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MARINE INDUSTRY STANDARDS
WELDING
INDUSTRIAL ENGINEERING
EDUCATION AND TRAINING

October 1999
NSRP 0526
N8-96-3

THE NATIONAL SHIPBUILDING RESEARCH PROGRAM

Application of Industrial Engineering Techniques to Reduce Workers' Compensation and Environmental Costs - Deliverable H

U.S. DEPARTMENT OF THE NAVY
CARDEROCK DIVISION,
NAVAL SURFACE WARFARE CENTER

in cooperation with
National Steel and Shipbuilding Company
San Diego, California

Report Documentation Page

Form Approved
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DELIVERABLE H

IMPLEMENTATION OF THE WIXEL EXECU-TRAX WASTE MANAGEMENT SOFTWARE AT NASSCO

NATIONAL SHIPBUILDING RESEARCH PROGRAM
PANEL SP-8
PROJECT 8-96-3

APPLICATION OF INDUSTRIAL ENGINEERING TECHNIQUES TO REDUCE WORKERS' COMPENSATION AND ENVIRONMENTAL COSTS

DELIVERABLE H

IMPLEMENTATION OF THE WIXEL EXECU-TRAX WASTE MANAGEMENT SOFTWARE AT NASSCO

SUBMITTED BY:

_____ _____

THOMAS FAWCETT
PROJECT MANAGER

FRED HOGAN
PROJECT ENGINEER

Table of Contents

Application of Industrial Engineering Techniques to Reduce Worker Compensation and Environmental Costs N8-96-3

Implementation of the Wixel ExecuTrax Waste Management Software

1.0 Introduction

As a sub-task of the NSRP project, *Application of Industrial Engineering Techniques to reduce Workers Compensation and Environmental Costs (8-96-3)*, the NASSCO Environmental Engineering Department performed an investigation of various waste management software. The investigation involved searching for efficient methods of tracking costs and volume of hazardous and non-hazardous wastes using industrial engineering techniques. The hazardous material/waste management software ExecuTrax from Wixel, Inc. was chosen for its capabilities for an optimum management of information.

This report describes the logistics of implementing the software at the NASSCO shipyard.

2.0 Industrial Engineering & Environmental Management

The promulgation of more stringent environmental laws and regulations over the past two decades has prompted the industrial community, including the shipbuilding and repair industry, to expand its efforts to comply with the laws and regulations and to proactively manage hazardous wastes. The costs to control and dispose of generated hazardous wastes has risen steadily as a result of those enacted laws and regulations.

Industrial engineering human factors techniques have been applied to various shipyard production processes for many years. However, the application of industrial engineering techniques to the shipyard environmental management for a better cost control and increased productivity has been limited. In this sub-task, a waste management software has been chosen and is in the process of being instituted to the NASSCO shipyard to demonstrate the benefits of implementing industrial engineering techniques for better environmental management practices.

3.0 Hazardous Material/Waste Tracking at NASSCO

There had been no efficient methods of characterizing and tracking the cost and volume of hazardous and non-hazardous wastes that were generated from production operations at the NASSCO shipyard. The tracking system that had been used at NASSCO was archaic, slow, and labor intensive.

It was recognized that there would be significant benefits to NASSCO should an automated process be implemented for effective tracking, segregation, and assignment of

disposal costs to the producing departments. Such a process would also allow NASSCO to identify and track waste streams that can be evaluated for the waste minimization efforts.

4.0 Hazardous Material/Waste Management Software Evaluation

The NASSCO Environmental Engineering Department evaluated over fifteen waste management software that were available on the market.

NASSCO Environmental Engineering set the following specific criteria for the waste management software. The software must:

- Allow the generator, the shipyard, to track waste activities from its generation to disposal;
- Allow easy and efficient tracking of waste containers throughout the waste generating activities;
- Has the ability to allocate waste volume and disposal costs to each generating department or area;
- Has the ability to integrate all related data into one program;
- Has the ability to track and maintain archive and current data;
- Has a capability to generate reports for the regulatory agencies;
- Be inexpensive to be recommended to the US shipyards;
- Be user friendly and easy to use for those who are less computer literate; and
- Run on a PC-based computer system preferably with network link capabilities;

Most software offered variety of capabilities that were above and beyond what NASSCO Environmental Engineering was seeking. Some offered linking the waste generating activities to other activities including material purchase, production scheduling, and accounting. The cost of some software was as much as $30,000.

5.0 Wixel ExecuTrax Waste Management Software & the Benefits5.0 Wixel ExecuTrax Waste Management S

The NASSCO Environmental Engineering Department chose Wixel ExecuTrax Waste Management Software to be implemented at the NASSCO shipyard.

ExecuTrax is a PC-based “user-friendly” software with various capabilities for an effective waste management. ExecuTrax allows the hazardous waste generator a precise “Cradle-to-Grave” waste management tracking. It also has a built-in warning system that provides prevention of violations and waste profile expirations, thus, allowing the generator to avoid fines and penalties. It contains pre-populated databases that integrate all related data into one program. Commonly used information such as the generator information, the transporter information, and the treatment, storage, and disposal facility information need only be entered once, and the software handles cross-referencing of pertinent information to all necessary areas of the system. This promotes data uniformity and significantly reduces the possibility of errors that can be caused by multiple users. ExecuTrax produces informative and accurate reports for management analysis tools and

for submitting to the regulatory agencies. It has the network capabilities that provide instant access to all users involved. It also has the capabilities to adapt and customize the program to the particular requirements of the user and user's systems.

ExecuTrax was the most cost efficient system among the software NASSCO Environmental Engineering evaluated. NASSCO purchased the multi-user license for ExecuTrax for $5,100. NASSCO also purchased the technical support contract for $1,100 annually. The technical support contract entails receiving technical support services and any future software upgrades.

All the capabilities ExecuTrax provide will allow the NASSCO Environmental Engineering Department an efficient collection and management of information related to hazardous and non-hazardous wastes. Furthermore, the data collected will enable the Environmental Engineering Department to identify areas within the NASSCO shipyard that generate large quantities of wastes and to apply industrial engineering techniques to those areas for process improvements for waste reduction and disposal cost reduction.

