REDACTED VERSION

EPA AUDIT
MARCH 17 & 18, 2009

9532063

EPAHO119001019

0347-2009

EPA AUDIT

4 investigators from EPA [DAVID DUSTER, Team Leader Ken Cooper, Env scientist, Paul James, RCRA, James Eng Storm Water] and 3 investigators from TCEQ to assist EPA [Gary Fogarty, water section, Barbara Johnston, Waste section, Kendra Jimison, Waste section] came in about 9 am to audit CES. David said that we were targeted two years ago for an audit along with all other CWTs and ~~has~~ it has nothing to do with what is going on with City of Houston or TCEQ. They toured the entire facility and looked at fence line, all the drums and totes stored along the fence line, roll-of boxes, metals scrap bin, plant trash, tankwash roll off, tank wash buildings, drum washing bldg. oil facility, CWT, ~~et~~ 90 day pad, 10 day transfer storage pad, all the WMUs, lab etc. Verbal recommendations: Label everything properly, label and segregate hazardous materials and hazardous waste, isle space for drum storage, label used oil tanks, install berms in the tank wash to maintain containment, tarp all the roll off boxes, cap the totes and drums. They will be back with 3 EPA Chemists in a mobile lab for sampling. If analysis triggers they will send samples for analysis & will split sxs with CES.

Region 6: Arkansas,
Louisiana, New Mexico,
Oklahoma, Texas

David Düster
Inspector/Surveillance Section

U. S. Enviromental Protection Agency
10625 Fallstone Rd.
Houston, TX 77099

(281) 983-2154
Fax (281) 983-2248
E-mail: duster.david@epa.gov

GARY FOGARTY
Environmental Investigator
Water Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H, Houston, TX 77023-1486
Direct: 713/767-3654 ■ Office: 713/767-3650
Fax: 713/767-3691
gfogarty@tceq.state.tx.us

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United States
Environmental Protection Agency

Ken Cooper
Environmental Scientist
Surveillance Section (6EN-AS)

10625 Fallstone
Houston, Texas 77099

Phone: 281-983-2109
Fax: 281:983-2248

email: cooper.ken@epa.gov

BARBARA JOHNSTON
Environmental Investigator
Waste Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Street, Suite H, Houston, TX 77023-1423
Direct: 713/767-3600 ■ Office: 713/767-3756
Fax: 713/767-3646
bjohnsto@tceq.state.tx.us

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EPA **Region 6**

Paul D. James, Jr., P.G.
Corrective Action & Compliance Inspection Section
Compliance Assurance and Enforcement Division

1445 Ross Ave (6EN-HC)
Dallas, Texas 75202-2733

Phone: 214.665.6445
Fax: 214.665.7446

james.paul@epa.gov

KENDRA JIMISON
Environmental Investigator
Waste Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Street, Suite H, Houston, TX 77023-1423
Direct 713/767-3763 ■ Office 713/767-3600
Fax 713/767-3646
kjimison@tceq.state.tx.us

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Region 6 :Arkansas, Louisiana,
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James H. Eng

Enforcement Officer / Surveillance Section

U.S. Environmental Protection Agency
10625 Fallstone Road
Houston, Texas 77099

Office: (281) 983-2148
Fax: (281) 983-2248
email: eng.james-h@epa.gov

United States
Environmental Protection Agency

Kenneth L. AuBuchon
Environmental Engineer
Surveillance Section (6EN-ASH)

10625 Fallstone Road
Houston, Texas 77099-4303

Phone: 281-983-2151
Fax: 281-983-2248

email: aubuchon.kenneth@epa.gov

Region 6: Arkansas,
Louisiana, New Mexico,
Oklahoma, Texas

David Düster
Inspector/Surveillance Section

U. S. Enviromental Protection Agency
10625 Fallstone Rd.
Houston, TX 77099

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Water Section

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Waste Section

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Waste Section

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Houston, Texas 77099-4303

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Fax: 281-983-2248

email: aubuchon.kenneth@epa.gov

8/5/09
WY
D-4 (2)

Submitted Waste Summary Records for Report Year 2008

Facility SWR #: 30900 Data current as of: 02/23/2009

Please print this page.
This page confirms your submittal to the TCEQ.
Your confirmation number is 17144.
The data hash code is 509AA7469F7EDEAACB257AE6F594B540972780C360F319F1A48AF1376801B395.
You will also receive a confirmation e-mail.

Submitted Records

These records have been submitted to the TCEQ and cannot be edited.

10 Waste Code and/or NRR Records
12 Quantity Handled Records

1-10 of 10 Records

Texas Waste Code: 90011191
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
618278.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
618278.0000	P	132	H1539				A Republic Waste Services of Texas, LTD

Texas Waste Code: 90025191
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
710935.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
710935.0000	P	132	H1539				A Republic Waste Services of Texas, LTD

Texas Waste Code: 9005609H
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
21775.0000	P	D001	A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
21775.0000	P	061	D0047	TND000772186			A Pollution Control Industries

Texas Waste Code: 9013409H
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
26728.0000	P	D009 D018	A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
21250.0000	P	132	50052	TXD069452340			A US Ecology
5478.0000	P	040	50212	TXD000838896			A Veolia Environmental Services, LLC

Texas Waste Code: 90206091
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
6494040.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
6494040.0000	P	132	H1539				A Republic Waste Services of Texas LTD

Texas Waste Code: 90224091
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
469145.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
362346.0000	P	132	H1539				A Republic Waste Services of Texas, LTD
106799.0000	P	132	H1721				A Waste Management Coastal Plains

Texas Waste Code: 90241191
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
22043321.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
22043321.0000	P	134	39098	TXR000036731			A Newpark Environmental Services, LLC

Texas Waste Code: 90261191
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
2185639.0000	P		A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
2185639.0000	P	134	39098	TXR000036731			A Newpark Environmental Services, LLC

Texas Waste Code: 9029319H
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
85110.0000	P	D002 D018	A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
85110.0000	P	132	50052	TXD069452340			A US Ecology

Texas Waste Code: 9030601H
Year: 2008

TQG	UOM	EPA Haz. Waste Numbers	Action
5500.0000	P	F002	A

QH	UOM	STC	Fac ID	Fac EPA ID	Comment	FE	Action
5500.0000	P	061	D0005	ARD981057870			A Rineco

Key:

TQG:	Total Quantity Generated
UOM:	Unit of Measure
QH:	Quantity Handled
STC:	System Type Code
Fac ID:	Facility ID
Fac EPA ID:	Facility EPA ID
FE:	Fee Exemption Code
Action:	Add, Change, or Delete record in TCEQ Database
NRR:	No Report Required Annual Waste Summary

CES Environmental Services, Inc.

CES Visitor Sign-in Sheet

DATE	NAME	COMPANY NAME	CES CONTACT
3/6	[illegible]	CO.H	Joe
3/16	Ron [illegible]	Littleton	Scott Schmer
3/17	James Eng	USEPA	THANG DUC
3/17	DAVID [illegible]	"	"
"	Ken Cooper	"	"
"	PAUL JAMES	"	"
"	Gary Fogarty	TCEQ	"
"	Barbara Johnston	TCEQ	" "
"	Kendra [illegible]	TCEQ	" "
3/17	[illegible]	COH	Joe

Region 6: Arkansas,
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David Düster
Inspector/Surveillance Section

U. S. Enviromental Protection Agency
10625 Fallstone Rd.
Houston, TX 77099

(281) 983-2154
Fax (281) 983-2248
E-mail: duster.david@epa.gov

GARY FOGARTY
Environmental Investigator
Water Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H, Houston, TX 77023-1486
Direct: 713/767-3654 ■ Office: 713/767-3650
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United States
Environmental Protection Agency

Ken Cooper
Environmental Scientist
Surveillance Section (6EN-AS)

10625 Fallstone
Houston, Texas 77099

Phone: 281-983-2109
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BARBARA JOHNSTON
Environmental Investigator
Waste Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
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Corrective Action & Compliance Inspection Section
Compliance Assurance and Enforcement Division

1445 Ross Ave (6EN-HC)
Dallas, Texas 75202-2733

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Environmental Investigator
Waste Section

Region 12 ■ Houston

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3-17-09

Also, after lunch David introduced 3 EPA chemists Ray, Florence, and Nick that will set up a mobile lab on site for sampling and testing. If the ~~xxx~~ results are positive, EPA will send out samples to their ~~outside~~ lab for further testing and they will do split samples.

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Water Section

Region 12 ■ Houston

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Prabhaker Thangudu

From: Joe Camp
Sent: Wednesday, March 18, 2009 6:26 PM
To: Clark Hickman
Cc: Prabhaker Thangudu; Clinton Hopkins
Subject: EPA Sampling....
Importance: High

David from the EPA asked me to put something together that we could go over when they brief us tomorrow morning. Here is what I put together (he said something like this would be fine).

Please make any suggestions or recommendations for changes or additions so that I can get them made before the meeting tomorrow at 9am.

I will bring hard copies of these notes for everyone to reference during the meeting.

Also, for what it's worth.....David told me just before they left today that they know we are running a legitimate business here and they can tell that we aren't trying to do anything crooked or illegal. They will have some things for us to work on, but nothing that we have to worry about shutting us down.

Thanks.

Joe Camp
Director of Processing
CES Environmental Services, Inc.
713-367-8601
jcamp@cesenvironmental.com

Prabhaker Thangudu

From: Joe Camp
Sent: Thursday, March 19, 2009 8:34 AM
To: Clark Hickman
Cc: Prabhaker Thangudu; Clinton Hopkins
Subject: RE: EPA Sampling....
Importance: High

This is the same document with some minor changes (updated version). Let's discuss this briefly before the meeting at 9am in Prabhaker's office.

Thanks.

Joe Camp
Director of Processing
CES Environmental Services, Inc.
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jcamp@cesenvironmental.com

From: Joe Camp
Sent: Wednesday, March 18, 2009 5:26 PM
To: Clark Hickman
Cc: Prabhaker Thangudu; Clinton Hopkins
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Importance: High

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Thanks.

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CES SAMPLING SUMMARY / NOTES (March 18, 2009)

SAMPLE #	ITEM SAMPLED	COMMENTS
1	CES Trailer 7253 (Recyclable Methanol Water with 1230 Placards)	Low Flash Point (Expected - Not an Issue)
2	CES Trailer 221 (Recyclable Methanol Water with 1230 Placards)	Low Flash Point (Expected - Not an Issue)
3	Methanol Water First Flush Totes in New Tankwash Bay 5 (Not Yet Labeled)	Low Flash Point (Expected - Not an Issue)
4	Generic First Flush Totes in New Tankwash Bay 4 (Not Yet Labeled)	Low Flash Point
5	Water in Totes to be returned to Rain-For-Rent (Labeled Non-Hazardous Waste)	Low Flash Point (Labeling Issue)
6	Spent Caustic Drum (labeled, but not properly)	pH 6.6 - Not an Issue (Labeling Issue)
7	Sample Point #5 - Discharge Outfall to City of Houston	Benzene, Toluene, Ethyl Benzene, Xylene (parts per billion levels)
8	CES Roll Off Box 621 - Filter Cake from Waste Water Filter Press	*Sent Offsite for Analysis*
9	Smith Drum - CES profile #1899 (Labeled Non-Hazardous Waste)	pH 2.6 - Not an Issue
10	Tote in Metal Fabrication Shop (Not Labeled)	pH 9.9 - Not an Issue
11	CES Frac Tank #1002 - Water Either Destined for Processing or Off-Site Depending on Specs	Low Flash Point / 6.5 ppm Benzene

EPAHO119001035

Prabhaker Thangudu

From: Joe Camp
Sent: Thursday, March 19, 2009 11:02 AM
To: Clark Hickman
Cc: Prabhaker Thangudu; Clinton Hopkins
Subject: RE: EPA Sampling....

Another update.....this one includes the sample that we pulled today (sample #12).

Joe Camp
Director of Processing
CES Environmental Services, Inc.
713-367-8601
jcamp@cesenvironmental.com

From: Joe Camp
Sent: Thursday, March 19, 2009 7:34 AM
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Subject: EPA Sampling....
Importance: High

David from the EPA asked me to put something together that we could go over when they brief us tomorrow morning. Here is what I put together (he said something like this would be fine).

Please make any suggestions or recommendations for changes or additions so that I can get them made before the meeting tomorrow at 9am.

I will bring hard copies of these notes for everyone to reference during the meeting.

Also, for what it's worth.....David told me just before they left today that they know we are running a legitimate business here and they can tell that we aren't trying to do anything crooked or illegal. They will have some things for us to work on, but nothing that we have to worry about shutting us down.

Thanks.

Joe Camp
Director of Processing
CES Environmental Services, Inc.
713-367-8601
jcamp@cesenvironmental.com

CES SAMPLING SUMMARY / NOTES (March 18, 2009)

SAMPLE #	ITEM SAMPLED	COMMENTS
1	CES Trailer 7253 (Recyclable Methanol Water with 1230 Placards)	Low Flash Point (Expected - Not an Issue)
2	CES Trailer 221 (Recyclable Methanol Water with 1230 Placards)	Low Flash Point (Expected - Not an Issue)
3	Methanol Water First Flush Totes in New Tankwash Bay 5 (Not Yet Labeled)	Low Flash Point (Expected - Not an Issue)
4	Generic First Flush Totes in New Tankwash Bay 4 (Not Yet Labeled)	Low Flash Point
5	Water in Totes to be returned to Rain-For-Rent (Labeled Non-Hazardous Waste)	Low Flash Point (Labeling Issue)
6	Spent Caustic Drum (labeled, but not properly)	pH 6.6 - Not an Issue (Labeling Issue)
7	Sample Point #5 - Discharge Outfall to City of Houston	Benzene, Toluene, Ethyl Benzene, Xylene (parts per billion levels)
8	CES Roll Off Box 621 - Filter Cake from Waste Water Filter Press	*Sent Offsite for Analysis*
9	Smith Drum - CES profile #1899 (Labeled Non-Hazardous Waste)	pH 2.6 - Not an Issue
10	Tote in Metal Fabrication Shop (Not Labeled)	pH 9.9 - Not an Issue
11	CES Frac Tank #1002 - Water Either Destined for Processing or Off-Site Depending on Specs	Low Flash Point / 6.5 ppm Benzene
12	Methanol Water Totes in 90 Day Hazardous Waste Area (2 Had No Lids During Initial Inspection)	Were Properly Labeled - No Analysis Yet

EPAHO119001038

Prabhaker Thangudu

From: Joe Camp
Sent: Tuesday, March 31, 2009 1:31 PM
To: Prabhaker Thangudu; Clark Hickman; Clinton Hopkins
Cc: Matt Bowman; Greg Bowman
Subject: EPA follow up.....
Importance: High

All,
Please give me your feedback and recommended changes so that I can email this to David Duster from the EPA as soon as possible. I am going to include the sign in roster from the safety meeting, the slides from the safety meeting, and probably a couple of photos of areas that have been corrected.

Once again, we need to act quickly on this so that David can receive this (like he recommended) before they write their official findings report.

Thanks.

Joe Camp
Director of Processing
CES Environmental Services, Inc.
713-367-8601
jcamp@cesenvironmental.com

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

Mr. David Duster,

The purpose of this letter is to serve as a follow up to your team's inspection of our facilities on March 18-19, 2009. During and after the inspection you and your team offered some recommendations in regard to areas that we needed to improve on and correct. The following is a list of the items that were discussed and the status of their completion. Many of the issues have already been corrected and some are still in progress.

