste-in information, Regions must ensure that the information meets the qualitative standards articulated in this guidance before releasing it to other PRPs.

Often, Regions must rely heavily on information provided by the PRPs through 104(e) responses in order to compile a waste-in list or volumetric ranking. While Regions have broad discretion in providing PRPs with supporting documentation, waste-in information -- when developed -- should be sent to all identified PRPs at a site, consistent with OSWER Directive 9835.12.

### III. DEFINITIONS

The following "waste-in" terms are defined solely for purposes of this guidance and are intended to assist Regions in its implementation:

Waste-in Information - Information on the type and quantity of hazardous substances at a facility. Waste-in information includes waste-in lists and volumetric rankings.

Waste-in List - A listing of the volume and nature of substances contributed by each PRP identified at a facility. A waste-in list satisfies the information-release requirements of CERCLA section 122(e)(1)(B).

Volumetric Ranking - A ranking of the hazardous substances at a facility in descending volumetric order. A volumetric ranking satisfies the information-release requirements of CERCLA section 122(e)(1)(C).

Volumetric Ranking of PRPs - A ranking of PRPs on the waste-in list in descending order of the total volume of hazardous substances that they contributed to a facility. PRP volumetric contribution is usually expressed as a percentage of the total volume of hazardous substances at the facility. These rankings are sometimes referred to as "generator rankings."

Non-Binding Allocation of Responsibility (NBAR) - A non-binding preliminary allocation of responsibility prepared pursuant to CERCLA section 122(e)(3) which allocates percentages of the total cost of response among potentially responsible parties at a facility.

Information Release - Distribution of waste-in and other site information to the PRPs identified at a facility in order to facilitate settlement between PRPs and the Agency.

#### IV. WASTE-IN LIST DEVELOPMENT AND INFORMATION RELEASE PROCESS

Waste-in list development and information release can be viewed as a five-part process. Part one is the PRP search. PRP search activities focus on the development of evidence for 106 and 107 actions and on waste-in information for waste-in lists and volumetric rankings. Part two is waste-in information assessment, conversion, and compilation. This is the process where waste-in information is converted into waste-in lists and volumetric rankings. Parts three, four, and five concern the dynamics of information release and exchange.

##### A) PRP Search

PRP search procedures include developing evidence for 106 and 107 actions as well as developing waste-in information for waste-in lists and volumetric rankings (PRP Search Supplemental

Guidance for Sites in the Superfund Remedial Program, OWPE, June, 1989, OSWER Directive No. 9834.3-2a). The supplemental guidance describes a two-phased process for conducting PRP searches and outlines the format and content for remedial PRP search reports. Although the following sections refer to remedial PRP searches, the waste-in information development process described in this guidance applies to both remedial and removal searches.

#### 1) Baseline PRP Search

Phase one of a PRP search is called the baseline phase. Its focus is primarily on establishing owner/operator liability and identifying generators and transporters associated with the site. Baseline-phase activities usually include collecting records from federal, state, and local government agencies; interviewing current and past government officials; conducting a title search; and issuing section 104(e) information request letters to site owners and operators. Typically, owner/operator transactional records will be the only waste-in information that is developed during the baseline phase. Although these may not provide a complete waste-in picture, they will certainly provide a significant number of leads that can be pursued during the follow-up PRP search.

#### 2) Follow-up PRP Search

The second phase of a PRP search is called the follow-up phase. Its focus is on establishing generator and transporter liability and developing waste-in information for waste-in lists and volumetric rankings. Activities for the follow-up phase can vary considerably from site-to-site depending on site complexity, the number of generators and transporters associated with the site, and the difficulties encountered with waste-in information development. Follow-up PRP search activities usually include issuing section 104(e) information request letters to generators and transporters, interviewing PRPs and current and past PRP employees, and conducting specialized tasks, as needed, which are described in the PRP Search Manual, OWPE, November, 1987, OSWER Directive No. 9834.6.

In addition to the development of evidence for 106 and 107 actions, activities conducted during the follow-up PRP search should focus on waste-in information for waste-in lists and volumetric rankings. Often, the person who can provide information on a PRP's liability can provide information on the wastes that were sent to the site.

### 3) Waste-in Lists and PRP Search Planning

Regions should plan an information release strategy and schedule when they are doing PRP search planning. The plan should include a schedule for waste-in list preparation, revision, and release. Important milestones for scheduling include assessment of waste-in information, when to issue general notice letters, a cut-off date for refining waste-in lists, and whether to send out lists before or with special notice letters. Where special notice is not invoked but Regions choose to produce waste-in lists, a schedule detailing list compilation, revision, and release is equally important to ensure that the information gets to PRPs in a timely manner.

#### B) Assessment, Conversion, and Compilation of Waste-in Information

##### 1) Assessment

At some point during the follow-up PRP search, the PRP search team (i.e., the work assignment manager or RPM, civil investigator, program management, and ORC attorney) should assess the quality and completeness of the waste-in information and determine whether waste-in lists and volumetric rankings will be developed. The statute gives EPA considerable discretion to decide whether to do a list or ranking. Whether the records at a site constitute sufficient evidence to produce waste-in lists and volumetric rankings will be a highly site-specific determination by each Region.