In summary the major benefits are:

1. Reduction in the biennial hazardous waste report preparation time.
    a. 80 hours to 8 hours (approx.)
2. Ease of hazardous waste generator fee and tax calculation.
3. Increase efficiency of the waste management information tracking.
4. Ability to integrate into an environmental management system.

6.0 Implementation of Wixel ExecuTrax at NASSCO

6.1 ExecuTrax Software User Training

The NASSCO Environmental Engineering Department staff and the NASSCO HAZMAT personnel received a three-day training on how to use ExecuTrax.

6.2 Data Input

The software has been purchased and installed in the NASSCO computer system network. As with any data management software, ExecuTrax requires initial loading of information pertaining to the NASSCO operations. The following information has been entered into the waste module of ExecuTrax to customize to the NASSCO operations:

6.3 Generator Information

The information pertinent to waste management practices at NASSCO has been entered. The EPA identification number, the state identification number, NASSCO address, point of contact, and telephone numbers have been entered.

6.4 Waste Generating Departments

To aid in the waste minimization efforts, the contents of each wastes container are assigned to their generating department/area. A total of 32 generating

departments of NASSCO have been identified and entered into the ExecuTrax system. See Attachment A. NASSCO Department List.

6.5 On-Site Waste Streams

A total of 44 different hazardous waste streams are generated from the NASSCO operations. They range from oily waste water to flammable aerosol cans. Those 44 waste streams have been loaded to the ExecuTrax waste module. A list of NASSCO On-Site Waste Stream in included in this report as Attachment B. The Attachment C, Waste Stream List describes the waste streams by the proper DOT shipping name and EPA waste codes. The information as shown in the Attachments B and C will allow the Environmental Engineering Department to generate accurate waste reports to be submitted to regulatory agencies such as EPA and Cal EPA.

6.6 Transporter Information

NASSCO currently uses four transporters for shipping hazardous wastes to various treatment, storage and disposal facilities (TSDF's). The Attachment D lists the transporters.

6.7 TSDF Information

NASSCO currently uses TSDF's for disposal of its hazardous wastes. The Attachment E lists the active TSDF's.

6.8 Active Profiles

There are 44 active NASSCO hazardous waste profiles that have been set up with various TSDF's for proper hazardous waste disposal. The Attachment F lists the active profiles.

6.9 Hazardous Waste Disposal Costs

One of ExecuTrax's capabilities is allowing the generator to track hazardous waste disposal costs. The disposal cost for each waste stream has been entered into ExecuTrax as shown in the Attachment G.

6.10 On-Site Container List

The Attachment H, On-Site Container List, illustrates some of the waste containers that were on site at the NASSCO shipyard that were ready for transport to an off-site TSDF. The accurate container tracking is essential to processing the wastes on time to avoid any enforcement actions by the regulatory agencies.

6.11 Producing a Waste Shipment

ExecuTrax allows the generator three different ways to produce shipments. The waste can be produced by the containers, by waste streams, or by shipping names. Each has its own advantages. Producing the shipment by the containers allows the

generator a greater control over keeping track of container inventory. Producing the shipment by the shipping name is recommended only for printing waste manifests.

6.12 Generating Hazardous Waste Manifest

ExecuTrax compiles the information that has been entered and generates a hazardous waste manifest. The generator information, transporter information, TSDF information, waste information with the proper US DOT shipping description, any special handling information will be printed on the manifest. The Attachment I is a copy of the ExecuTrax generated Uniform Hazardous Waste Manifest with the pertinent information that would be on a real manifest. This manifest was generated from the NASSCO waste information that was entered into the software.