Area of Improvement 1 – Labeling / Housekeeping

A. Incorrect and/or Inadequate Labeling of Waste Containers
   - Conducted formal training/safety meeting to convey shortfalls and expectations with all employees (STATUS: Completed on March 27, 2009)
   - Will only use official stick-on labels to identify containers from now on (no more grease penciling) (STATUS: Completed on March 27, 2009)

B. Storage/Processing Vessels Requiring Proper Labeling
   - Labeled all oil storage and oil processing tanks with "USED OIL" signs (STATUS: Completed on March 30, 2009)
   - Will ensure that the flash point of material inside of waste water processing frac tanks remains above 140F so that the tanks do not need to be labeled as containing hazardous material (STATUS: Completed on March 19, 2009)

C. Keeping Waste Containers in Separate Areas from Containers of Products and Materials that are used for Processing
   - The majority of our treatment chemicals will be bulked and kept in large poly tanks instead of drums, allowing us to designate one containment pad specifically for waste containers and one containment pad specifically for products (STATUS: In progress, to be completed by April 10, 2009)

Area of Improvement 2 – Tank Wash

A. "First Flush" Procedures
   - Will re-institute first flush tank (which was out of service when EPA visited, therefore we were using plastic totes in the interim) (STATUS: In progress, plumbing to new first flush tank to be completed by April 10, 2009)

B. Water Drainage/Containment
   - Have put together a design to ensure that water from tankwash stays inside the containment and won't trickle out (STATUS: In progress, awaiting estimate from contractor, should be completed by April 24, 2009)

Area of Improvement 3 – Storm Water Monitoring / Contamination Prevention

A. Monitoring of Wayland Street (Additional Sample Points)
   - Currently working with the City of Houston in regard to this issue (STATUS: In progress, will be completed as soon as possible)

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4904 Griggs Road
Houston, TX 77021
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Fax. (713) 676-1676

B. Keeping Waste Containers that are Outside Covered

- Conducted formal training/safety meeting to convey shortfalls and expectations with all employees (STATUS: Completed on March 27, 2009)

We take your feedback and your suggestions very seriously, and we hope that you know that we are continuously trying to improve our processes and the way we do business. Thanks again for your time and assistance. Please feel free to call us if you have any additional questions, comments, or recommendations.

Thanks again,

Joe Camp

Director of Processing
CES Environmental Services, Inc.
cell: (713) 367-8601

Prabhaker Thangudu

From: Joe Camp
Sent: Tuesday, April 07, 2009 2:05 PM
To: Clark Hickman; Prabhaker Thangudu; Clinton Hopkins
Subject: EPA....

FYI,
This is everything that I sent to the EPA yesterday.

I didn't get it out last week because Clark wanted to make some changes to it, but also because David from the EPA said that he wouldn't have time to look at it until at least Monday anyway.

Joe Camp
Director of Processing
CES Environmental Services, Inc.
713-367-8601
jcamp@cesenvironmental.com

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

Mr. David Duster
U.S. Environmental Protection Agency
10625 Fallstone Rd.
Houston, TX 77099

April 6, 2009

The purpose of this letter is to serve as a follow up to your team's inspection of our facilities on March 18-19, 2009. During and after the inspection you and your team offered some recommendations. The following is a list of the items that were discussed and their status.

Area of Improvement 1 – Labeling / Housekeeping

A. Labeling of Waste Containers
   - Conducted training/safety meeting to convey shortfalls and expectations with all employees (STATUS: Completed on March 27, 2009)
   - Will only use official stick-on labels to identify containers from now on (no more grease penciling) (STATUS: Completed on March 27, 2009)

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   - Labeled all oil storage and oil processing tanks with "USED OIL" signs (STATUS: Completed on March 30, 2009)
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C. Keeping Waste Containers in Separate Areas from Containers of Products and Materials that are used for Processing
   - The majority of our treatment chemicals will be bulked and kept in large poly tanks in containment instead of drums, allowing us to designate one containment pad specifically for waste containers and one containment pad specifically for products (STATUS: In progress, to be completed by approximately April 10, 2009)

Area of Improvement 2 – Tank Wash

A. "First Flush" Procedures
   - Will re-institute first flush tank (which was out of service when EPA visited, therefore we were using plastic totes in the interim) (STATUS: In progress, plumbing to new first flush tank to be completed by approximately April 10, 2009)

B. Water Drainage/Containment
   - Have put together a design to ensure that water from tankwash stays inside the containment and won't trickle out (STATUS: In progress, awaiting estimate from contractor, should be completed by approximately April 24, 2009)

Area of Improvement 3 – Storm Water Monitoring / Contamination Prevention

A. Monitoring of Wayland Street (Additional Sample Points)

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Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

- Currently working with the City of Houston in regard to this issue (STATUS: In progress, will be completed as soon as possible)

B. Keeping Waste Containers that are Outside Covered

- Conducted training/safety meeting to convey shortfalls and expectations with all employees (STATUS: Completed on March 27, 2009)

We take your suggestions very seriously, and hope that you know that we are continuously trying to improve our processes and the way we do business. Thanks again for your time and assistance. Please feel free to call us if you have any additional questions, comments, or recommendations.

Thanks again,

Joe Camp

Director of Processing
CES Environmental Services, Inc.
cell: (713) 367-8601

CES ENVIRONMENTAL SERVICES, INC.

Safety Meeting

March 27, 2009

EPAHO119001045

Training Topics

- Housekeeping
- Pollution Management Plan
- Storm Water Pollution Prevention Plan
- Contingency Plan
- Spill Prevention Control and Countermeasures Plan

EPAHO119001046

Labeling

- One of the most important areas of improve was proper labeling of waste, products, and storage containers. ***(drums, totes, tanks)***

- Proper labeling of material on our yard (100% compliance) can easily happen here, **BUT IT WILL TAKE A UNIFIED EFFORT!**

- **Drivers/CSRs: DO NOT PICK UP CONTAINER LOADS THAT ARE NOT PROPERLY LABELED.** Hauling and receiving these load is illegal!

EPAHO119001047

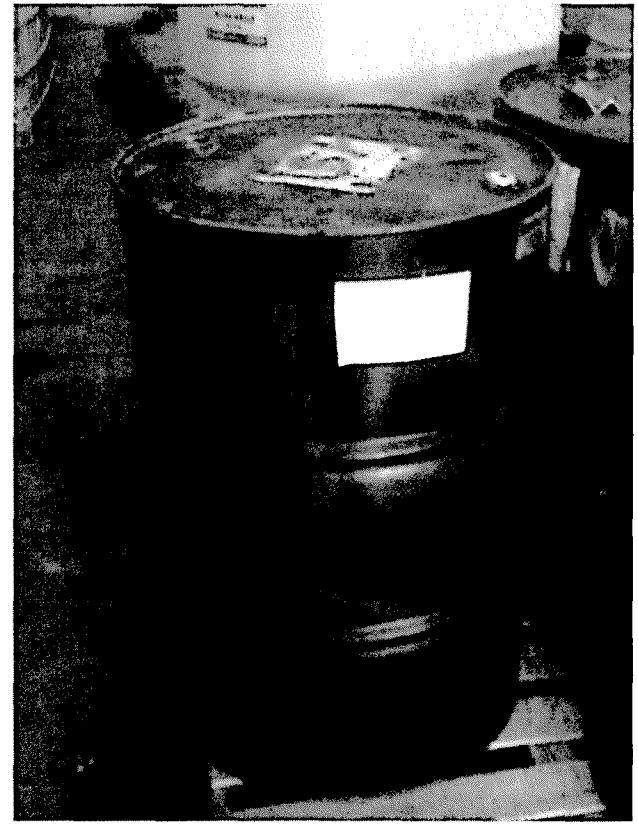
Problem 1 – Non-existent labeling (no identification)

- A few totes and drums on the yard and in the warehouse had no labels/identification – **this is unacceptable**.
- We prevent this from happening by preparing the storage container before we put the waste, etc. in the container.
- Drivers and warehouse personnel must be extra diligent with inbound drums that have no profile number or proper labeling.

EPAHO119001048

Problem 2 – Improper labeling (mis-identification)

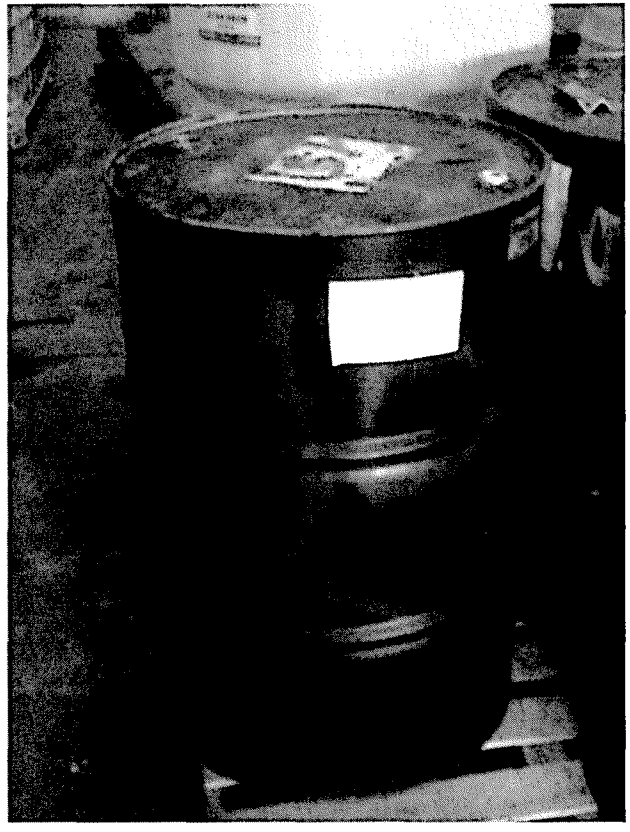
- A few totes and drums on the yard and in the warehouse had the wrong nomenclature – **this is equally important to the EPA and to us**.
- Just as before, we prevent this from happening by preparing the storage container before we put the waste, etc. in the container. If you are in question, ask you immediate supervisor, HSE, Dispatch or Operations Personnel.
- We must also be diligent of drums and toes with multiple labels. This is problematic.



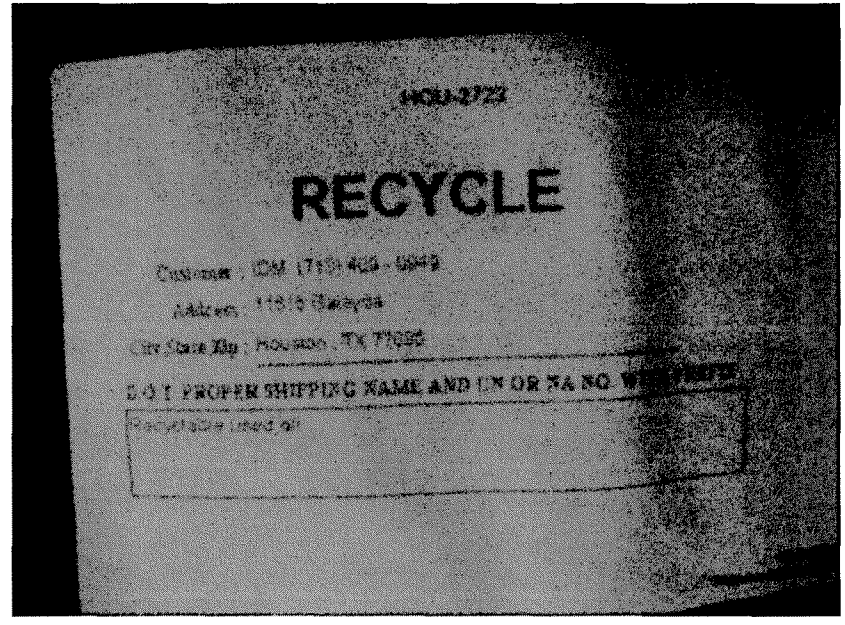
EPAHO119001049

Some Examples

Improper labeling of drum containing oil
"Bad Oil"



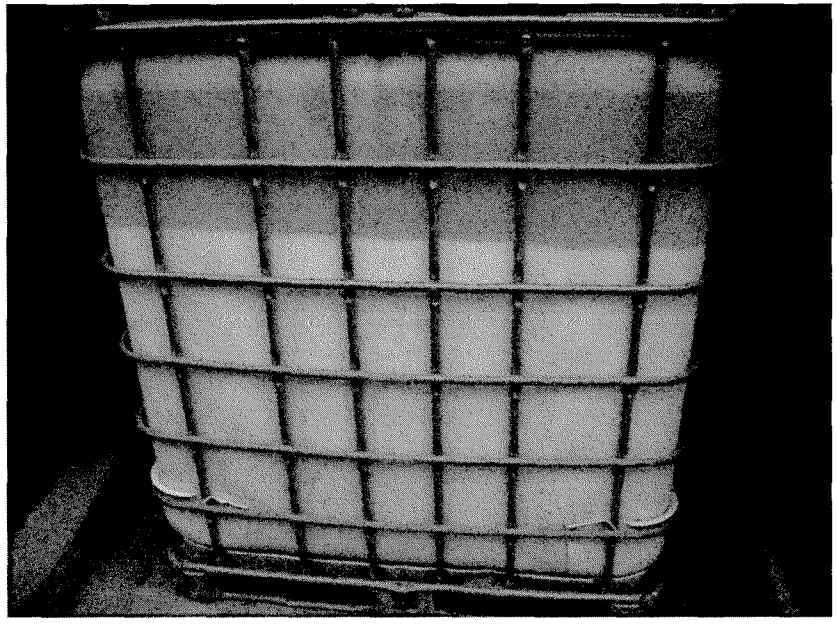
Proper nomenclature
"Used Oil"



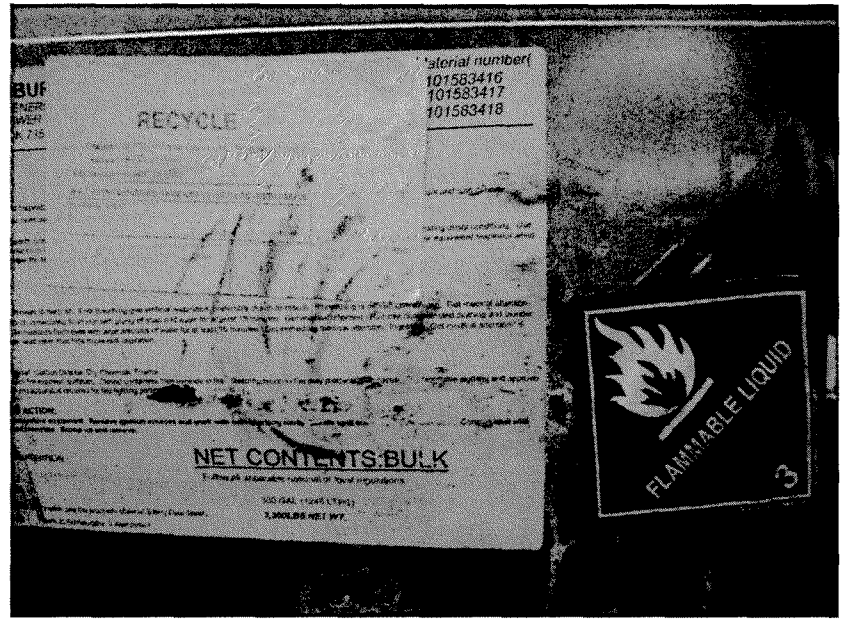
EPAHO1190010 50

Some Examples

Improper labeling of tote containing Methanol



Proper labeling of tote containing Methanol



EPAHO119001051

Open top waste/product containers

- Another key area of improvement open top containers (drums or totes) outside.
- If open top containers must be stored outside, they must be stored upside down or either a lid must be put on the container.
- Open top totes should be stored under cover to the max extent possible.
- All boxes that are outside and have waste need a top (includes waste bin, roll off boxes). Tops should be closed unless you are actively adding waste to the container.