Regions should develop an approach for assessing waste-in information that is internally consistent and based on a common set of considerations. Attachment 1 is provided to assist Regions in assessing waste-in information. When special notice procedures are invoked, Regions should prepare waste-in lists and rankings for release to PRPs as provided in section 122(e)(1) of CERCLA. In general, Regions should prepare waste-in lists and volumetric rankings whenever practicable, especially where it would facilitate settlement.

##### 2) Conversion

Waste-in information should be converted to a common unit of measurement. In general, most sites will be receiving hazardous substances in drums or tankers, making gallons the preferable

unit in which to express volume. However, some sites such as landfills may have large amounts of solid waste, trash, and other hazardous substances coming in by weight, in which case pounds or tons may be more appropriate. Where transactional records are divided among liquid volumes and weights, Regions should convert all volumes to a single standard using the equation 1 gallon = 8.33 pounds, unless more specific density information is provided. Attachment 2 is a list of standard conversion factors that can be used to convert volumes and weights to a common unit of measurement.

### 3) Compilation

#### a) Making Assumptions About Waste-in Information

In order to compile waste-in lists and volumetric rankings, Regional staff may have to interpret ambiguous data and make assumptions regarding waste-in information. When making assumptions about waste-in information, Regions should generally follow three broad rules:

- o Assumptions should be defensible. Regions should use established conversion standards and base assumptions on patterns established in the data in order to avoid charges of being arbitrary or capricious.
- o State assumptions openly. When interpreting illegible numbers on a manifest, or assuming a disposal destination from an unclear hauling ticket, it is preferable to let PRPs know where EPA made assumptions and to identify where ambiguity still exists. The lists are thus more credible and PRPs have the opportunity to make their own corrections. Assumptions should be reviewed by Regional counsel to ensure that they do not jeopardize a cost recovery case or other enforcement action.
- o Be consistent. PRPs involved at more than one site within a single Region will be aware of any discrepancies in the kinds of assumptions made for waste-in lists at these sites, and disputes over inconsistent assumptions only slow down the settlement process. Regions should ensure that everyone compiling waste-in information is using the same Region-wide set of assumptions and compilation methodology. Some



inconsistencies may be unavoidable, however, where facts in separate cases differ significantly.

Based on Regional experience in preparing waste-in lists and volumetric rankings, a list of generally accepted assumptions for waste-in lists and volumetric rankings has been compiled in Attachment 3.

In many cases, Regions will have to make additional site-specific assumptions about waste-in information to improve the comprehensiveness of waste-in information and the willingness of PRPs to negotiate. However, Regions should bear in mind that assumptions that are not easily supported may have the effect of slowing down or thwarting the formation of a PRP negotiating group while PRPs dispute EPA's numbers.

b) Who to Include on Waste-in Lists

Pursuant to CERCLA section 107(a), PRPs include generators of a hazardous substance, transporters of a hazardous substance, and owners or operators of sites where hazardous substances were treated or disposed of. In general, generators are always included in a waste-in list where evidence indicates they contributed hazardous substances to a Superfund site.

Transporters should be included on waste-in lists when the transporter - and not the generator - determined where the hazardous substances were to be taken for treatment or disposal. EPA interprets CERCLA sections 107(a)(4), 101(20)(B), and 101(20)(C) to exempt transporters from notice as PRPs where they did not select the site or facility to which hazardous substances were delivered (Policy for Enforcement Actions Against Transporters Under CERCLA, OSWER, December 23, 1985, OSWER Directive No. 9829.0). The policy states that while all transporters should be sent 104(e) information request letters, only those transporters who appear to have selected the site for hazardous substance disposal should be sent notice letters and waste-in information.

While owner/operators may be PRPs and consequently may be jointly and severally liable under CERCLA section 107, in most cases they are not included on waste-in lists. Owner/operators should be included on waste-in lists, however, where there is evidence to suggest they also acted as a transporter or generated waste at the site.

C) Information Release with General Notice

To provide PRPs ample time to organize and develop a reasonable offer to conduct or finance a response action, Regions should issue a general notice letter (GNL) prior to issuing a special notice letter (SNL) under section 122(e) for an RI/FS or RD/RA. General notice letters should be sent to all persons where there is sufficient evidence to make a preliminary determination of potential liability under section 107. For more information on general and special notice letters, see Interim Guidance on Notice Letters, Negotiations, and Information Exchange, OSWER, October, 1987, OSWER Directive 9834.10.

In most cases, Regions should not expect to release waste-in lists and rankings to PRPs with general notice letters issued before an RI/FS. This is due to the fact that follow-up PRP search activities are being conducted and complete waste-in information has not yet been developed. General notice letters, however, may include the names and addresses of PRPs to the extent this information is available.