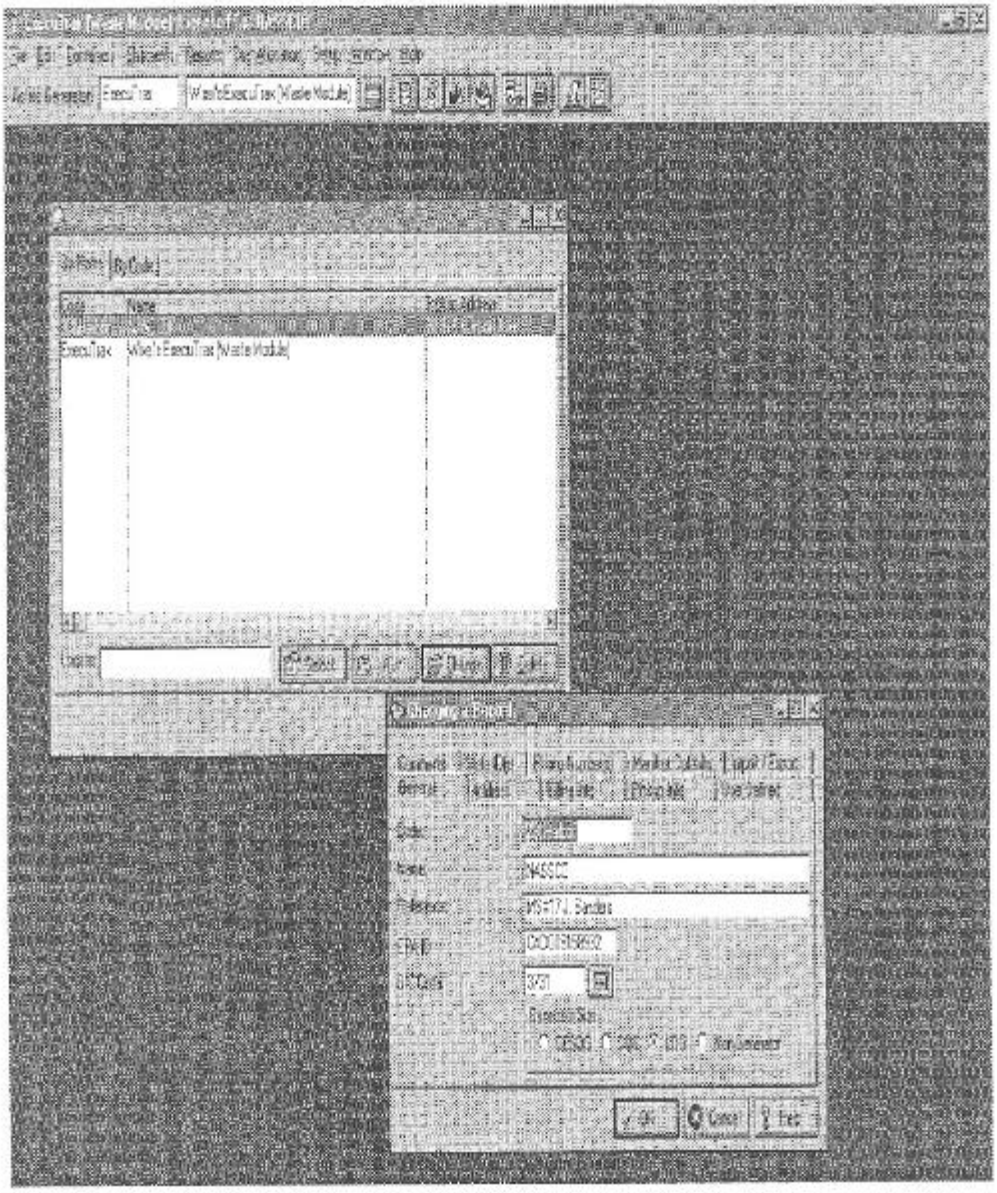
7.0 Conclusion and Recommendation

With the simplicity and ease of use of Wixel ExecuTrax, NASSCO foresees a great opportunity in streamlining its waste information management. The data collected will enable the Environmental Engineering Department to identify areas within the NASSCO shipyard that generate large quantities of wastes for waste reduction efforts. Furthermore, NASSCO will be able to apply various industrial engineering techniques to those areas for process improvements and cost reduction.

The findings from this sub-task of the NSRP project N8-96-3 indicate that there is a great potential for applying industrial engineering techniques for better and efficient environmental management. Using a tool such as the ExecuTrax waste management software will be beneficial to the US shipyard industry for the better environmental management, process improvements, and cost reduction.

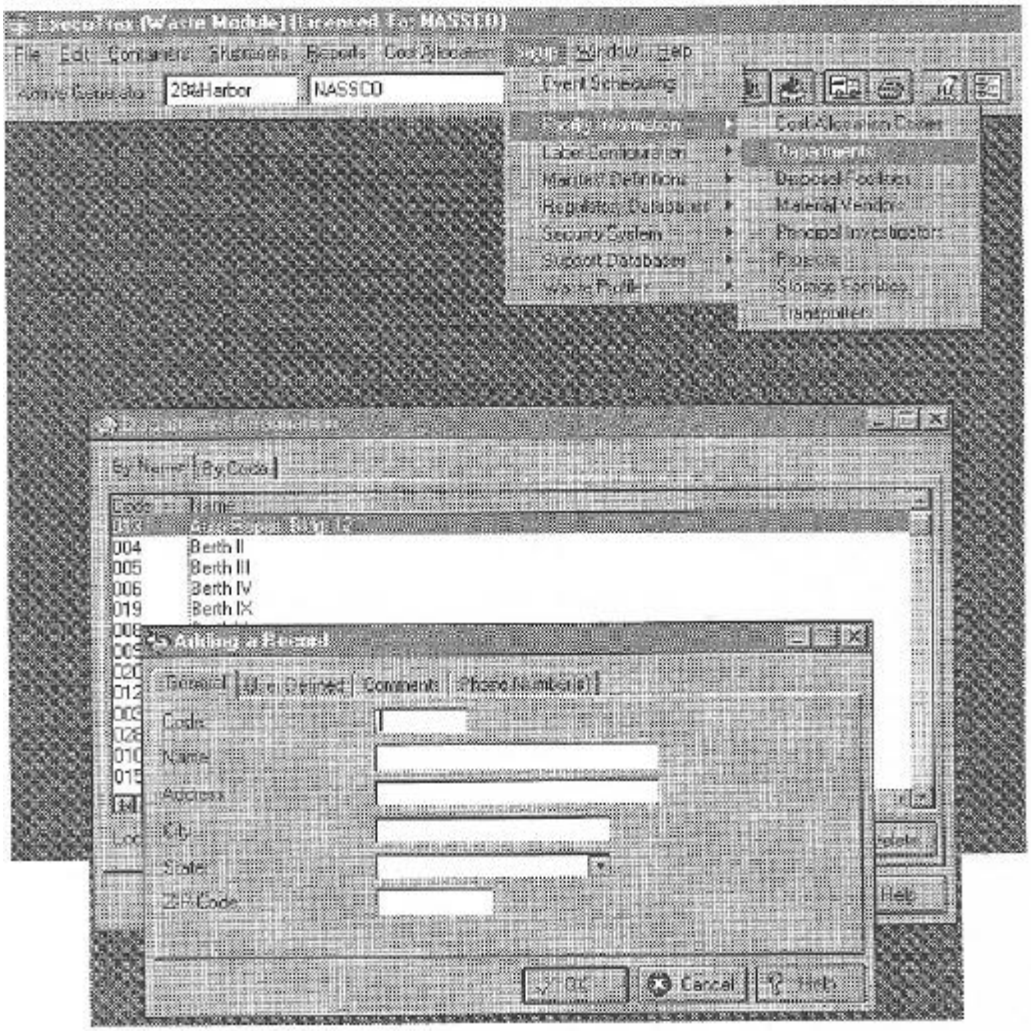
Attachments

1. Creating & Selecting a Generator Database



Generator List Box and Document Window

2. Entering Department Information



Department Information List Box & Document Window

NASSCO

Department List — Printed: 6/25/98

Name: Flame Spray — Code: 015
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
Flame Spray	(619) 544-8549		Roberta Schwab

Name: Floating Drydock — Code: 026
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
Floating Drydock	(619) 544-8775		Akbar Gaya
Floating Drydock	(619) 544-3450		Joe Pritchard
Floating Drydock	(619) 544-3601		Lee Downing

Name: GNP Area — Code: 007
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
GNP Area	(619) 544-8549		Roberta Schwab

Name: Grit Blast Area, Bldg. 70 — Code: 017
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
Grit Blast Area	(619) 544-7578		Art Allen