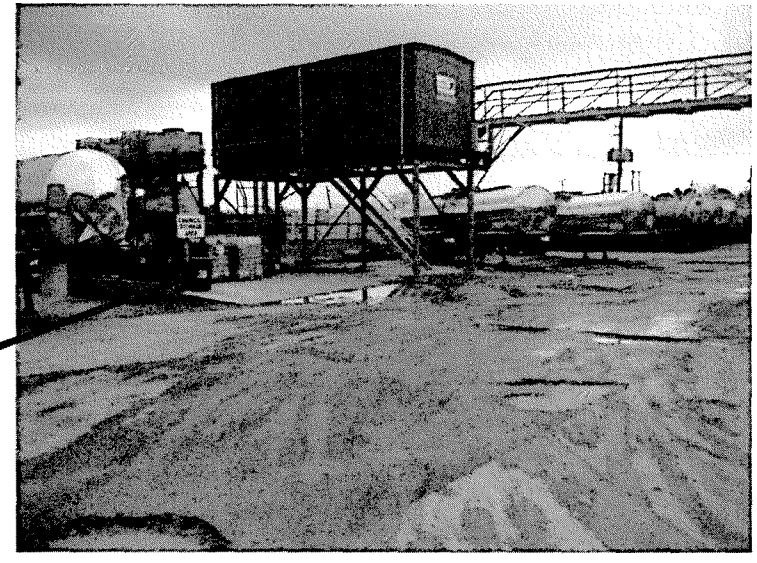
EPAHO119001052

Chemical Storage

- We must be diligent to ensure that products, hazardous waste, and other materials are stored in the proper areas.

- Hazardous waste cannot at any time be stored in our Main warehouse. The proper place is one of (2) hazardous waste storage areas.

- Product chemical are stored in our Chemical Storage area.



Chemical Storage pad

EPAHO119001053

PPE

- Proper PPE must be worn at all times.
- Minimum PPE on the CES yard is safety boots (steel toe), safety goggles, and hard hat.
- See your supervisor or HSE (Prabhakar) if you need to purchase a new pair.

EPAHO119001055

CES ENVIRONMENTAL SERVICES, INC.

Safety Meeting

March 27, 2009

EPAHO119001056

Training Topics

- Housekeeping
- Pollution Management Plan
- Storm Water Pollution Prevention Plan
- Contingency Plan
- Spill Prevention Control and Countermeasures Plan

EPAHO119001057

Labeling

- One of the most important areas of improve was proper labeling of waste, products, and storage containers. ***(drums, totes, tanks)***

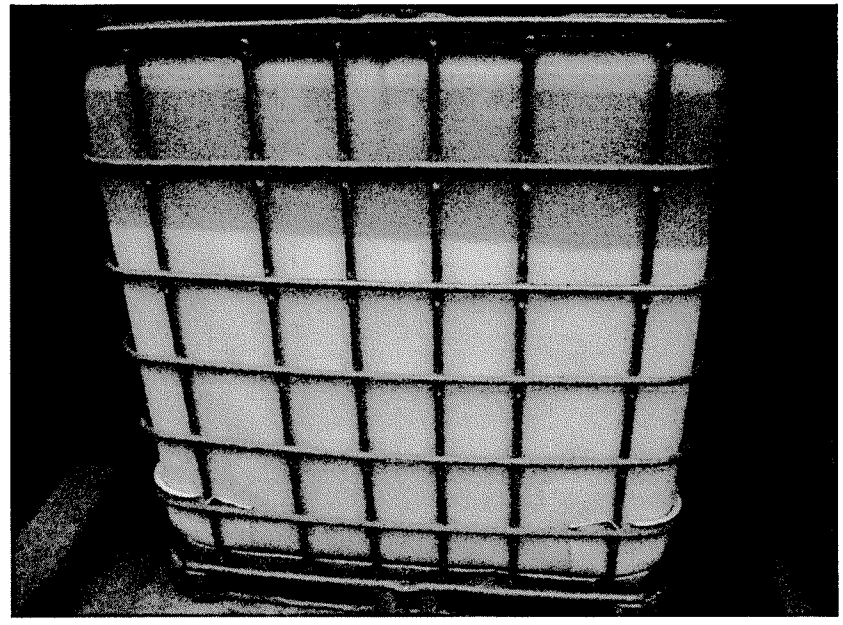
- Proper labeling of material on our yard (100% compliance) can easily happen here, **BUT IT WILL TAKE A UNIFIED EFFORT!**

- **Drivers/CSRs: DO NOT PICK UP CONTAINER LOADS THAT ARE NOT PROPERLY LABELED.** Hauling and receiving these load is illegal!

EPAHO119001058

Problem 1 – Non-existent labeling (no identification)

- A few totes and drums on the yard and in the warehouse had no labels/identification – **this is unacceptable**.
- We prevent this from happening by preparing the storage container before we put the waste, etc. in the container.
- Drivers and warehouse personnel must be extra diligent with inbound drums that have no profile number or proper labeling.



EPAHO119001059

Problem 2 – Improper labeling (mis-identification)

- A few totes and drums on the yard and in the warehouse had the wrong nomenclature – **this is equally important to the EPA and to us**.
- Just as before, we prevent this from happening by preparing the storage container before we put the waste, etc. in the container. If you are in question, ask you immediate supervisor, HSE, Dispatch or Operations Personnel.
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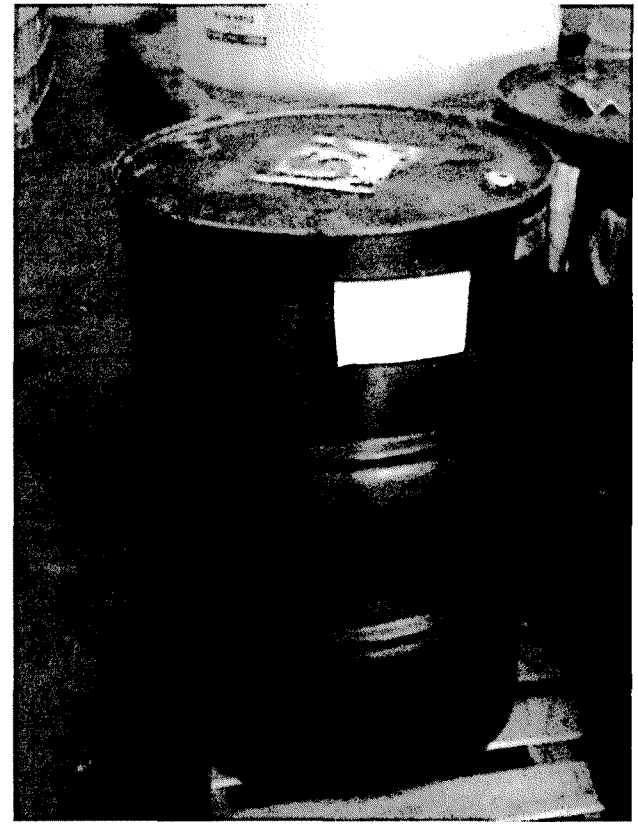
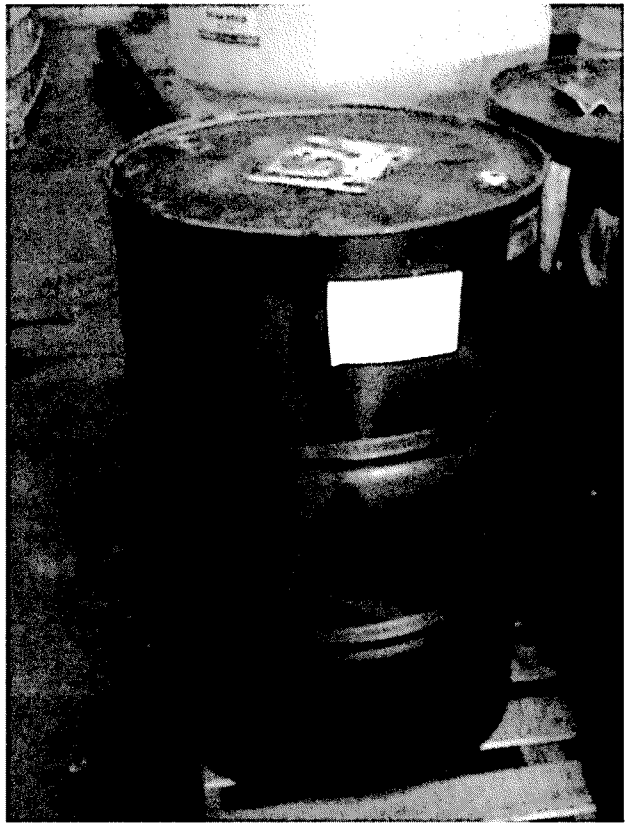


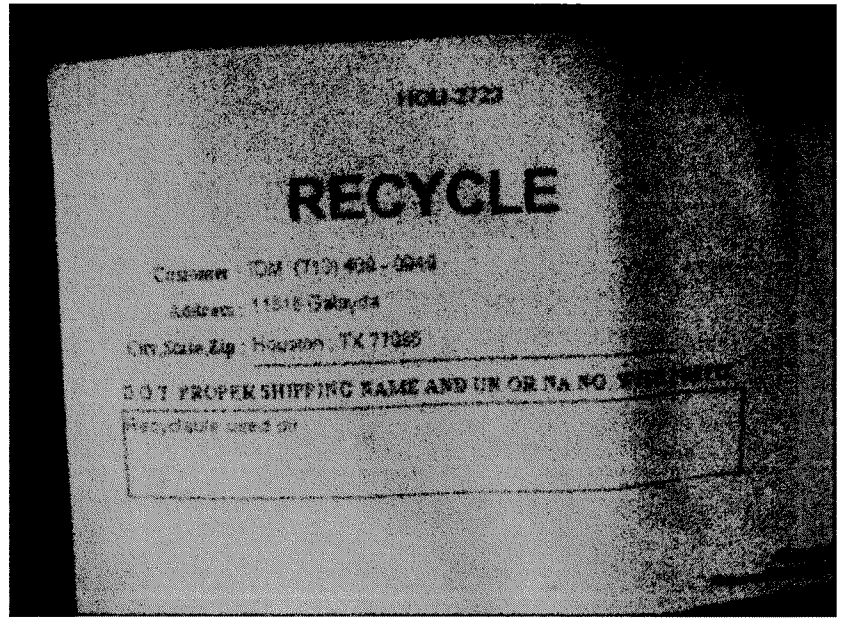
EPAHO119001060

Some Examples

Improper labeling of drum containing oil
"Bad Oil"



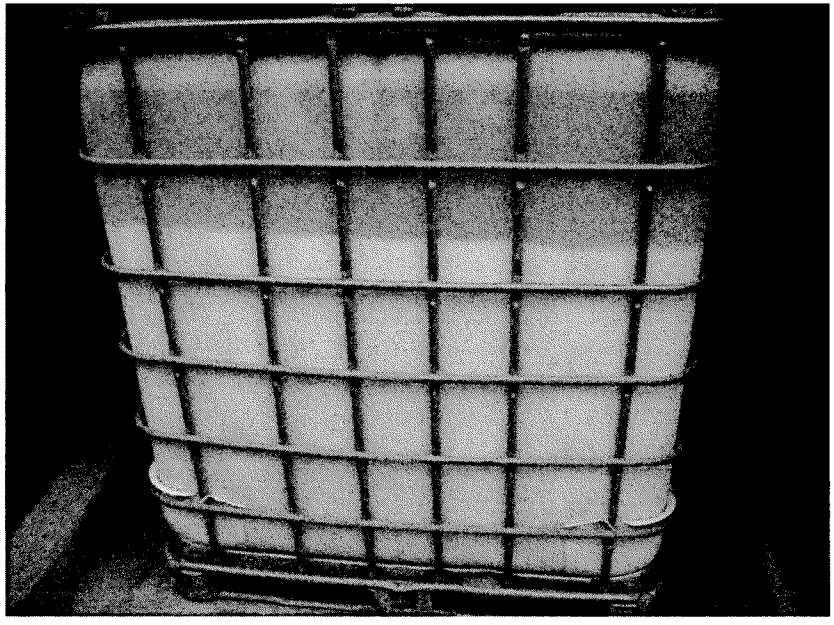
Proper nomenclature
"Used Oil"



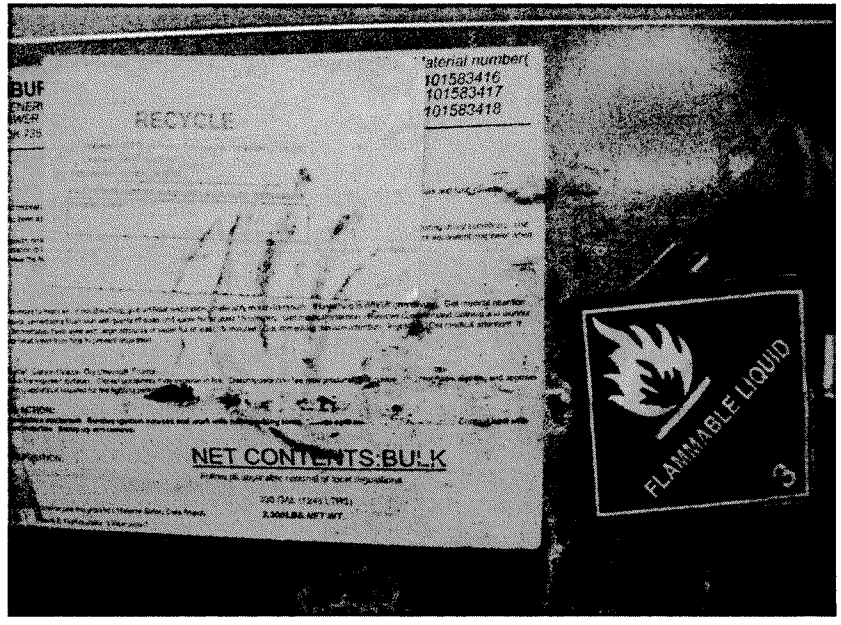
EPAHO119001061

Some Examples

Improper labeling of tote containing Methanol



Proper labeling of tote containing Methanol



EPAHO119001062

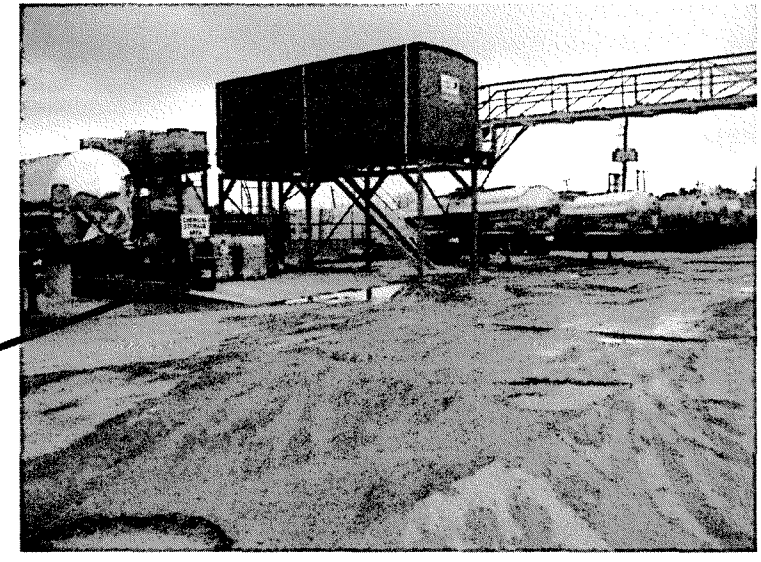
Open top waste/product containers

- Another key area of improvement open top containers (drums or totes) outside.
- If open top containers must be stored outside, they must be stored upside down or either a lid must be put on the container.
- Open top totes should be stored under cover to the max extent possible.
- All boxes that are outside and have waste need a top (includes waste bin, roll off boxes). Tops should be closed unless you are actively adding waste to the container.