D) Refining and Revising Waste-in Lists and Volumetric Rankings

If waste-in lists and volumetric rankings are released before issuance of special notice letters, Regions should revise and update this information prior to its release with special notice letters to ensure that the information provided to the PRPs is based on currently available data. The following guidelines pertain to list and ranking revisions prior to issuance of special notice letters, or prior to information release where no special notice letter is sent for RI/FS or RD/RA work:

- o Regions should not spend an unreasonable amount of time on waste allocation. Waste-in lists and volumetric rankings are intended to provide PRPs with contribution information, but do not constitute EPA's final position on PRP contributions or allocations.
- o Regions should not spend unreasonable amounts of time on waste characterization. Where records give detailed information on chemical compounds and hazardous constituents, Regions should provide as much detail as available in the waste-in list to help convince PRPs of the strength of EPA's evidence and encourage them to

begin negotiating. However, where more detailed waste information is not easily available, general waste characterization should be sufficient at this stage in the process.

- o General terms, such as "waste oil" or "solvent", can be descriptive enough for the purposes of demonstrating PRP contribution to a site, and for volumetric rankings. The primary distinction in the information release process is whether or not a substance is hazardous, and, therefore, should be counted in the ranking and waste-in attribution.

The Regions should bear in mind that the time available for waste-in information revisions will be restricted by the target special notice date and PRP requests for waste-in information under section 122(e)(1).

**E) Information Release with RI/FS or RD/RA Special Notice**

Special notice letters are used to initiate a formal period of negotiations with PRPs and to invoke the statutory moratorium on section 104 and 106 actions. Special notice can be given prior to the conduct of the RI/FS or RD/RA, in which case PRPs are encouraged to conduct or finance these response activities. Along with the special notice letter, the Agency releases to the PRPs the names and addresses of all PRPs, the volumes and types of substances sent to the site by each PRP, and the volumes of all substances present at the site. To the extent such information is available, it must be released with the special notice letter.

If waste-in information is not available for RI/FS special notice, the information-release requirements of section 122(e) can be met by releasing the names and addresses of PRPs and other information in our possession relating to the volume and nature of substances. RD/RA special notice must be accompanied by waste-in information, to the extent it is available. (Interim Guidance on Notice Letters, Negotiations, and Information Exchange, OSWER, October, 1987, OSWER Directive 9834.10, and Releasing Information to Potentially Responsible Parties at CERCLA Sites, OSWER, March, 1990, OSWER Directive 9835.12).

V. GENERAL CONSIDERATIONS FOR RELEASING WASTE-IN INFORMATION

The following are general guidelines on what to consider when releasing waste-in information to PRPs:

1. Always include a disclaimer when releasing waste-in information to PRPs. Waste-in information is not equivalent to a nonbinding preliminary allocation of responsibility (NBAR) or cost allocation; emphasize this in the disclaimer. Similarly, it is important to emphasize the preliminary (and hence incomplete) nature of waste-in information. Regions should include the following disclaimer when releasing waste-in information to PRPs:

"This information does not constitute a non-binding preliminary allocation of responsibility under CERCLA section 122(e)(3). This information should not be construed as an allocation of responsibility or liability by EPA. This waste-in list and volumetric ranking is provided solely for your information. This list is preliminary and subject to revisions based upon new information as, and if, it becomes available."

2. When releasing waste-in information to PRPs, Regions should openly state assumptions made when compiling the lists and rankings. Where records are less than complete, assumptions typically must be made about volumes and weights, conversion factors, waste characterization and shipment and disposal destinations. By stating assumptions openly, and by identifying uncertainties in a list or ranking, PRPs will have better information upon which to judge the accuracy of waste-in information, to revise lists themselves, and to base allocation among themselves -- all of which can facilitate settlement. Assumptions should not, however, jeopardize a cost recovery case or other enforcement actions.

Because the lists are not binding and do not serve as preliminary allocations of responsibility or liability, PRPs should not be able to successfully challenge waste-in information, although many will undoubtedly dispute EPA's rankings and volumetric attributions. Additionally, EPA should always state that the burden is on the PRPs to demonstrate where EPA's assumptions are incorrect.

3. There are some limits on information release. Any information, such as supporting documentation, that Regions release to PRPs beyond what is statutorily required under section 122(e)(1) is at the discretion of the Region. When available, however, waste-in information that falls outside the scope of 122(e)(1) may be subject to certain limitations. For example, information that is identified in a section 104(e) information request response as Confidential Business Information (CBI) should not be released with special notice unless permitted by 40 CFR Part 2 and/or required by section 104(e)(7). Information release may also be governed by FOIA, which includes a number of exemptions and privileges such as the attorney-client privilege. (See OSWER Directive 9835.12).
4. Where hundreds of PRPs are identified at a Superfund site, Regions may prefer to distribute waste-in lists and rankings to PRPs through an information meeting. Experience has shown that meetings are useful for bringing large numbers of PRPs together where they can meet and form a bargaining committee. Presenting waste-in information to PRPs at a meeting also may encourage reluctant PRPs to begin negotiations.
5. Correcting inaccuracies and producing new lists. In general, if PRPs are willing to make corrections and incorporate new information themselves, and settlement will not be delayed by this work, it is preferable to let PRPs rework the lists themselves. However, where substantial new numbers of PRPs or new site-related waste information comes to light through information request responses or other channels, Regions may wish to revise waste-in lists themselves where such revision would expedite settlement and limit internal debate among negotiating PRPs. In general, Regions should only issue a revised list once between the RI/FS and RD/RA stages.
6. Regions should avoid playing the role of referee in PRP disputes over waste-in information and respective allocations. PRPs will often ask EPA to moderate disputes over contributions and allocations, preferring EPA as a "neutral" voice over that of the PRP steering committee or rival PRP factions. In many cases pressure will be put on EPA to step in and moderate disputes between large and small PRPs, or where small PRPs are trying to assert de minimis status.