Name: Hopeman Brothers — Code: 022
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
Hopeman Bros.	(619) 544-7729		Pat Murray

Name: Machine Shop, Bldg. 8 — Code: 027
Address: 28th & Harbor Dr.
San Diego CA 92113

Description	Phone	Extension	Contact
Machine Shop	(619) 544-8421		John Walden

ExecuTrax (Waste Module) — Page: 3

NASSCO

CAD009158932

EPA Hazardous Waste Report - Form GM Worksheet Printed: 9/15/98
Between 1/01/98 and 12/31/98

Section I:

A. Waste Description: Ansul Fire Protection

Waste Profile: AFFF Code: 0001
EPA Hazard Class: None
Additional Desc:

- DOT Shipping Description -
Non-RCRA Hazardous Waste Liquid, Fire Protection Compound

☐ Hazardous Material ☒ Regulated

B. EPA Hazardous Waste Code(s):
(None Specified)

C. State Waste Code(s): 343

D. SIC Code: 3731 E. Origin Code: F. Source Code: G. Point of Measurement:

H. Form Code: I. RCRA Radioactive: 2

Section II:

A. Quantity Produced in Previous Period: 0.00 (1/01/1997 - 12/31/1997)
B. Quantity Generated in Current Period: 0.00
C. UOM: 1 Density: 1.000 (Specific Gravity)

Section III:

*** Waste was not shipped off-site ***

NASSCO

CAD009158932

EPA Hazardous Waste Report - Form GM Worksheet **Printed:** 9/18/98
Between 1/01/98 and 12/31/98

Section I:

A. Waste Description: Contaminated Soil from Storm Darin Clean Out

Waste Profile: Contaminated Soil **Code:** 0002
EPA Hazard Class: Listed
Additional Desc:

DOT Shipping Description
"RQ", Hazardous Waste, Solid, N.O.S., NA3077, RQ1, PGIII

☐ Hazardous Material ☒ Regulated

B. EPA Hazardous Waste Code(s):
D005,D007,D008

C. State Waste Code(s): 171

D. SIC Code: 3731 **E. Origin Code:** 1 **F. Source Code:** A19 **G. Point of Measurement:**

H. Form Code: B302 **I. RCRA Radioactive:** 2

Section II:

A. Quantity Produced in Previous Period: 0.00 (1/01/1997 - 12/31/1997)
B. Quantity Generated in Current Period: 1,200.00
C. UOM: 1 **Density:** 1.000 (Specific Gravity)

Section III:

Site 1

B. EPA ID Number of Facility: CAD050806850 (Laidlaw Environmental Services)
C. System Type(s) Shipped To: M141

D. Off-site Availability Code: 1
E. Total Quantity Shipped: 1,200.00 (Quantity as it appeared on the manifests)

NASSCO

On-Site Container List

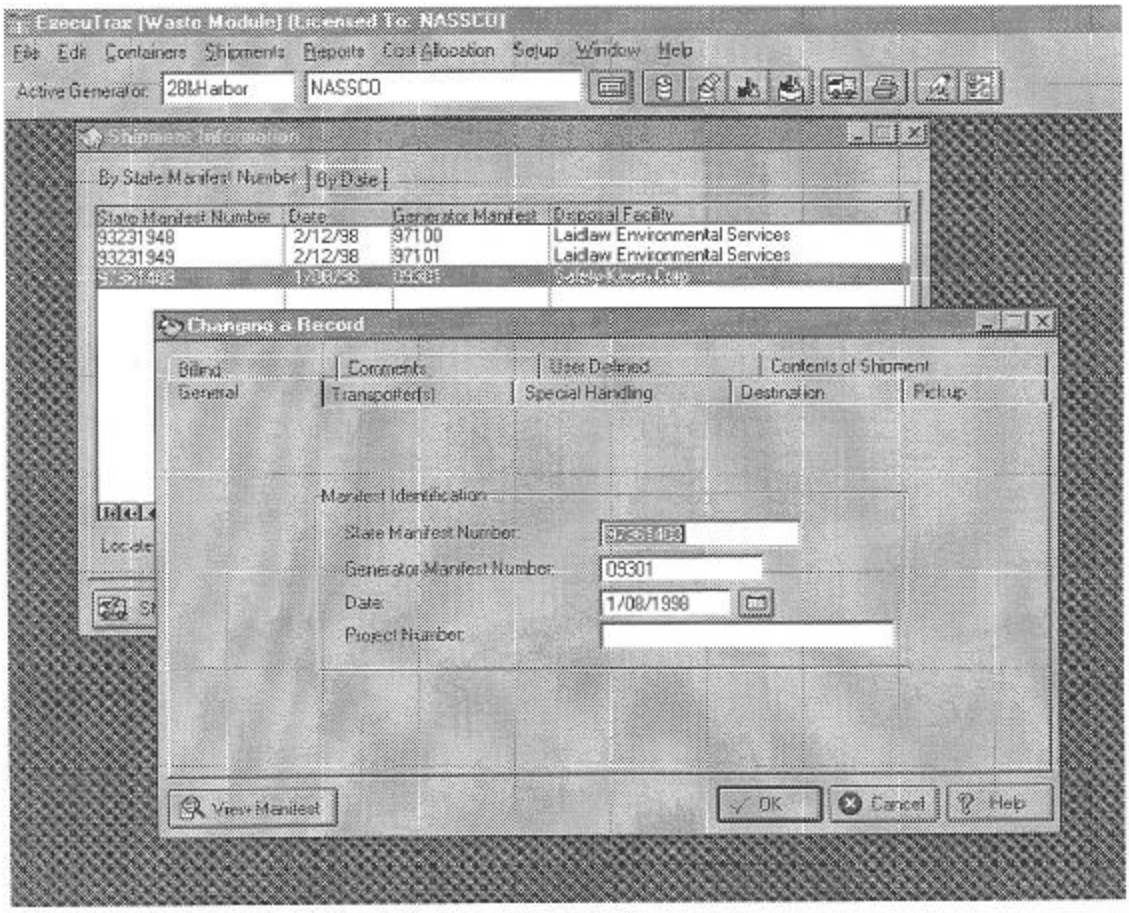
Printed: 8/26/98

Container/Alt Container	Date	Location	Row	Col	Layer	# Days
DM-98-00001	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00002	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00003	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00004	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00005	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00006	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00007	8/24/98					2
	Waste Stream:	Petroleum Naphtha				
DM-98-00008	8/24/98					2
	Waste Stream:	Petroleum Naphtha				