EPAHO119001063

Chemical Storage

- We must be diligent to ensure that products, hazardous waste, and other materials are stored in the proper areas.
- Hazardous waste cannot at any time be stored in our Main warehouse. The proper place is one of (2) hazardous waste storage areas.
- Product chemical are stored in our Chemical Storage area.



Chemical Storage pad

EPAHO119001064

Proper Parking of Trailers on CES yard

- Trailer are to be parked on the yard in designated areas.

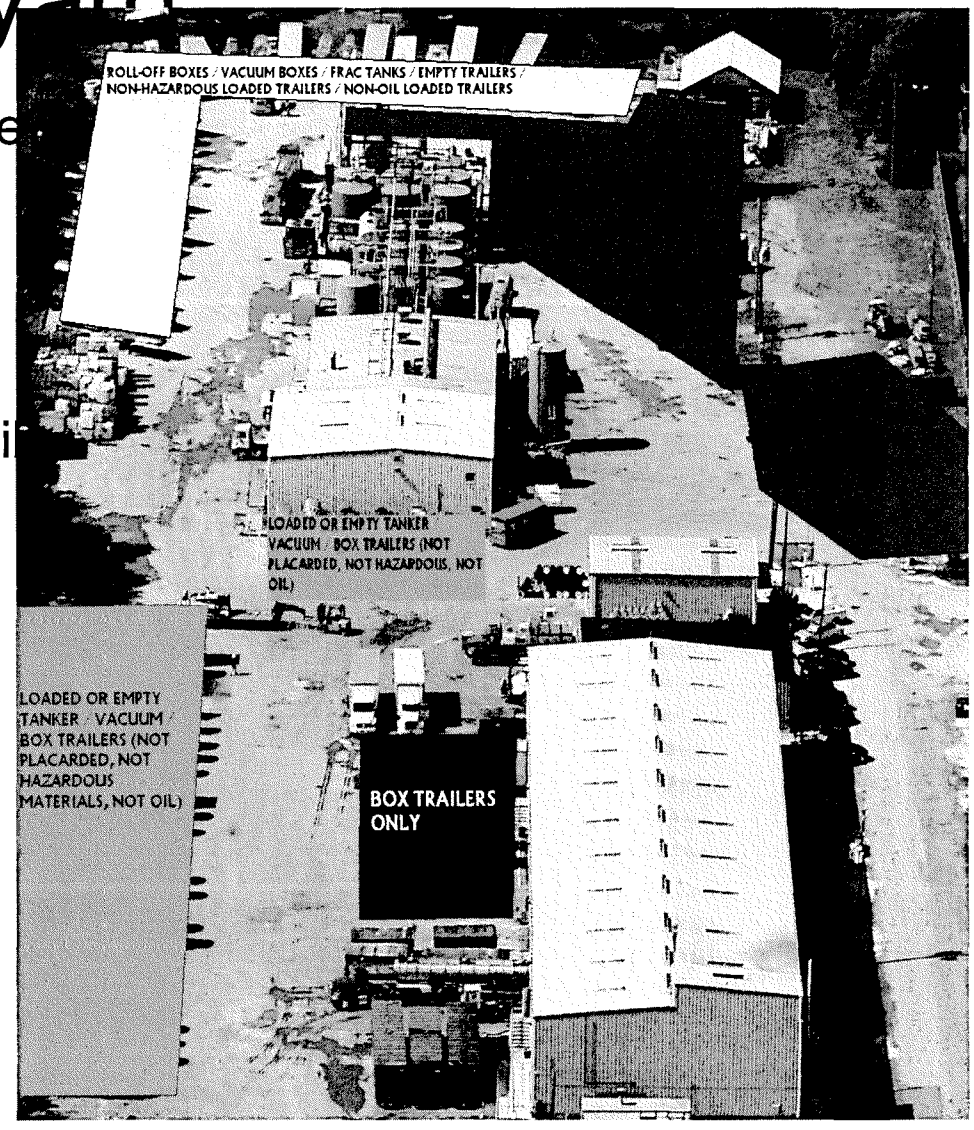
<u>Designated areas</u>

Red – Hazardous Materials or Oil

Green – Loaded or Empty tanker/vacuum trailer not placarded

Blue – Box van trailers

– Frac Tanks, Roll Off boxes, Vacuum boxes



EPAHO119001065

PPE

- Proper PPE must be worn at all times.
- Minimum PPE on the CES yard is safety boots (steel toe), safety goggles, and hard hat.
- See your supervisor or HSE (Prabhakar) if you need to purchase a new pair.

EPAHO119001066

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

Safety Meeting

Friday, March 27, 2009

Time:

Drivers & Field Service Personnel	5AM	
2nd Shift Tankwash	1PM	(Spanish)
1st Shift Tankwash and Field Service Personnel	2PM	(English)

TRAINING TOPICS

1. Housekeeping
2. Pollution Management Plan (40CFR 442)
3. Storm Water Pollution Prevention Plan (40CFR 122.26(b)(
4. Contingency Plan (29 CFR 1910.38)
5. Spill Prevention Control and Countermeasures Plan 40 CFR 112

The training is mandatory. Please contact Clint (832-298-9726) /Joe Camp (713-367-8601)/ Prabhakar (281-433-9792) if you have any questions.

Employees not attending safety meeting should have area manager's written approval. Empleados que no van atender la junta de seguridad tienen que tener approvacion escrita del supervisor.

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax (713) 676-1676

Monthly Safety Meeting

TRAINING TOPICS

1. HOUSEKEEPING
2. STORM WATER POLLUTION PREVENTION PLAN (40 CFR 122.26(b)(3)
3. CONTENGENCY PLAN (29 CFR 1910.38)
4. SPRILL PREVENTION CONTROL AND COUNTERMEASURES PLAN (40 CFR 112)
5. POLLUTION MANAGEMENT PLAN (40 CFR 442)

Instructors: Clint Hopkins, Joe Camp, Prabhakar Thangudu

Friday, March 27, 2009

Employee Name	*Signature*
Candido Rosales	[signature]
Sergio Torres	[signature]
Matt Taylor	Matt Taylor
SAM BROWN	[signature]
JACK GIPSON	Jack Gipson
Andres SOTO	Andres Soto
Jose Ramirez	Jose Ramirez
Leo Longoria	[signature]
Donald Bozeman	Donald Bozeman
Rob. Hickman	Robert Hickman
SERGIO DIFILIPPO	Sergio Difilippo

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
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Monthly Safety Meeting

TRAINING TOPICS

1. HOUSEKEEPING
2. STORM WATER POLLUTION PREVENTION PLAN (40 CFR 122.26(b)(3)
3. CONTENGENCY PLAN (29 CFR 1910.38)
4. SPRILL PREVENTION CONTROL AND COUNTERMEASURES PLAN (40 CFR 112)
5. POLLUTION MANAGEMENT PLAN (40 CFR 442)

Instructors: Clint Hopkins, Joe Camp, Prabhakar Thangudu

Friday, March 27, 2009

Employee Name	Signature
ROLANDO MORALES	
Rolando SOTO	
ALFONSO SALAZAR	
SALVADOR ARIZAGA	
Jose Espinal	
PETER SEMIEN	
WILFRED ABREU	
Chris Campbell	
Irwin Woodard	
René G. Cortés	
Javier Rodriguez	

CES Environmental Services, Inc.

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Monthly Safety Meeting

TRAINING TOPICS

1. HOUSEKEEPING
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5. POLLUTION MANAGEMENT PLAN (40 CFR 442)

Instructors: Clint Hopkins, Joe Camp, Prabhakar Thangudu

Friday, March 27, 2009

Employee Name	Signature
Quinn Green	Quinn Green
Melvin Espinal	Melvin Espinal
PRESTON	Preston
Prabhakar Thangudu	Prabhakar Thangudu
Joaquin Alvarez	Joaquin Alvarez
JOSE Pedroza	JOSE Pedroza
FRANCISCO LOPEZ	
Armando Rodriguez	Armando Rodriguez
crecencio padron	crecencio padron
Jose Martinez	Jose Martinez
Jorge Lara	Jorge Lara

CES Environmental Services, Inc.

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Tel. (713) 676-1460
Fax (713) 676-1676

Monthly Safety Meeting

TRAINING TOPICS

1. HOUSEKEEPING
2. STORM WATER POLLUTION PREVENTION PLAN (40 CFR 122.26(b)(3)
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5. POLLUTION MANAGEMENT PLAN (40 CFR 442)

Instructors: Clint Hopkins, Joe Camp, Prabhakar Thangudu

Friday, March 27, 2009

Employee Name	*Signature*
Jose A Encina	
José M. González	
Jorge Martinez	
LOREN THOMAS	
Joe Camp	
Julius Prantil	
CLINTON HOPKINS	
ELIGIO MARTINEZ	
J. CARLOS NAVARRO	
MILES ROOT	
Juan Manuel Morales	

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax (713) 676-1676

Monthly Safety Meeting

TRAINING TOPICS

1. HOUSEKEEPING
2. STORM WATER POLLUTION PREVENTION PLAN (40 CFR 122.26(b)(3)
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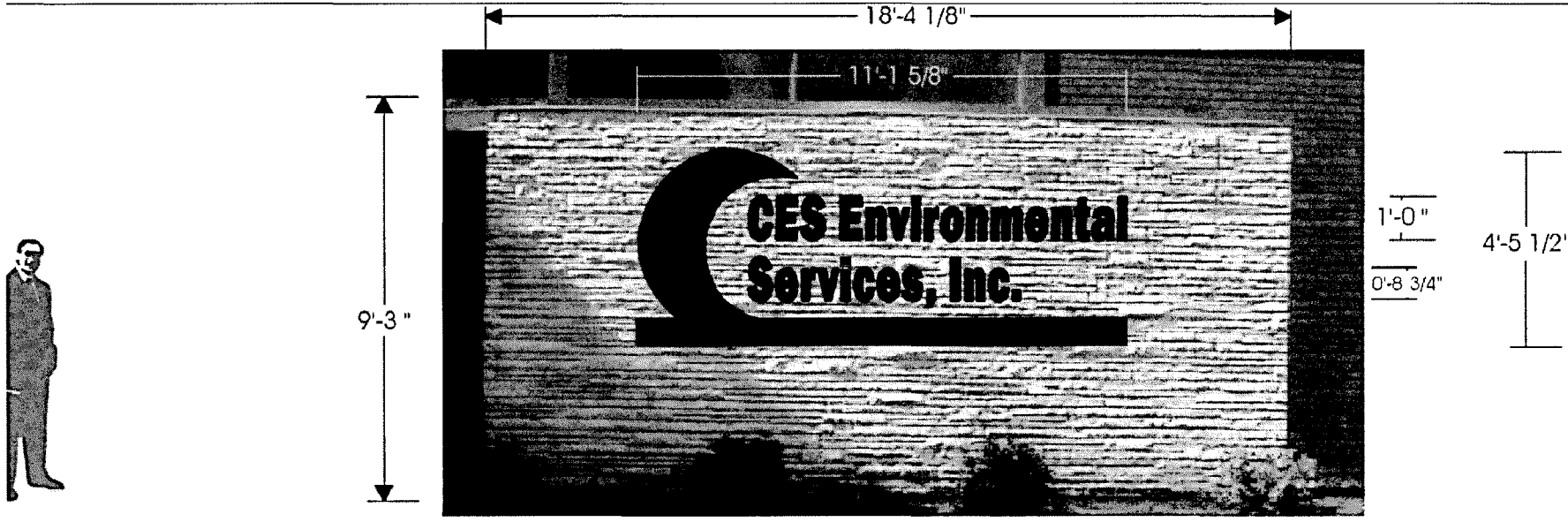
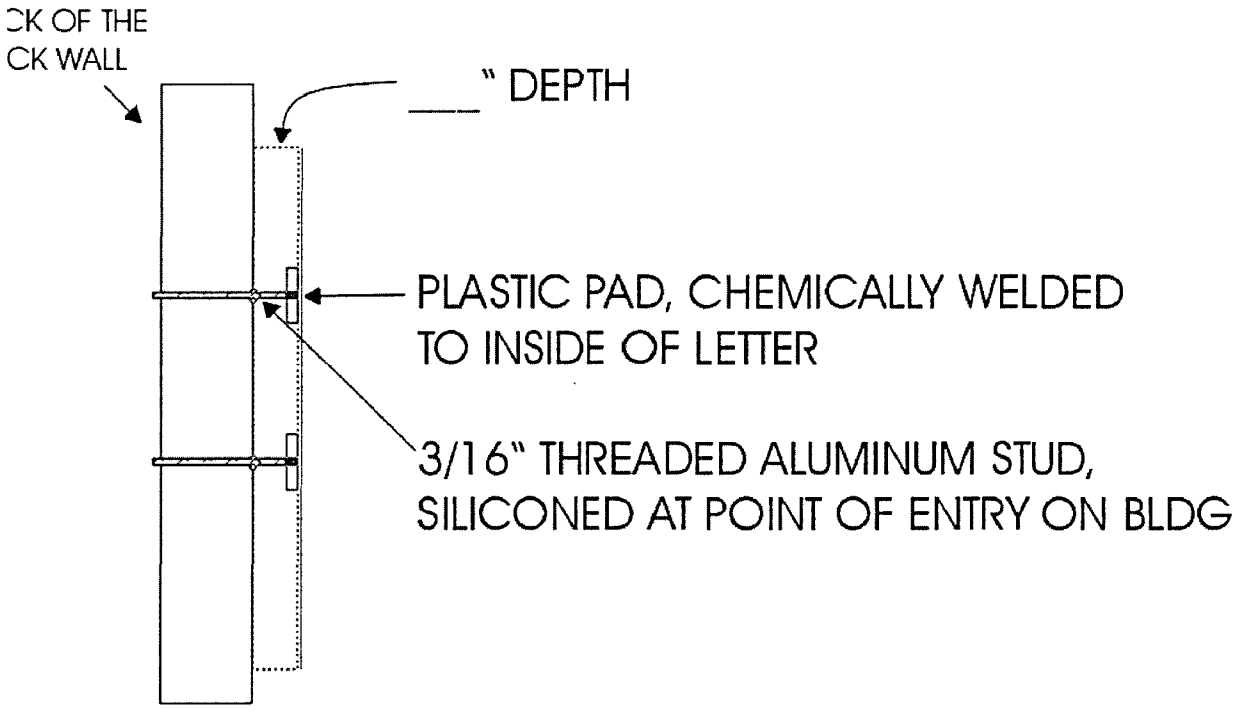
5. POLLUTION MANAGEMENT PLAN (40 CFR 442)

Instructors: Clint Hopkins, Joe Camp, Prabhakar Thangudu

Friday, March 27, 2009

Employee Name	***Signature***
Joe Carrillo	
Bobby Boston	
Darryl Johnson	
Glenn Haywood	
Anthony Jones	
Gilbert Arce	
Percy Foster	





CES Environmental Services, In
4904 Griggs Road
Houston, Texas 77021

This art/drawing is for a proposed sign purchase and is the endeavor of Atlas Sig Services, Inc. personnel.
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SALES REPRESENTATIVE:	Annette	APPROVAL SIGN OWNER DATE	
SCALE: 1/4"=1'-0"	DRAWN BY: Willie M.	FILE NAME:	CES Enviro 8-18
DATE: 8-18-06	DRAWING NUMBER: 081806-006		