Due to resource implications, Regions should not become overly concerned with internal PRP allocation issues, even when smaller contributors may claim coercion from larger contributors. Regions might consider involvement in allocation questions, however, when they appear to jeopardize the likelihood of settlement. Small contributors may be eligible for a de minimis settlement. (Guidance on Landowner Liability Under Section 107(a)(1) of CERCLA, De Minimis Settlements Under Section 122(g)(1)(B) of CERCLA, and Settlements with Prospective Purchasers of Contaminated Property, OSWER, June 6, 1989, OSWER Directive 9835.9).

7. EPA should inform PRP groups that viable PRPs will have to absorb orphan shares. Many waste-in lists are characterized by unattributable volumes and hazardous substances. Where lists and rankings contain these "orphan" shares, Regions should encourage PRP negotiating groups to absorb these shares and apportion the shares as part of the internal allocation process.

## VI. FORMAT AND CONTENT OF WASTE-IN INFORMATION

For the sake of illustration, waste-in lists and volumetric rankings are discussed in this section as separate documents, even though the information could very easily be combined into a single document that also includes the names and addresses of PRPs.

### A) Waste-in Lists [CERCLA section 122(e)(1)(B)]

Waste-in lists contain the volume and nature of substances contributed by each PRP identified at a facility. At a minimum, the lists should contain columns for the names and addresses of PRPs as well as the types and volumes of hazardous substances. Although EPA is under no statutory obligation to release information beyond this in a waste-in list, Regions should release supplemental waste-in list information unless there are countervailing legal, policy, or strategy reasons not to do so. (See OSWER Directive 9835.12). Supplemental waste-in information can include, but is not limited to, the dates of shipments, the names of transporters, the types of evidence from which waste-in lists were derived, and comments to clarify assumptions, ambiguities, and double-counts. Attachment 4 is a waste-in list that contains supplemental waste-in information.

In some situations, it may be advantageous to prepare separate waste-in lists for generators and transporters. Where most PRPs at a site are generators, waste-in lists should be organized by generator, with a column provided for listing the transporter of each shipment in order to link the generator to the site. Where there are multiple transporter PRPs, it may be advisable to prepare separate waste-in lists for generators and transporters. [See discussion under paragraph D) below].

**B) Volumetric Rankings of Substances at a Facility [CERCLA section 122(e)(1)(C)]**

CERCLA also requires that special notice recipients be provided with a volumetric ranking of hazardous substances at the facility, to the extent such information is available. This ranking lists hazardous substances and their respective volumes in descending volumetric order. It can be developed from waste-in list information.

**C) Volumetric Rankings of PRPs**

The statute does not require the release of "volumetric PRP rankings", sometimes referred to as generator rankings, with special notice; however, several Regions release information to PRPs in this format because they feel it provides a logical starting point for negotiations. Volumetric rankings of PRPs rank the PRPs on the waste-in list in descending order of volume and express their contributions as a percentage of the total volume of hazardous substances at the facility. Regions should bear in mind and convey to the PRPs that waste-in information provided with special notice is intended as an estimate of individual PRP contributions, and is neither definitive nor binding in any way. It is intended solely as information to facilitate settlement agreements between PRPs and the Agency.

Where there is insufficient information to convert volumes into a single unit of measurement, Regions may provide a volumetric ranking using raw data from records in unconverted form. PRPs can then choose to clarify ambiguities concerning volumes or substances themselves in order to produce a better list upon which to negotiate.

#### D) Accounting for Commonly Contributed Volumes

Where hazardous substances are contributed both by the generator and the transporter who designated the treatment or disposal site, Regions should attribute the volumes to both parties when compiling waste-in information. EPA should not try to apportion responsibility for a hazardous substance shipment generated by one PRP and transported by another among the two PRPs in a volumetric ranking or waste-in list, but should let the PRPs themselves allocate their respective responsibilities for commonly contributed volumes.

Commonly contributed volumes can be accounted for on volumetric rankings of PRPs by attributing the volume of each shipment to both generator and transporter. This is the preferred approach when separate generator and transporter volumetric rankings have been prepared; however, it creates a situation where some shipments can be counted twice, which may cause PRPs to question the validity of methodologies used to compile waste-in information unless double-counted shipments are clearly identified and their impact on total volumes is explained. Accordingly, when volumetric rankings of PRPs contain double-counted shipment volumes, Regions should provide PRPs with an explanation of why shipments have been double-counted and clearly identify, by means of a comment field or other notation, which shipment volumes have been attributed to both generators and transporters.