ExecuTrax (Waste Module)

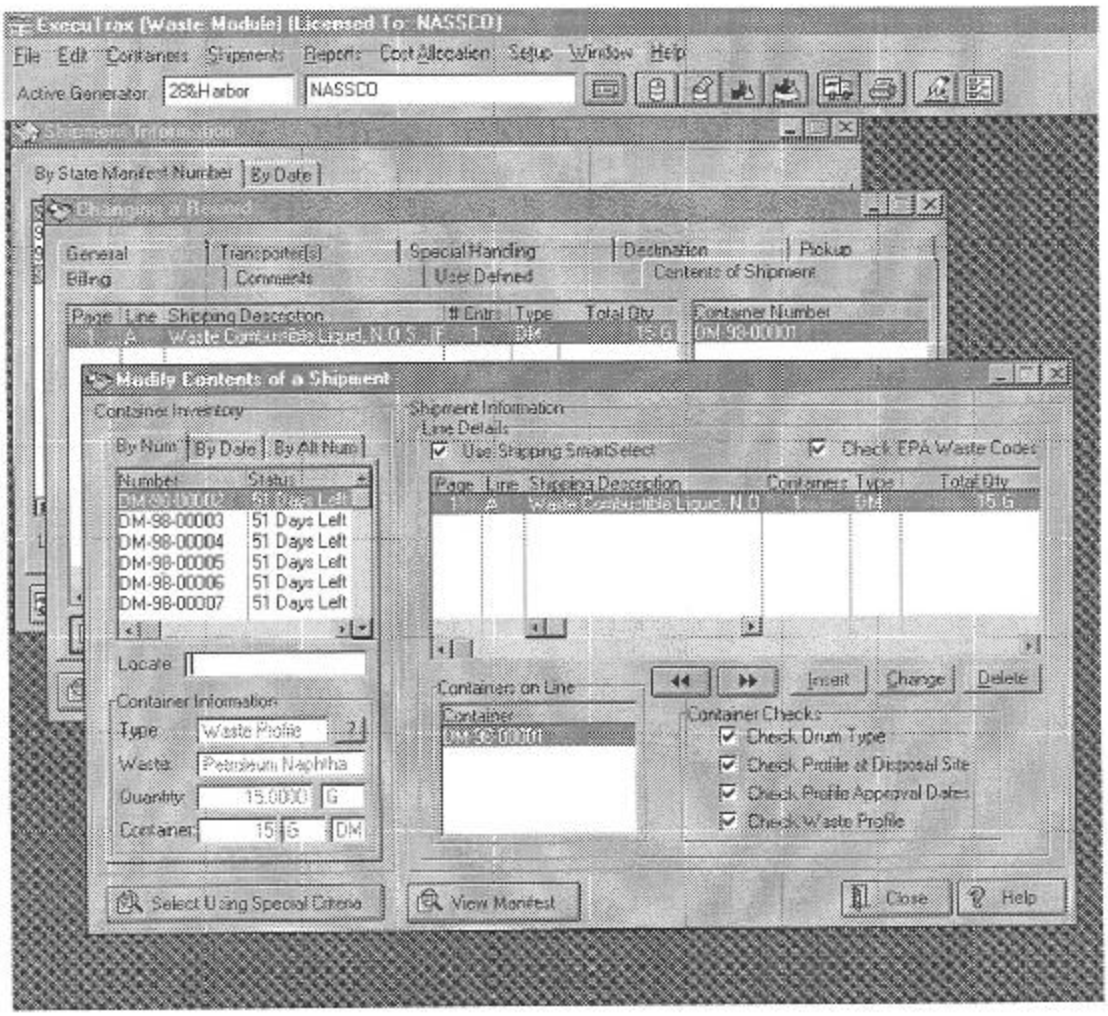
Page: 1

8. Entering Shipment Information



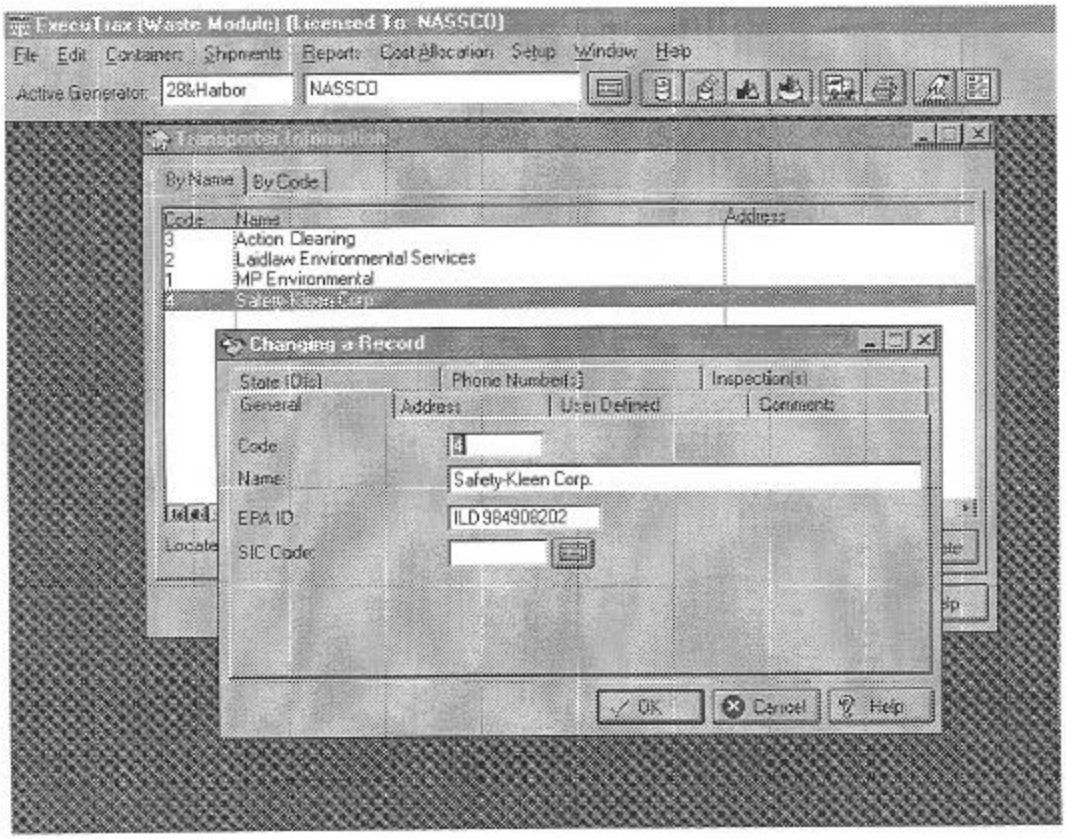
Shipment Information List Box and Document Window