ATLAS SIGN SERVICES, INC
6411 AIRLINE HOUSTON, TX 77076 (713) 699-112

EPRODUCTION OF THIS DRAWING WILL OBLIGATE USER TO A DESIGN FEE OF NOT LESS THAN $200.00, OR AT $125.00 PER HOUR (WHICHEVER IS GREATER)
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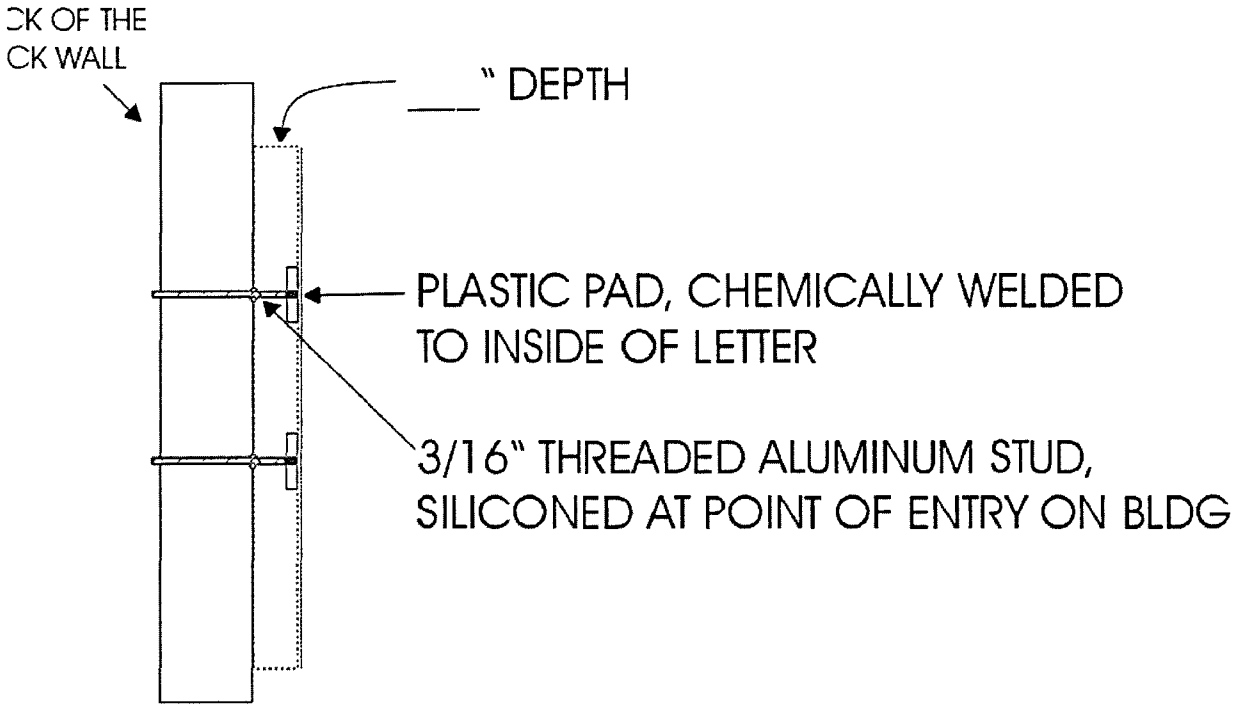

CES Environmental Services, In
4904 Griggs Road
Houston, Texas 77021

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SCALE 1/4"=1'-0"	DRAWN BY Willie M.	FILE NAME CES Enviro 8-18
DATE 8-18-06	DRAWING NUMBER 081806-006	

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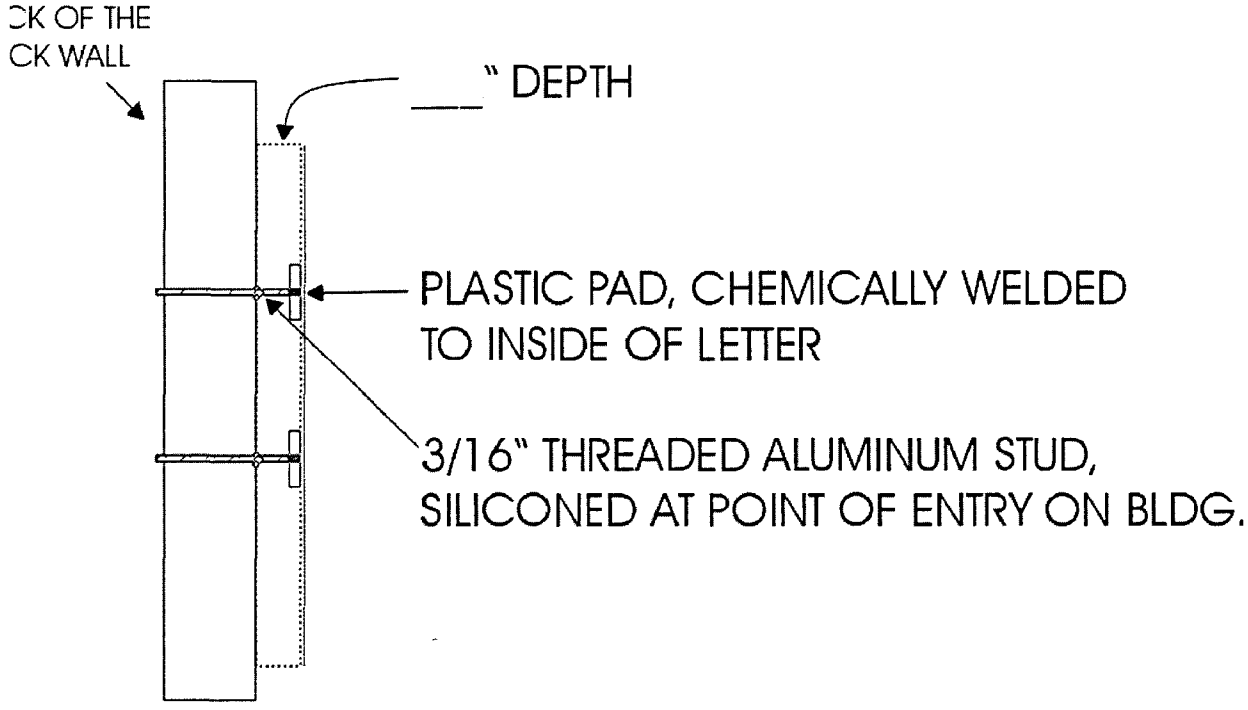

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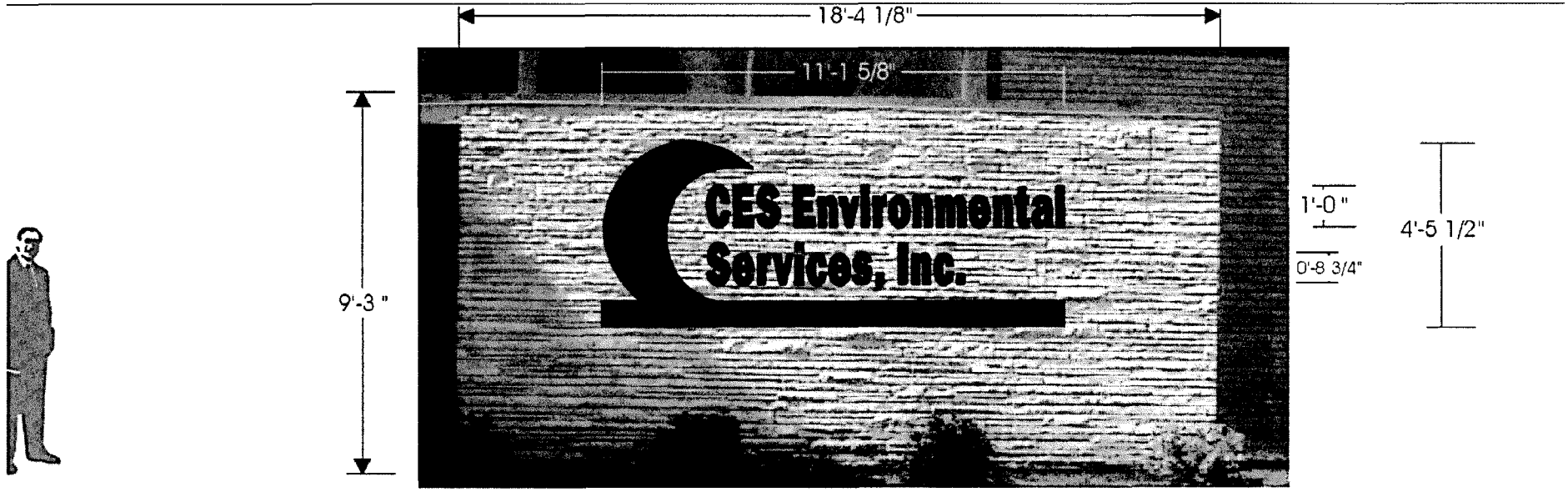

CK OF THE
CK WALL

___" DEPTH

PLASTIC PAD, CHEMICALLY WELDED
TO INSIDE OF LETTER

3/16" THREADED ALUMINUM STUD,
SILICONED AT POINT OF ENTRY ON BLDG.

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SCALE: 1/4"=1'-0"	DRAWN BY: Willie M.	FILE NAME: CES Enviro 8-18
DATE: 8-18-06	DRAWING NUMBER: 081806-006	

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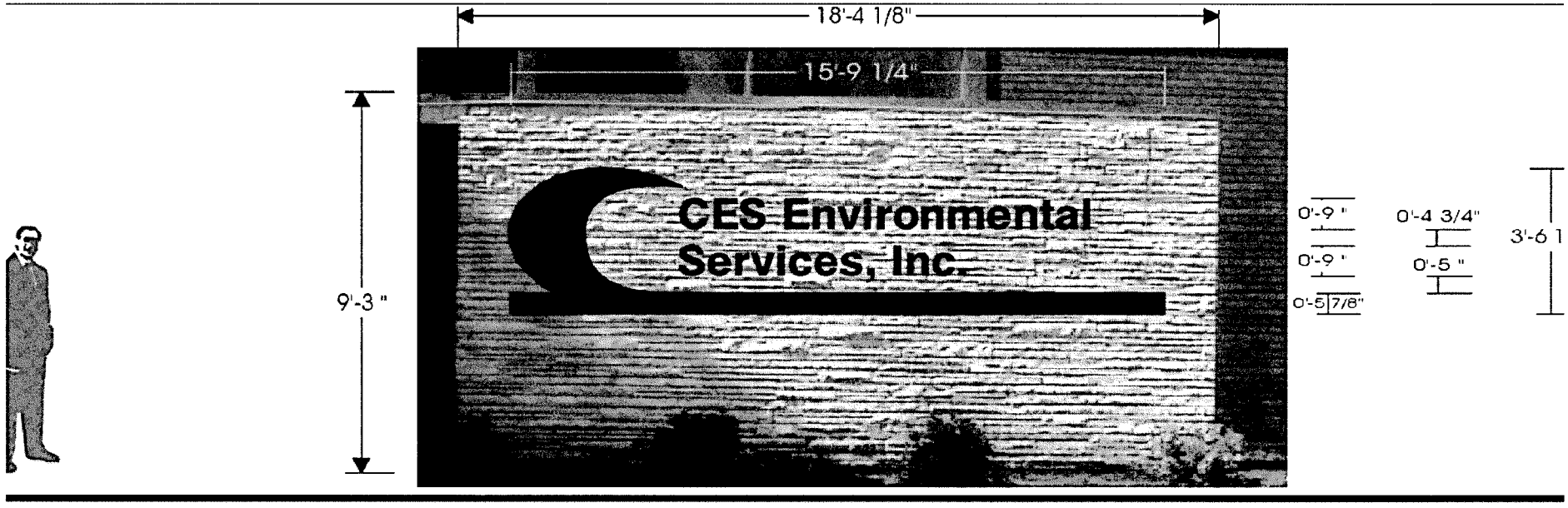

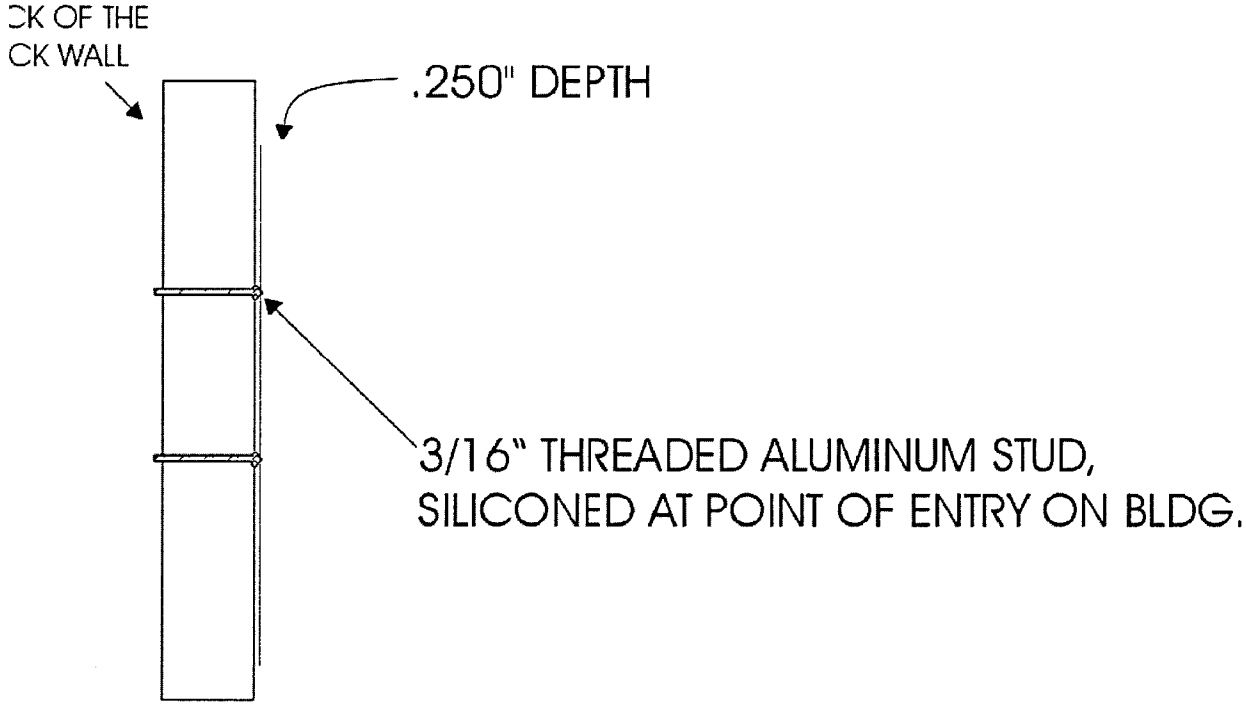

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SALES REPRESENTATIVE	Annette	ACCOUNT / SIGN OWNER	
SCALE 1/4"=1'-0"	DRAWN BY Willie M	FILE NAME	CES Enviro 9-01
DATE 9-1-06	DRAWING NUMBER 090106-001		

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6411 AIRLINE HOUSTON, TX 77076 (713) 699-112

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SPILL KIT

EPAHO119001078

:ES Environmental Services, Inc.