Another way of accounting for commonly contributed volumes is to identify the transporter linked to each shipment on a generator waste-in list and indicate whether the transporter designated the treatment or disposal facility. This is the preferred approach when separate generator and transporter volumetric rankings cannot be prepared due to insufficient information or information management system limitations. Further, it is recommended that waste-in lists be prepared in this way even when commonly contributed volumes are accounted for on volumetric rankings of PRPs to ensure that these volumes are consistently identified on all waste-in information that EPA releases to PRPs.

#### VII. SITE-SPECIFIC VOLUMETRIC INFORMATION GUIDANCE

This section offers guidance specific to the following types of Superfund sites: municipal landfills, removal actions, sites



with little or no documentation, solvent recycling/ transshipment sites and, briefly, lead-battery sites and mining sites.

A) Municipal Landfills

Landfills are notoriously difficult sites for producing waste-in information, both because of poor record-keeping practices and because of the mixture of different wastes disposed there. Many Regions do not even attempt compiling waste-in information for landfills. However, because of the importance of waste-in information in bringing about negotiations, Regions should at least assess whether waste-in lists and volumetric rankings could be developed, particularly where records exist and where interviews can provide good supplemental information on truck routes, generators and shipment volumes.

In many instances, most of the wastes in a municipal landfill are not hazardous substances and do not belong in a waste-in list or volumetric ranking. The Interim Policy on CERCLA Settlements Involving Municipalities and Municipal Wastes (OSWER Directive 9834.13) provides that generators and transporters of municipal solid waste or sewage sludge generally will not be notified as PRPs unless evidence shows that the waste or sludge contains a hazardous substance, and that hazardous substance came from a commercial, industrial or institutional process or activity. Generators and transporters of commercial trash, however, generally are notified as PRPs unless they can demonstrate that none of the hazardous substances contained in the trash are derived from a commercial, institutional or industrial process or activity, and that the amount and toxicity of the hazardous substances do not exceed the amount normally found in common household trash. From this policy, Regions generally should not include municipal solid wastes in waste-in lists or volumetric rankings except where evidence suggests that the waste or sludge contains a hazardous substance, and that hazardous substance came from a commercial, industrial or institutional process or activity. Further, unless PRPs can demonstrate otherwise, Regions generally should include trash from commercial, institutional and industrial entities in waste-in calculations.

All generators, transporters and owner/operators involved at a municipal landfill site usually should still be sent Section 104(e) request letters to provide Regions with as much information and documentation on the site as possible. Regions

should only send notice letters, waste-in lists, and volumetric rankings to those identified as PRPs.

Regions should also compare information they have gathered at a landfill site with information on PRPs and hazardous substances at other Superfund sites in the area. In some instances, the same transporters who shipped hazardous substances to nearby facilities or Superfund sites may have also shipped substances to the municipal landfill. Interviews and civil investigations of nearby industries and commercial entities may provide information that can link hazardous substance shipments from these entities to a municipal landfill, particularly where transactional records show that hazardous substance shipments did not reach a designated RCRA facility for disposal.

#### **B) Removals**

Most removal sites are not good candidates for compiling waste-in information since they require clean-up action sooner than the time it would take to produce waste-in lists. Non-time-critical removal sites, with a planning process of six months or more, are the only sites for which waste-in lists and rankings should be considered. Where adequate transaction documentation exists and settlement seems possible, Regions should prepare waste-in lists and rankings as described in section 122(e)(1) for release to PRPs.

As with remedial sites, Regions should begin preparing a schedule for waste-in list and ranking compilation, revision and release during the early stages of the PRP search. Because removals proceed at an accelerated rate, it is important to start waste-in preparation early, spend less time fine-tuning lists and rankings, and release the information to PRPs as early as possible. Regions should notify PRPs of their potential liability orally, followed by a confirming written notice, or through a general notice letter. Information on the identity of other PRPs at a site, and evidence on individual contribution, should be sent out with this written notice. Where a special notice letter is sent, waste-in lists and rankings should be sent out with or before the special notice letter. Where no special notice letter is sent, Regions can either send waste-in lists and rankings through a separate mailing between the general notice and the beginning of the removal action, or distribute the information at a meeting of PRPs during that time. Where a removal site involves large numbers of PRPs, Regions may prefer to distribute waste-in information at a central meeting as they

might for a remedial site. For more information on notifying PRPs at a removal site, see Chapter V of the Superfund Removal Procedures Manual, and Interim Guidance on Notice Letters, Negotiations, and Information Exchange, OSWER, October, 1987, OSWER Directive 9834.10.

Regions should initiate information gathering and document retrieval very early, and move quickly to retrieve site documents that might otherwise be destroyed during removal activities. Regions should make special arrangements to gather evidence at sites where documents are contaminated and cannot be collected in a normal information-gathering operation. These special arrangements could include photographing contaminated documents.