8.1 Entering Shipment Information by Container



Modify Contents of a Shipment Document Window

4. Entering Transporter Information



Transporter Information List Box & Document Window

NASSCO

Transporter List — Printed: 8/19/98

Name: Action Cleaning — Code: 3
Address:

County:

EPA ID: CAD980812978 SIC Code:

Description	Phone	Extension	Contact
Action Cleaning	(619) 233-1881		

Name: Laidlaw Environmental Services — Code: 2
Address:

County:

EPA ID: CAD000083121 SIC Code:

Description	Phone	Extension	Contact
	(619) 344-9400		

Name: MP Environmental — Code: 1
Address:

County:

EPA ID: CAT000624247 SIC Code:

Description	Phone	Extension	Contact
	(800) 393-1151		

Name: Safety-Kleen Corp. — Code: 4
Address:

County:

EPA ID: ILD984908202 SIC Code:

Description	Phone	Extension	Contact
Safety-Kleen	(800) 669-5740		

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) *Form NOT Approved. NO OMB Number.*

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: *CAD009158932* | Manifest Document No.: *09301* | 2. Page 1 of *1* | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: *NASSCO*
28th & Harbor Drive
San Diego, CA 92113
4. Generator's Phone: *(619) 544-7736*

A. State Manifest Document Number: *97361403*
B. State Generator's ID: *HA-HQ-36-005218*

5. Transporter 1 Company Name: *Safety-Kleen Corp.* | 6. US EPA ID Number: *ILD984908202*
C. State Transporter's ID:
D. Transporter's Phone: *(800)669-5740*

7. Transporter 2 Company Name | 8. US EPA ID Number
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: *Safety-Kleen Corp.*
2120 S. Yale St.
Santa Ana, CA 92704 | 10. US EPA ID Number: *CAT000613976*
G. State Facility's ID:
H. Facility's Phone: *(714)241-7047*

GENERATOR

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	*Waste Combustible Liquid, N.O.S., (Petroleum Naphtha), NA1993*		*1*	*DM*	*15*	*G*	*D039, D008, D018, D040*
b.							
c.							
d.							

J. Additional Description for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATORS CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and I can afford.

Printed / Typed Name | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed / Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed / Typed Name | Signature | Month Day Year

FACILITY

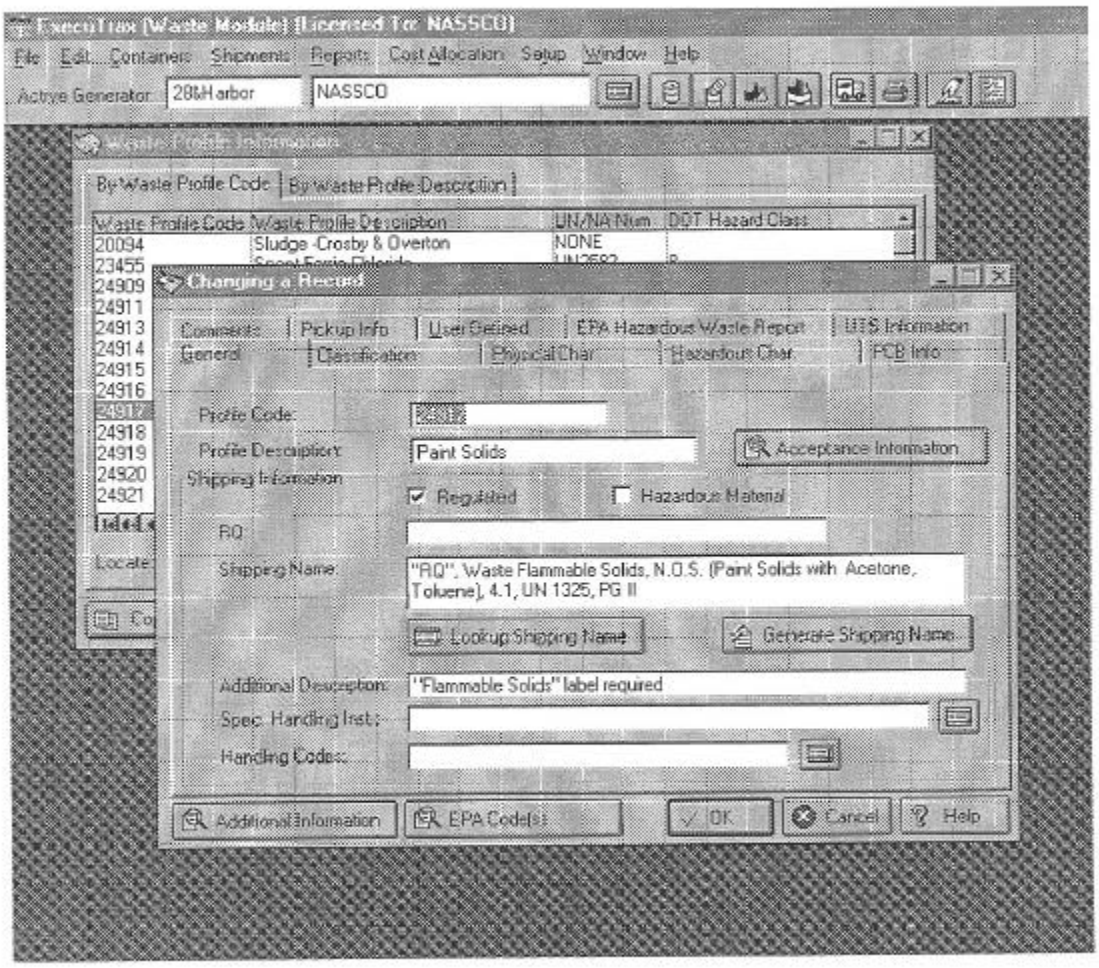
19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed / Typed Name | Signature | Month Day Year