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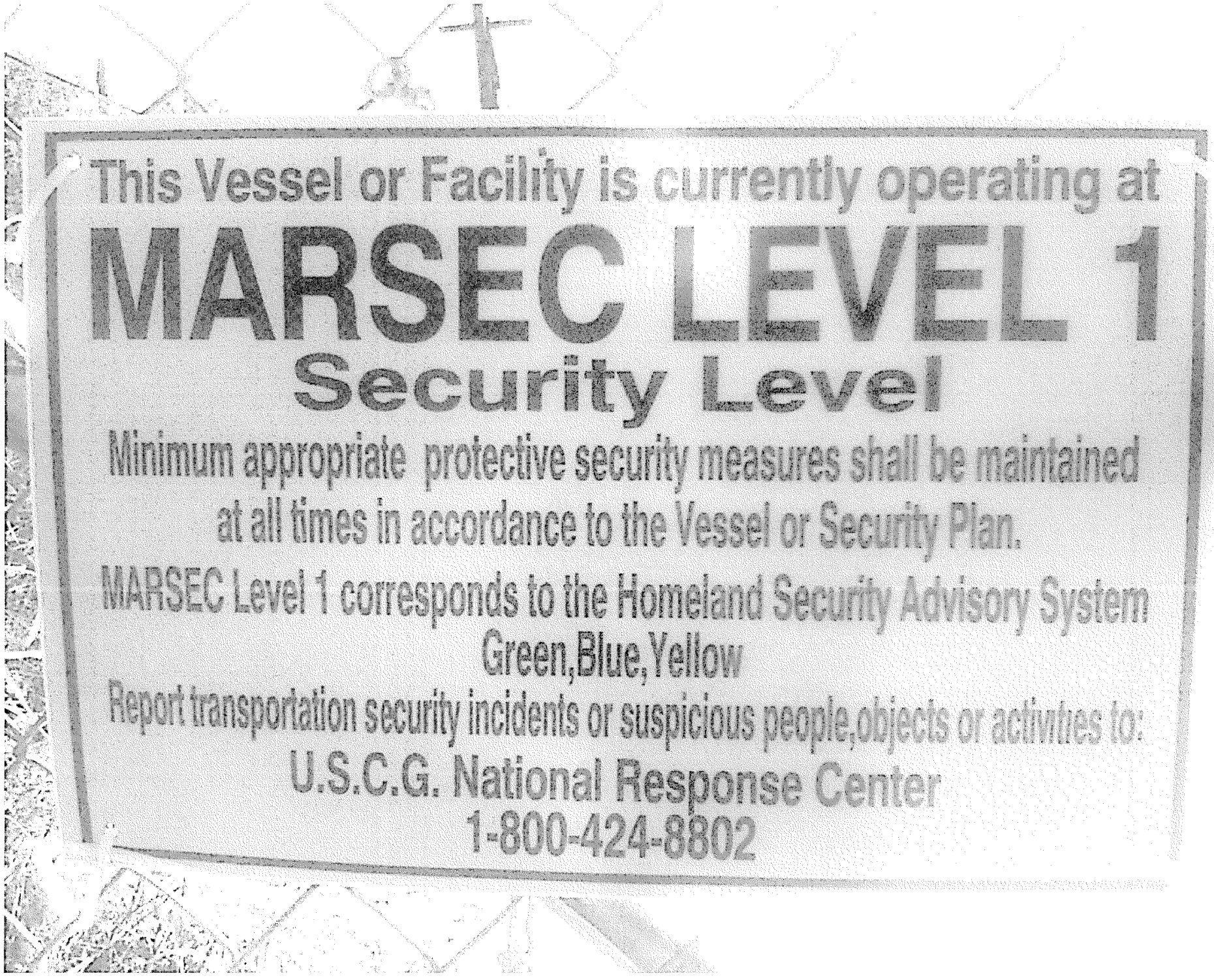

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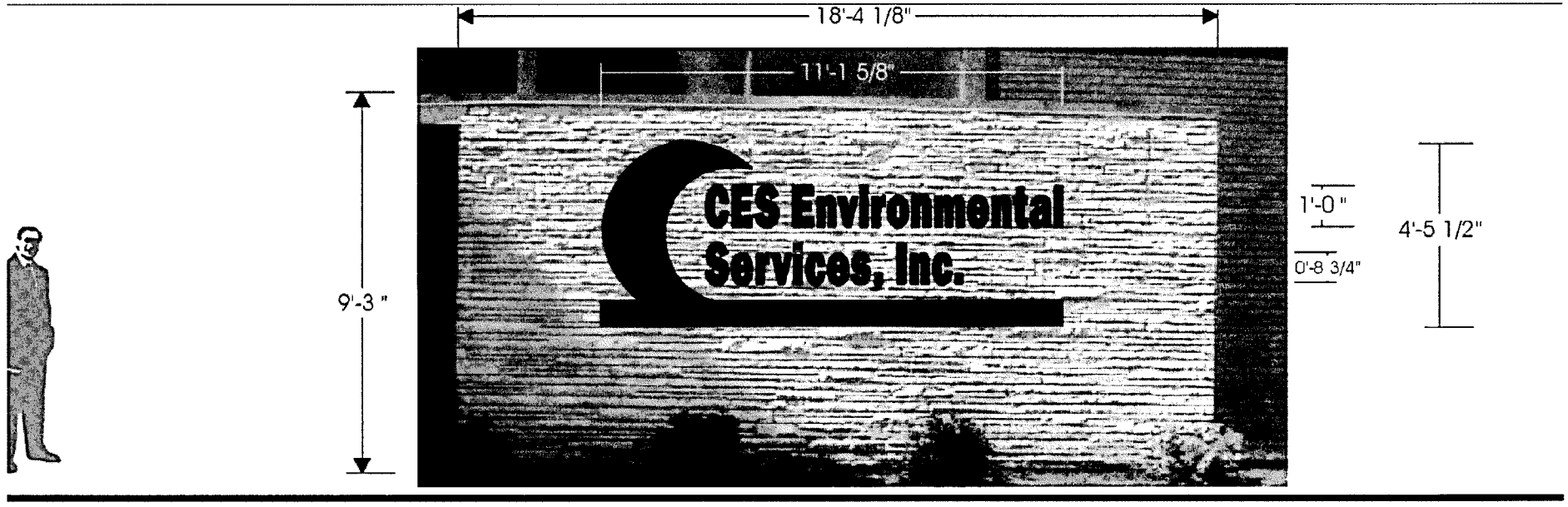

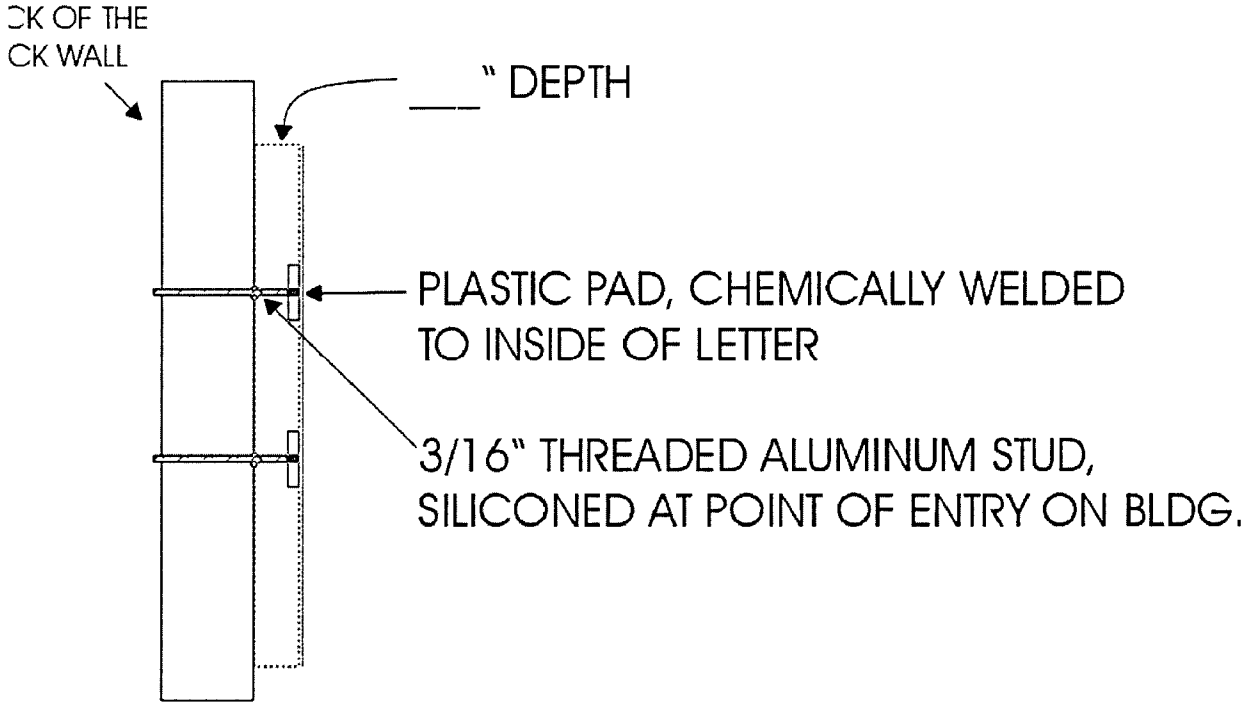

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SALES REPRESENTATIVE	Annette	APPROVAL SIGN HANDED DATE	
SCALE 1/4"=1'-0"	DRAWN BY Willie M	FILE NAME	CES Enviro 8-18
DATE 8-18-06	DRAWING NUMBER 081806-006		

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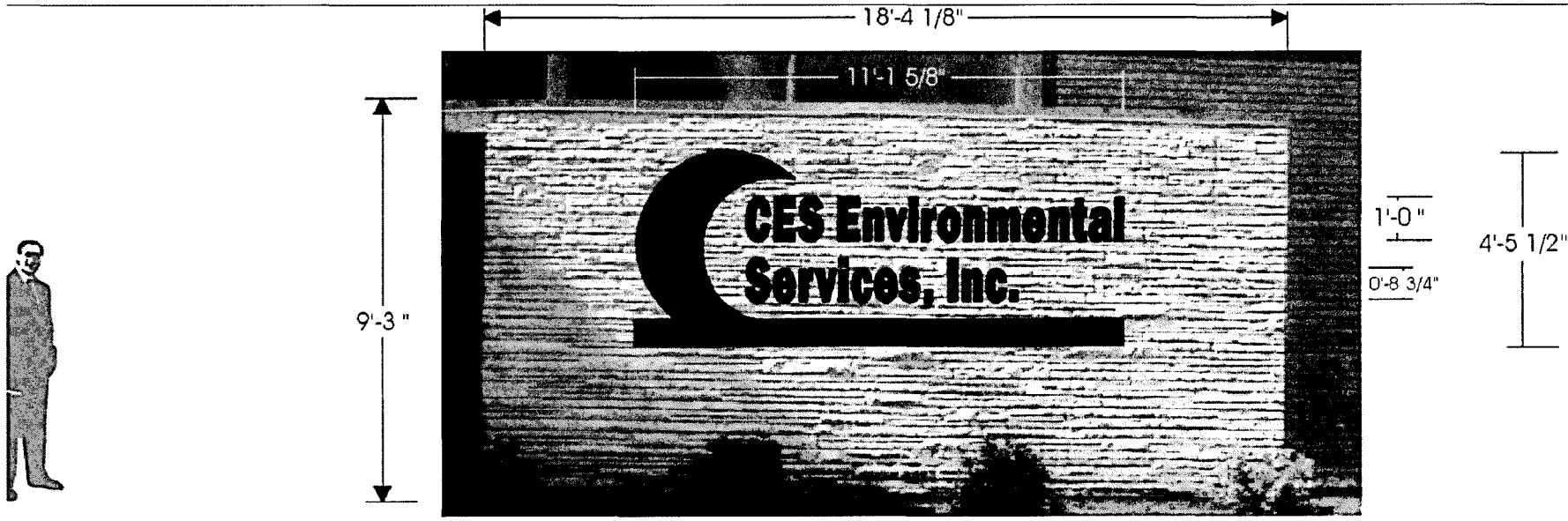

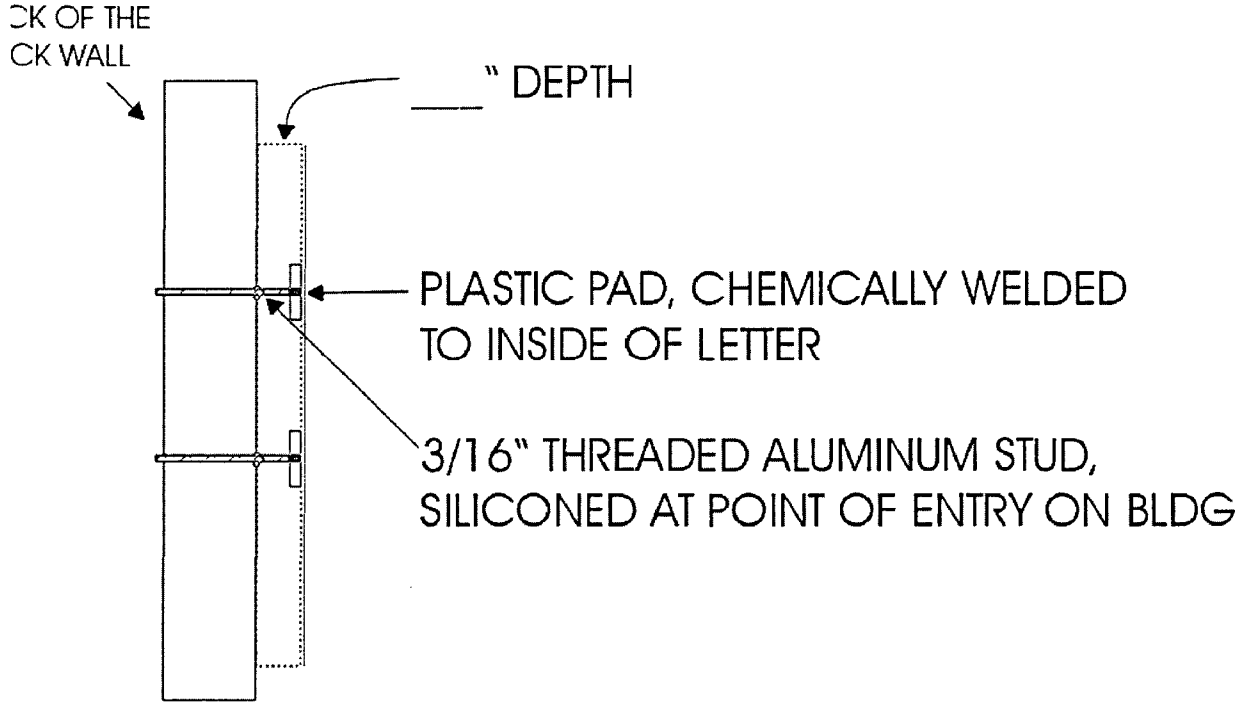

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SALES REPRESENTATIVE: Annette		LANDLORD / SIGN OWNER: DATE:
SCALE: 1/4"=1'-0"	DRAWN BY: Willie M.	FILE NAME: CES Enviro 8-18
DATE: 8-18-06	DRAWING NUMBER: 081806-006	