C) Sites with no Records or Poor Records

Where preliminary baseline records collection during the PRP search fails to yield good site or transactional records, Regions should not abandon the idea of compiling volumetric rankings or waste-in lists. A number of Regions have succeeded in locating missing records or new PRPs, and in supplementing weak documentation by persisting in their information gathering through alternate sources, or using civil investigators and eye-witness accounts. In general, where site records are inadequate to produce waste-in lists and rankings but where such information would enhance the possibility of reaching a settlement, Regions should consider using other avenues to gather information on a site. These include:

- o Civil Investigators, who can be used for tracking down withheld records, identifying new PRPs who may have documentation, interviewing witnesses whose accounts can lead to new information and new PRPs, and clarifying incomplete documentation;
- o Supplemental 104(e) Information Request Letters, which can be used to request further information, clarify existing information, or be sent to new PRPs discovered through prior 104(e) letter responses (see Guidance on Use and Enforcement of CERCLA Information Requests and Administrative Subpoenas, OECM, August, 1988, OSWER Directive 9834.4-A). Supplemental request letters can be sent out at any time during the remedial or removal process, but are most useful for the purpose of compiling waste-in information if sent before the special notice letter and moratorium; and,

- o Administrative Subpoenas, as provided in CERCLA section 122(e)(3)(B), which are available to Regions "to collect information necessary or appropriate" for performing a preliminary non-binding allocation of responsibility or "for otherwise implementing this section," including preparation of waste-in information under section 122(e)(1). Administrative subpoenas, whose use is encouraged in the Administrator's Management Review of Superfund, June, 1989, provide Regions with an additional enforcement tool for deposing witnesses and collecting "reports, papers, documents, answers to questions, and other information that the President deems necessary." (Guidance on Use and Enforcement of CERCLA Information Requests and Administrative Subpoenas, OECM, August, 1988, OSWER Directive 9834.4-A).

**D) Solvent Recycling and Other Transshipment Sites**

Solvent recycling and other transshipment sites are often characterized by operations that make it difficult to compile accurate waste-in information, even though good transactional records may exist. Transshipment activities usually involve the temporary storage of hazardous substances prior to off-site shipment for treatment or disposal. Recycling activities typically involve the recovery and sale of "pure" products from spent solvents and waste oils.

Regions may encounter difficulties when compiling waste-in list volumes for solvent recycling and transshipment sites. Unless records indicate clearly what percentage of incoming substances were shipped off-site as pure product or as temporarily stored substances, Regions should include all incoming wastes in both volumetric rankings and waste-in lists, and put the burden on PRPs to demonstrate that hazardous substances left the facility and in what quantities.

Where all hazardous substances were brought to a central site and then shipped to subsequent disposal sites, Regions may find it easier to create a main transactional database for the central site and subcategories for each disposal site within the main database, or create separate lists for each site. Again, the purpose of waste-in information is not to produce an exact allocation of substances contributed by each PRP, but an

approximate ranking by volume that PRPs can use to determine an appropriate allocation among themselves.

Hauler records will often provide good information on which hazardous substances were brought to a facility; they are not always as clear, however, on what substances left that facility, particularly when different transporters are involved. Hauler records used in conjunction with a site log provide a good means to chart the inflow and outflow of hazardous substances from a site. Where transporter records indicate hazardous substances were shipped to a certain site, Regions should assume the documentation is correct unless PRPs can demonstrate otherwise. Similarly, where generators' shipments were known to have been sent to different sites, Regions should assume on a preliminary basis that the destination recorded on the transporter ticket is correct.

Hazardous waste recycling facilities operated after 1980 should have RCRA manifest documentation, although manifests are not always reliable and not always kept for three years (or longer) as required under RCRA 40 CFR section 263.20. Recycling sites operated prior to 1980 are less likely to have good site or transactional records. Where a recycling facility has been in operation before and after 1980, recent RCRA manifests may provide clues to pre-1980 site operations, including end products, incoming shipment volumes and substances, and disposal patterns on site.