THIS IS NOT A LEGAL DOCUMENT

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

5. Entering Waste Profile Definition Information



Waste Profile Information List Box & Document Window

NASSCO

Waste Stream List — Printed: 8/03/98

General Information

Description: Batteries — **Code:** 309104

RQ: ☐ Regulated ☐ Hazardous Material

DOT Shipping Description:

Non-RCRA Waste Alkaline Batteries

UN/NA Number:	NONE	**Packing Group:**	
Hazard Class:		**Origin Code:**	1
EPA Hazard Class:	None	**Form Code:**	B009
		Gen Source Code:	A99

Additional Description:

Special Handling Instructions:

NASSCO

Waste Stream List — Printed: 8/03/98

General Information

Description: Paint Solids — **Code:** 24917

RQ: ☒ Regulated ☐ Hazardous Material

DOT Shipping Description:

"RQ", Waste Flammable Solids, N.O.S. (Paint Solids with Acetone, Toluene), 4.1, UN 1325, PG II

UN/NA Number:	1325	**Packing Group:**	II	**Origin Code:**	1
Hazard Class:	4.1			**Form Code:**	B604
EPA Hazard Class:	Ignitable			**Gen Source Code:**	A21

Additional Description: "Flammable Solids" label required

Special Handling Instructions:

EPA Waste Code(s)

Code	Weight	LB Sub-Category
D001	0.0	
D035	0.0	

ExecuTrax (Waste Module) — Page: 26

NASSCO

Waste Stream List — Printed: 8/03/98

General Information

Description: Petroleum Naphtha — **Code:** Safety-Kln

RQ: ☒ Regulated ☐ Hazardous Material

DOT Shipping Description:

Waste Combustible Liquid, N.O.S., (Petroleum Naphtha), NA1993

UN/NA Number:	1993	**Packing Group:**		**Origin Code:**	1
Hazard Class:				**Form Code:**	B202
EPA Hazard Class:	Listed			**Gen Source Code:**	A19

Additional Description:

Special Handling Instructions:

EPA Waste Code(s)

Code	Weight	LB Sub-Category
D039	0.0	

General Information

Description: Zinc Primer Code: 25544

RQ: ☐ Regulated ☐ Hazardous Material

DOT Shipping Description:

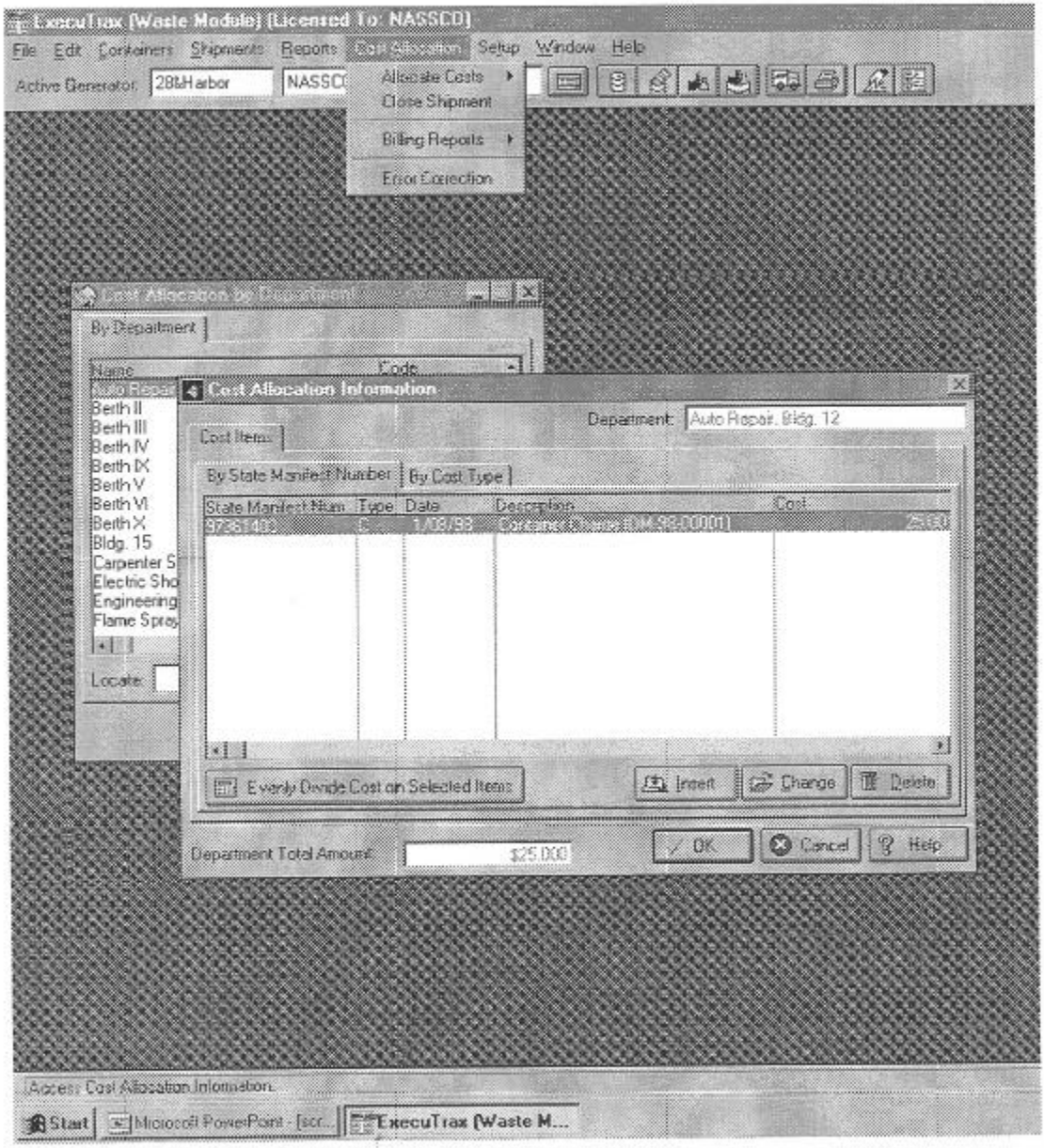
Non-RCRA, Hazardous Waste Solid, (Zinc Primer)