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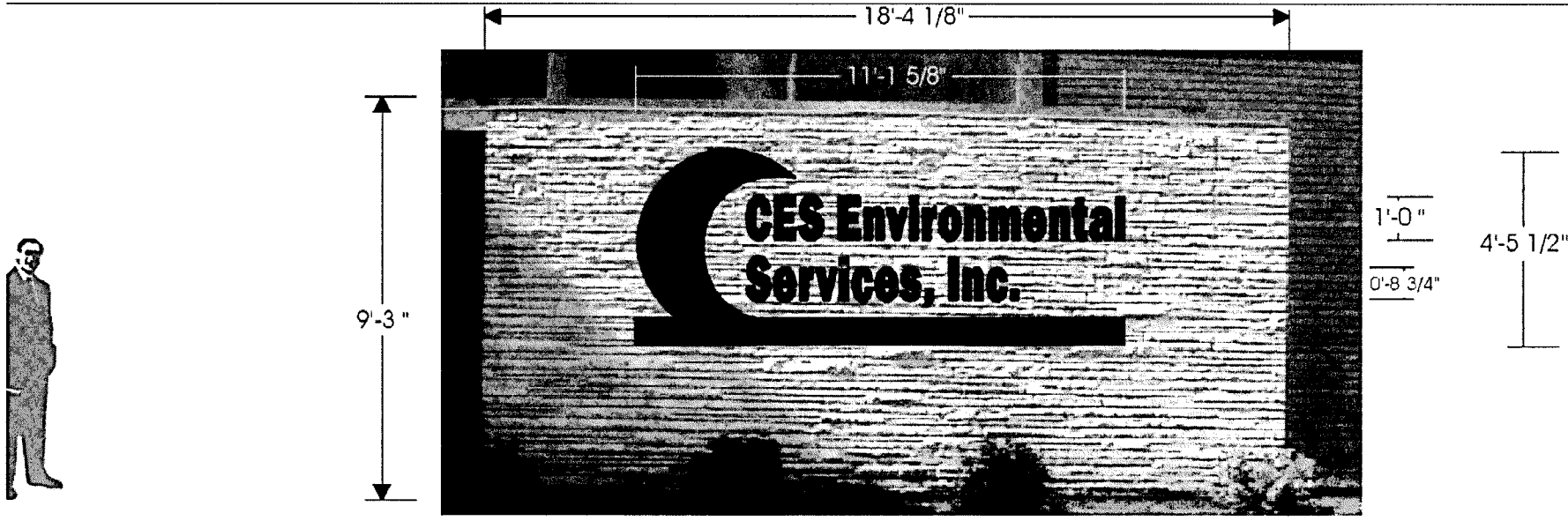

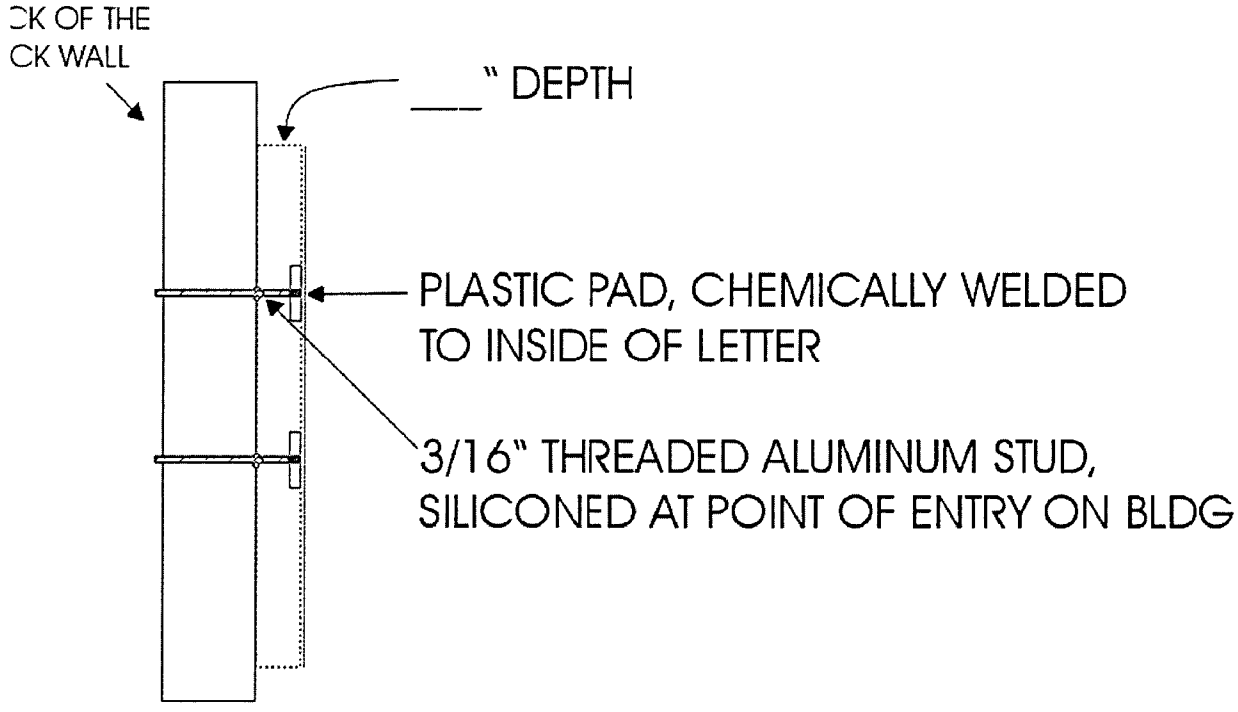

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SCALE	1/4"=1'-0"	DRAWN BY	Willie M
DATE	8-18-06	DRAWING NUMBER	081806-006
		FILE NAME	CES Enviro 8-18

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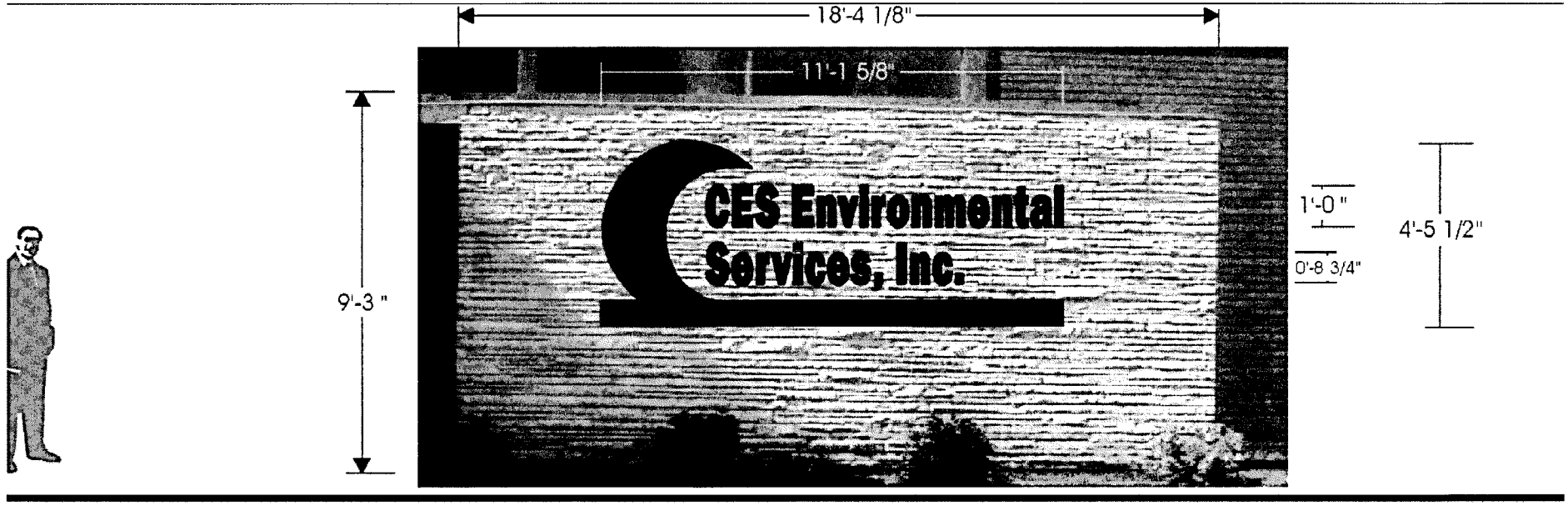

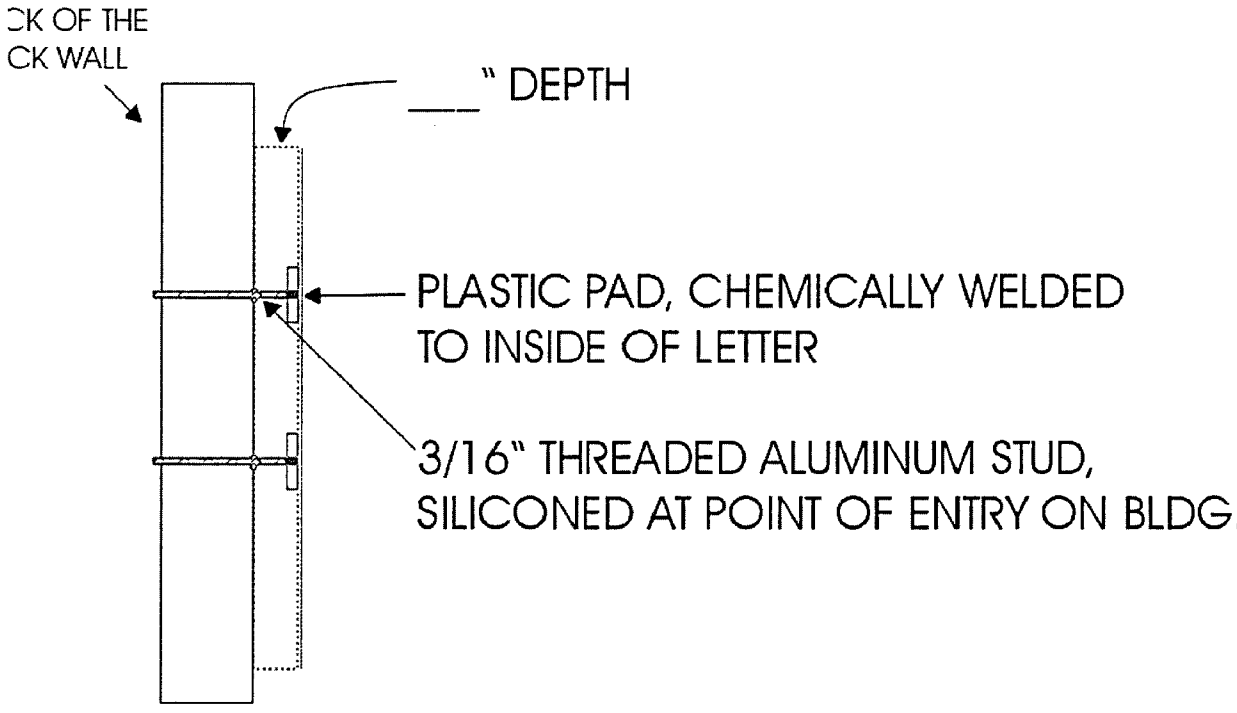

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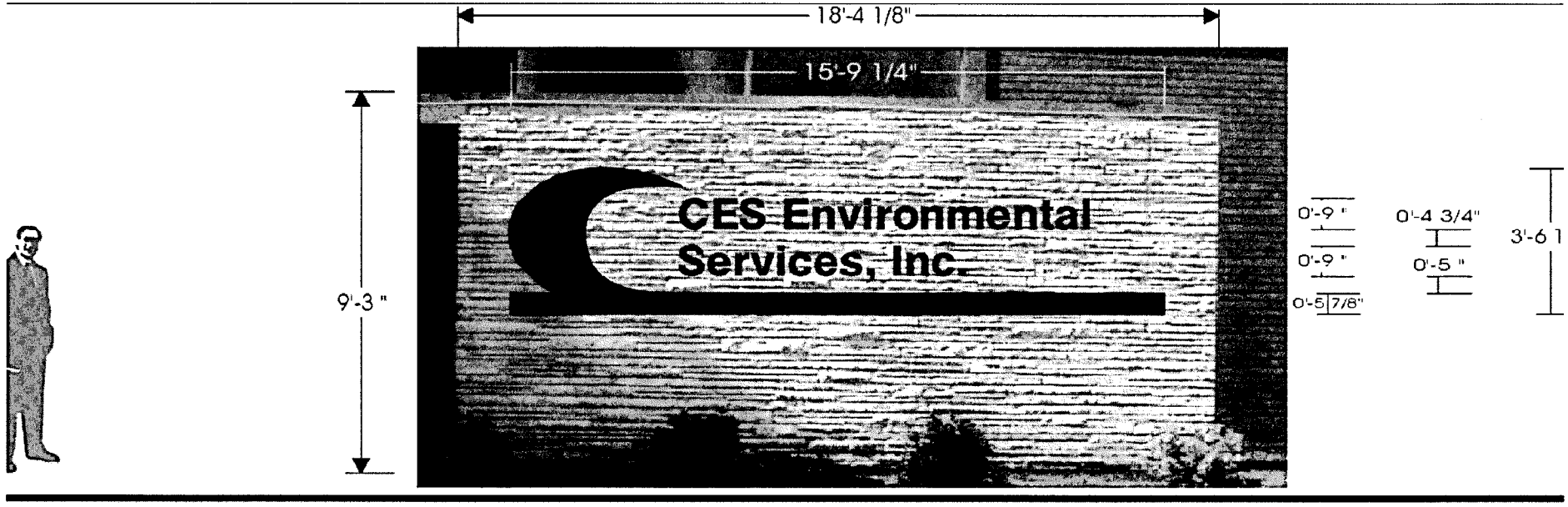

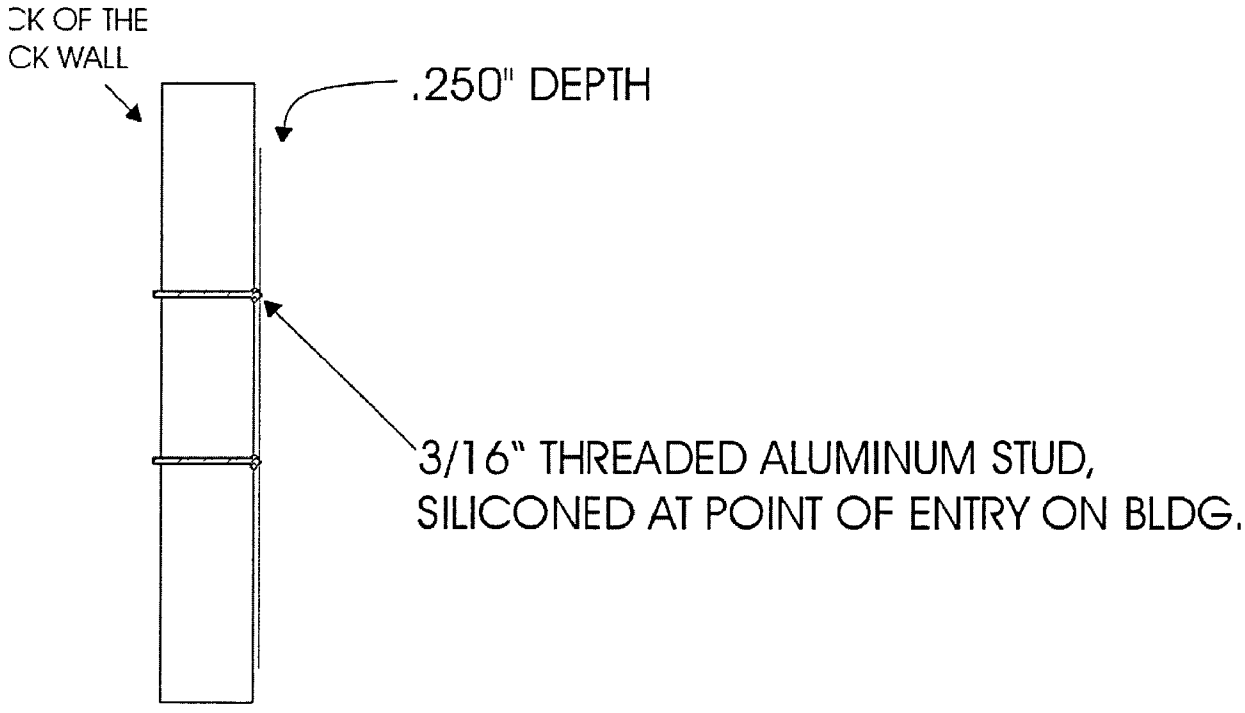

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SCALE: 1/4"=1'-0"	DRAWN BY: Willie M.	FILE NAME: CES Enviro 9-01
DATE: 9-1-06	DRAWING NUMBER: 090106-001	

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EPAHO119001089

SPILL KIT

EPAHO119001090

ES Environmental Services, Inc.