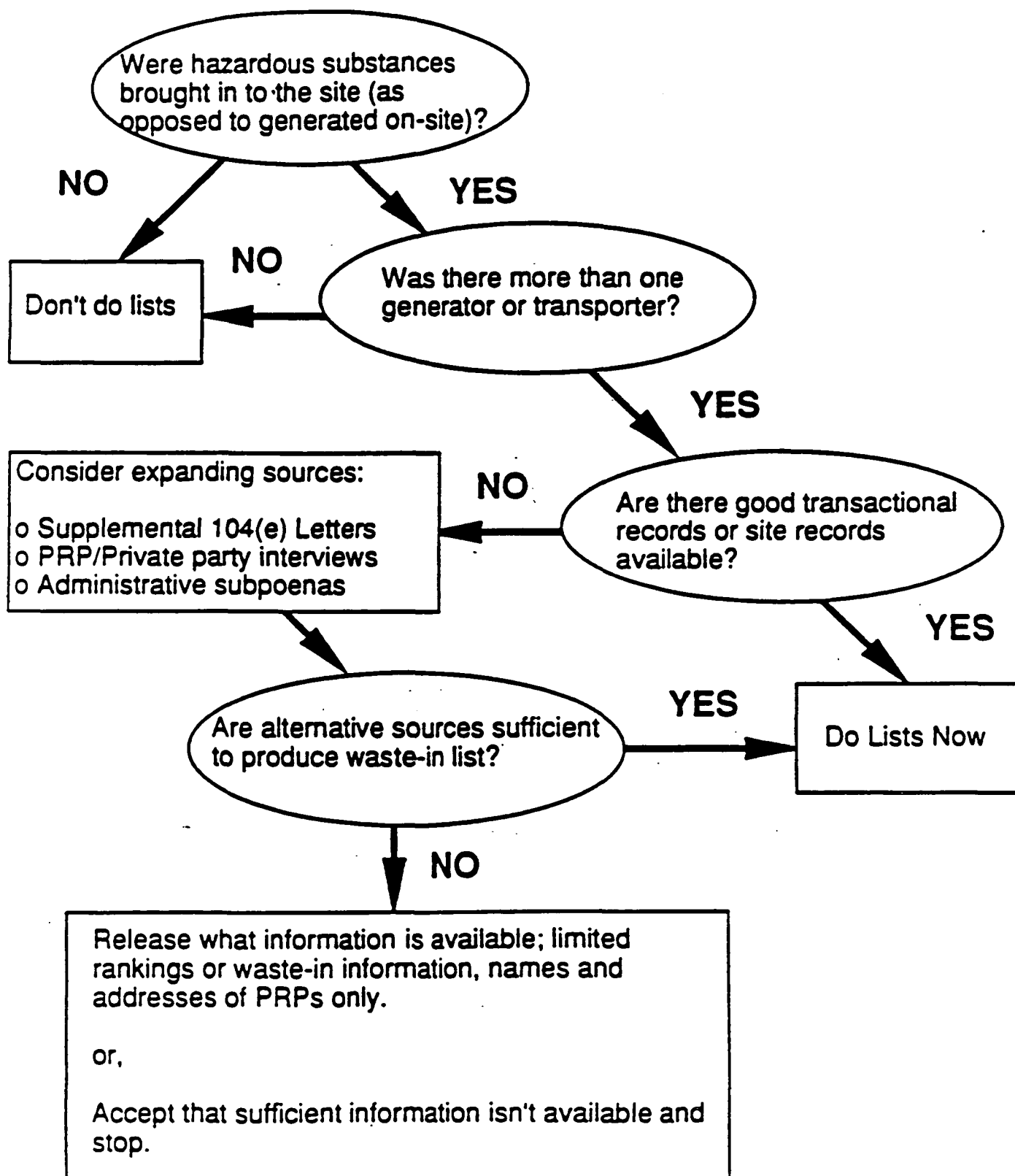
#### **E) Lead Battery Sites**

Sites run as lead-recycling operations where automotive batteries are cracked open to capture reusable lead electrodes often produce hazardous substance contamination through improperly disposed sulfuric acid. These sites, along with transformer recycling sites contaminated by PCBs, are notoriously difficult for producing waste-in information. Documentation is often poor to nonexistent, and volumes are extremely difficult to determine. Regions face difficult questions about how far up the waste-stream to go after PRPs. Where site records and transactional records are reliable and available, Regions should try to produce waste-in information. In most cases, Regions probably will not have such documentation.

**F) Mining Sites**

Abandoned mining sites or sites contaminated by mining overburden also frequently may pose difficulties for producing waste-in information. This is due to the fact that documentation is rarely available; PRPs are often no longer in business, insolvent or untraceable; calculating volumes can be extremely difficult due to the large volume of wastes; and under RCRA [40 CFR 261.4(b)(3)], certain mining wastes are exempt as RCRA hazardous wastes and therefore may not be CERCLA hazardous substances (unless some other basis exists for defining the material as a hazardous substance under CERCLA section 101(14)). Municipalities may keep records on land ownership or mining leases, and occasionally record annual tonnage and profit figures for individual mines. Even these records, however, may require major assumptions on the amounts of waste produced per ton of mined product. In general, unless documentation is good and viable PRPs can be found, Regions should not attempt compiling waste-in information for mining sites.

# WASTE-IN LIST DECISION GUIDELINE



STANDARD CONVERSION FACTORS FOR  
WASTE-IN LISTS AND VOLUMETRIC RANKINGS<sup>1</sup>

1 truckload = 74 drums  
1 drum = 55 gallons  
1 barrel = 55 gallons  
1 gallon = 8.33 pounds  
1 pail = 5 gallons  
1 ton = 2,000 pounds  
1 metric ton = 2,204 pounds  
1 ton = 250 gallons  
1 liter = 0.264 gallons  
1 cubic foot = 7.482 gallons  
1 cubic yard = 202.018 gallons  
1 box = 1 gallon  
1 tank truck = 4,500 gallons  
1 pound = 1 pint = 0.125 gallons

In addition, asbestos ceiling tile is assumed to be 1 inch thick. One square foot is therefore assumed to = 0.6233 gallons.

Where volumes indicated on transactional records are unclear, such as "pallet," "wheelbarrow," "box car," Regions should try to corroborate assumptions or estimates of volumes through interviews, alternate sources of records, or site-log information. Where there is no corroborating evidence, Regions should include their best estimate of the volume and indicate it is an estimate.

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<sup>1</sup>Tank trucks and drums come in several different sizes and Regions should check waste-in documents carefully to ensure that the correct conversion factor is used.