UN/NA Number:	NONE	Packing Group:		Origin Code:	1
Hazard Class:				Form Code:	B409
EPA Hazard Class:	None			Gen Source Code:	A99

Additional Description:

Special Handling Instructions:

11. Cost Allocation



Cost Allocation Information By Dept. Document Window

NASSCO

TSD Pricing — Printed: 8/19/98

Waste Stream: Oil Filter Cake

Cost Code	Description	Cost	Cost Type
30GD	30-gal drum	242.000	
55GD	55-gal drum	285.000	
XPORT	Transportation cost	450.000	

Waste Stream: Oily Waste Water

Cost Code	Description	Cost	Cost Type

Waste Stream: Paint Booth Filters

Cost Code	Description	Cost	Cost Type
30GD	30-gal drum	166.000	
55GD	55-gal drum	195.000	
XPORT	Transportation cost	450.000	

Waste Stream: Paint Solids

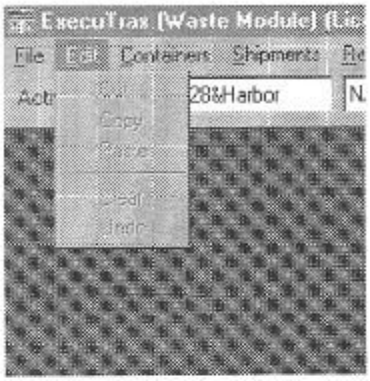
Cost Code	Description	Cost	Cost Type
30GD	30-gal drum	238.000	
55GD	55-gal drum	280.000	
XPORT	Transportation cost	450.000	

Waste Stream: Photographic & Blueprint

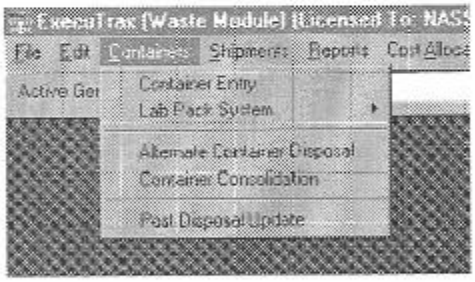
Cost Code	Description	Cost	Cost Type
30GD	30-gal drum	160.000	
55GD	55-gal drum	188.000	
XPORT	Transportation cost	450.000	

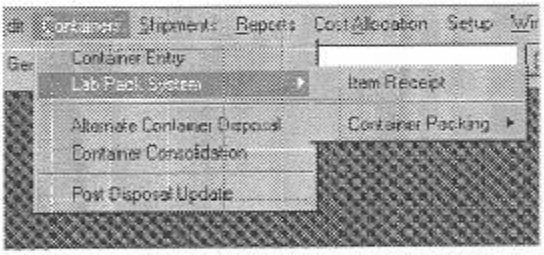
ExecuTrax (Waste Module) — Page: 6

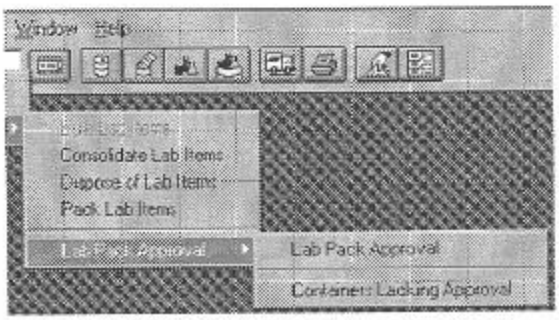
"Edit" Screens:



"Containers" Screens







Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form NOT Approved. NO OMB Number.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD009158932 | Manifest Document No. 97100 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address NASSCO
28th & Harbor Drive
San Diego, CA 92113
4. Generator's Phone (619) 544-7736

A. State Manifest Document Number 9323194B
B. State Generator's ID HA-HQ-36-005218

5. Transporter 1 Company Name: Laidlaw Environmental Services | 6. US EPA ID Number: CAD000083121
C. State Transporter's ID
D. Transporters Phone (619)344-9400

7. Transporter 2 Company Name | 8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Laidlaw Environmental Services, 5756 Alba Street, Los Angeles, CA 90058 | 10. US EPA ID Number: CAD050806850
G. State Facility's ID
H. Facility's Phone (213)585-5063

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
GENERATOR a.	Waste Flammable Solids, Organic, N.O.S. (Rags Contaminated with Paint, Petroleum Distillates), 4.1, UN1325, PG II	28	DM	4,200	P	D001
b.	Aerosols, flammable, (EACH NOT EXCEEDING 1 L CAPACITY), UN1950	11	DM	1,375	P	D001
c.	Non-RCRA Hazardous Waste, Solid (Oil Contaminated Absorbent)	5	DM	750	P	none
d.	Non-RCRA, Hazardous Waste Solid, Wax/Grease	6	DM	2,400	P	none

J. Additional Description for Materials Listed Above
LINE A: SDNAS-24925: Contaminated Rags *"Flammable Solid" label rquired
LINE B: SDNAS-24911:Spray Cans
LINE C: SDNAS-24915: Oil Absorbent
LINE D: SDNAS-24927: Wax/Grease

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATORS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and I can afford.

Printed / Typed Name | Signature | Month Day Year

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed / Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed / Typed Name | Signature | Month Day Year

FACILITY
19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed / Typed Name | Signature | Month Day Year

THIS IS NOT A LEGAL DOCUMENT

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.