GENERALLY ACCEPTED WASTE-IN LIST  
AND VOLUMETRIC RANKING ASSUMPTIONS

The following is a partial list of reasonable assumptions which may be appropriate when preparing waste-in information:

- o A 55-gallon drum or any other container of hazardous substances for disposal was full when it was shipped and when it was disposed. Unless a shipping or disposal record unambiguously indicates otherwise, either because the recorded volume is less than that of the full container volume, or the price is less than that normally charged for a full container, the burden of proof is on the PRP to show that a container was less than completely full.
- o Anything labeled a "corrosive" without additional explanation or identification is hazardous and should be included in volumetric and waste-in lists. "Corrosives" are regulated as hazardous waste under 40 CFR 261.22 of RCRA. The burden is on the PRP to demonstrate why a substance labeled "corrosive" did not meet the definition in CERCLA of a hazardous substance.
- o The destination listed on a manifest or other transactional record is correct. The burden is on the PRP to show that a shipment of hazardous substances recorded as sent to one destination was not in fact sent there. Regions may want to scrutinize transshipment site records particularly closely, since hazardous substances are shipped to, as well as from, these sites. Where records clearly indicate that hazardous substances were removed from a site, Regions can factor this information into waste-in lists and volumetric rankings. Where records are less clear, Region should include all wastes as sent to the site and put the burden of proof on PRPs to demonstrate that hazardous substances left the site. Where Regions make assumptions about destinations, they may want to state them openly in appropriate circumstances.

- o Commercial, industrial or institutional trash is hazardous and should be included in waste-in lists and volumetric rankings unless PRPs can demonstrate otherwise. The Interim CERCLA Municipal Settlement Policy (OSWER Dir. 9834.13) provides that generators and transporters of trash from a commercial, industrial or institutional entity generally will be notified as PRPs unless they can demonstrate that none of the hazardous substances contained in the trash are derived from commercial, industrial or institutional processes or activities, and where the amount and toxicity of those hazardous substances are not above the level commonly found in household trash. Where EPA is compiling the lists, it is better to include industrial trash as hazardous, and let PRPs make necessary revisions afterwards. On the other hand, the Interim CERCLA Municipal Settlement Policy indicates that generators and transporters of household trash generally will not be notified as PRPs.
- o Anything labeled "solvent" is hazardous, and should be included in waste-in and volumetric lists. In many cases, labels on drums will describe hazardous substances generically and not include information on specific compounds. Regions should make reasonable efforts to find other evidence to corroborate the hazardous nature of a substance, where possible.
- o Where hazardous and nonhazardous substances are mixed together, the mixture is considered hazardous and should be included in its entirety on waste-in and volumetric lists. Solid wastes, when mixed with one or more hazardous wastes, are considered a RCRA hazardous waste as described in 40 CFR sections 261.3(a)(2)(iii) and (iv), except where the waste was a characteristic waste and no longer exhibits any of the characteristics of a hazardous waste or where it has been excluded as a hazardous waste in 40 CFR 261.3. Under CERCLA, where there is mixing of hazardous and nonhazardous substances during transport or disposal, the combination would be subject to CERCLA if it still contains a hazardous substance.

LIST OF WASTE TRANSACTIONS  
COMBINED SITE RECORDS  
COMMERCIAL OIL SERVICES

INVOICE OR NUMBER	TRANS. DATE	WASTE DESCRIPTION	QUANTITY	UNIT	INSTRUMENT TYPES	TRANSPORTER	SHIP DATE	RECEIVE DATE	COMMENTS
PARKWAY REMEDIATION SERVICES, INC.									
8794 11336	12/01/82	WASTE OIL	850.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	12/01/82	12/01/82	
8793 11291	12/03/82	OIL, WATER, AND SLUDGE	2000.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	12/03/82	12/03/82	
8796 12559	01/18/83	BSW	1500.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	01/18/83	01/18/83	
8797 12453	02/15/83	BSW	2000.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	02/15/83	02/15/83	
8798 12671	03/04/83	WASTE OIL	450.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	03/04/83	03/04/83	
8799 12816	03/24/83	WASTE OIL	600.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	03/24/83	03/24/83	
8801 12459	04/06/83	WASTE OIL	1100.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	04/06/83	04/06/83	
8801 12847	04/15/83	WASTE OIL	425.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	04/15/83	04/15/83	
8802 12864	04/28/83	WASTE OIL	600.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	04/28/83	04/28/83	
8803 12840	05/06/83	BSW	2000.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	05/06/83	05/06/83	
8804 12783	05/16/83	WASTE OIL	600.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	05/16/83	05/16/83	
8805 12847	05/27/83	BSW	300.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	05/27/83	05/27/83	
8794 12502	06/03/83	WASTE OIL	700.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	06/03/83	06/03/83	
8806 13039	06/07/83	WASTE OIL	450.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	06/07/83	06/07/83	
8807 13084	06/23/83	SLUDGE WASTE WATER	300.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	06/23/83	06/23/83	
8804 13108	07/06/83	WASTE OIL	650.0000	1.00	GAL RECEIPT	COMMERCIAL OIL SERVICES	07/06/83	07/06/83	
8809 13115	07/14/83	WASTE OIL AND WATER	2000.0000	1.00	GAL RECEIPT INVOICE CHECK STUB	COMMERCIAL OIL SERVICES	07/14/83	07/14/83	