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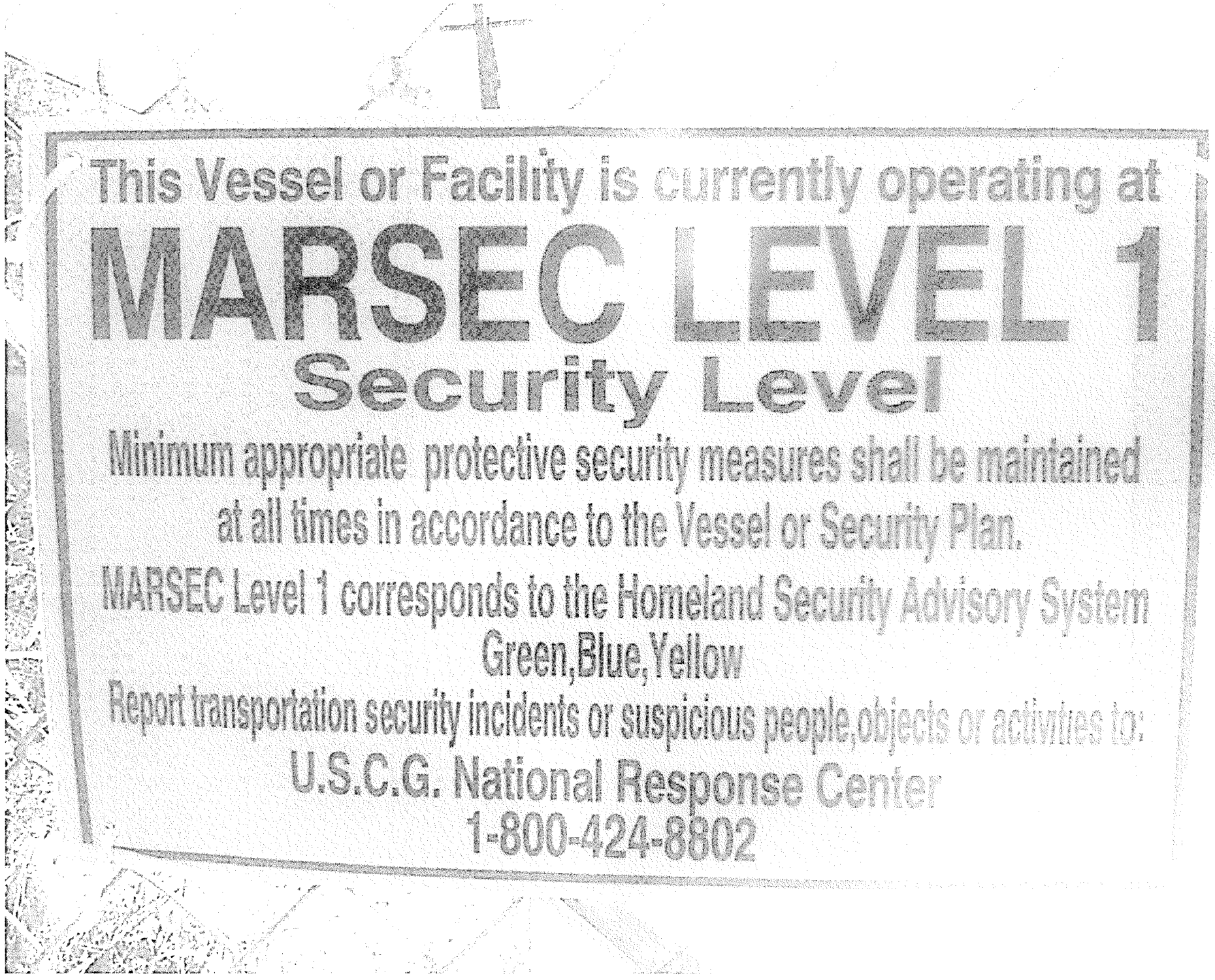

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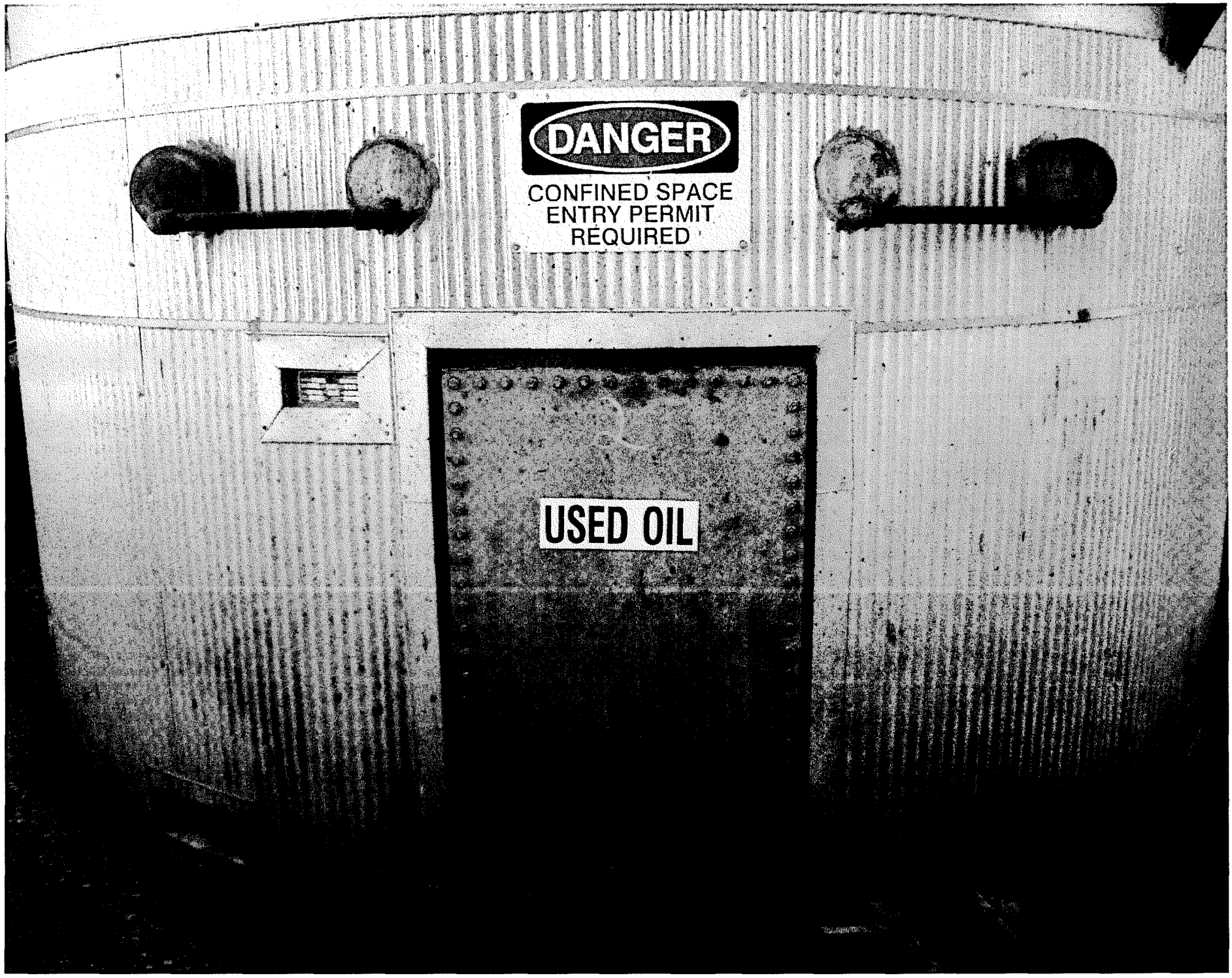

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EPAHO119001097

April 27, 2009

Mr. David Dusta called today and ~~he~~ said he will visit 9:30 AM tomorrow to

1. Take pictures of receiving tanks
2. To get a copy of profiles for the materials in the totes found along the fence near the back gate and see if the alcohol content is less than 24%
3. Status of first flush
4. Drums in the 90 day storage that had a low flash and their profiles

MICHAEL L. WILLIAMS, CHAIRMAN
VICTOR G. CARRILLO, COMMISSIONER
ELIZABETH A. JONES, COMMISSIONER

TOMMIE SEITZ
DIRECTOR, OIL AND GAS DIVISION
JOHN JAMES TINTERA P.G.
ASSISTANT DIRECTOR TECHNICAL PERMITTING

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

APRIL 24, 2008

APR 28 2008
BY

455-23

CES ENVIRONMENTAL SERVICES, INC.
4904 GRIGGS ROAD
HOUSTON TX 77021

RE: Application for an Oil And Gas Waste Hauler's Permit
Application Control No. 3998

This letter is to advise you that the referenced application is complete. The application contains information addressing each application requirement and all information necessary to initiate the final review.

The application has been assigned a control number as referenced above.

cc: RRC - HOUSTON / 03

OIL AND GAS WASTE HAULER'S PERMIT

(To be completed by the Commission)

Permit No. 3998 **is hereby issued to** CES ENVIRONMENTAL SERVICES, INC.
subject to the conditions below.

PERMIT CONDITIONS

A. This permit authority is limited to the hauling, handling, and disposal of oil and gas waste off a lease, unit, or other oil and gas property.

B. This permit authorizes the permitted hauler to dispose of oil and gas waste only at the following disposal/injection systems:

- Commission-permitted disposal/injection systems for which a Form WH-3 has been submitted and which are listed on Permit Attachment B, Approved Disposal/Injection Systems;
- disposal systems operated under authority of a minor permit issued by the Commission; and
- disposal systems permitted by another state agency or another state provided the Commission has granted separate authorization for the disposal.

C. Each vehicle must be marked on both sides and in the rear with the permitted hauler's name (exactly as shown on the P-5 organization report) and permit number in characters not less than three inches high.

D. This permit authorizes the permitted hauler to use only those vehicles shown on the Commission-issued listing of approved vehicles (Permit Attachment A, Waste Hauler Vehicle Identification).

E. Each vehicles must carry a copy of this permit along with a copy of those parts of Permit Attachment A (Waste Hauler Vehicles Identification) and Permit Attachment B (Approved Disposal/Injection Systems) that are relevant to that vehicle's activities.

F. Each vehicles must be operated and maintained in such a manner as to prevent spillage, leakage, or other escape of oil and gas waste during transportation.

G. The permitted hauler must make each vehicle available for inspection upon request by Commission personnel.

H. The permitted hauler must compile and keep current a list of all persons by whom the permitted hauler is hired to haul and dispose of oil and gas waste and furnish such list to the Commission upon request.

I. The permitted hauler must adequately train all drivers to ensure compliance with Commission rules, including recordkeeping requirements, and adherence to proper emergency response and notification procedures.

J. The permitted hauler must keep a DAILY record of the oil and gas waste hauling operations of each approved vehicle. The daily record, signed and dated by the vehicle driver, must be kept open for Commission inspection and must contain the following information:

1. Identity of the property from which the oil and gas waste is hauled (operator name, lease name and number or other facility name or number, and county);
2. Type and volume of oil and gas waste received by the hauler at the property where it was generated;
3. Identity of the disposal system to which the oil and gas waste is delivered (operator name, lease name and number or system name, well number or system permit number, and county); and
4. Type and volume of oil and gas waste transported and delivered to the disposal system.

K. This permit is not transferable without the consent of the Commission.

L. This permit expires on 5/31/2009. This permit, unless suspended or revoked for cause shown, will remain valid until the expiration date.

SAUNDRA MANIN
RRC Contact

For **Director of Environmental Services**

4/24/2008
Date of Permit Issuance

(512) 463- 6818

EPAHO119001100

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
Environmental Services
P.O. Box 12967
Austin, Texas 78711-2967

APPLICATION FOR OIL AND GAS WASTE HAULER'S PERMIT

WH-1
Rev. 4/94

V4

TYPE OR PRINT USING BLACK OR DARK BLUE INK

READ INSTRUCTIONS BELOW

P-5 Ur:ve Jaf 4 SB631 OL 5 4-24-08

1. Hauler name and address exactly as shown on P-5 organization report, including city, state, and zip code.

1037210

CES ENVIRONMENTAL SERVICES, INC.
4904 GRIGGS ROAD
HOUSTON, TX 77021

2. Hauler's P-5 organization no.

142087

3. Purpose of filing ☐ Initial permit application
☐ Amendment of permit no. _____
☒ Annual Renewal of permit no. 3998

4. Number designation of all Railroad Commission districts where the hauler will pick up, transport or dispose of wastes.

01 02 03 04 05 06 7B 7C 08
8A 09 10

5. Number designation of all Railroad Commission districts with yards where hauler vehicles are housed.

03

CERTIFICATION. I certify that I am authorized to make this application, that this application was prepared by me or under my supervision and direction, and that the data and facts stated herein are true, correct, and complete to the best of my knowledge. If the above-named hauler is a corporation, I further certify that it is either subject to and not delinquent on the State of Texas Franchise Tax or exempt from or not subject to the tax.

Signature [signature] Name (type or print) PRABHAKAR R. THANGUDU

Title HSE Manager Phone (713) 676-1460 Date 4-17-2008

INSTRUCTIONS

Form WH-1: Application for Oil and Gas Waste Hauler's Permit
Reference: Statewide Rule 8(f)

WHO MUST FILE

A person who transports oil and gas waste for hire by any method other than by pipeline off a lease, unit, or other oil gas property for disposal as required by Statewide Rule 8(f).

NOTE: A person may haul oil and gas waste for use in connection with drilling or servicing an oil or gas well without obtaining an oil and gas waste hauler permit.

PERMIT APPLICATION FEE

A non-refundable fee of $100 must be filed with each application for issuance, renewal, or material amendment of an oil and gas waste hauler permit. The check or money order should be made payable to "Treasurer, State of Texas." The following are not considered to be material amendments of an existing permit: addition or deletion of vehicles on the WH-2 and addition or deletion of an approved disposal/injection system on a WH-3.

INITIAL PERMIT APPLICATION

1. File a Form P-5, Organization Report, along with appropriate financial security with the Commission in Austin.
2. File an original of each of the following forms with the Commission's Director of Environmental Services in Austin as soon as you have received your P-5 organization number:
   - Form WH-1: Application for Oil and Gas Waste Hauler's Permit.
   - Form WH-2: Oil and Gas Waste Hauler's List of Vehicles.
   - Form WH-3: Oil and Gas Waste Hauler's Authority to Use an Approved Disposal/Injection System.

See General Instructions below.

RECEIVED
RRC OF TEXAS
APR 22 2008
O&G
AUSTIN TX

RENEWAL PROCEDURES

The Commission's Austin office will mail a renewal notice to you approximately 60 days before your permit expires. The notice will include a pre-printed Form WH-1, preliminary lists of approved vehicles and approved disposal/injection system, and instructions on the renewal process. See General Instruction below.

GENERAL INSTRUCTIONS

1. When the completed application is approved, the original Form WH-1 will be returned to you and will serve as your permit. At the same time, you will receive Permit Attachment A (Waste Hauler Vehicle Identification) and Permit attachment B (Approved Disposal/Injection Systems). Each vehicle must carry a copy of the permit including those parts of the Commission-issued attactments listing approved vehicles and Commission-permitted disposal systems that are relevant to the vehicle's activities.

2. You must file a Form WH-3 with the Commission in Austin before using any system that is not shown on your current Permit Attachment B (Approved Disposal/Injection Systems). After the Form WH-3 is approved, you will be sent a revised Permit Attachment B with that system included.

FRANCHISE TAX CERTIFICATION: House Bill 175 (70th Legislature) states that a corporation may but be granted a permit unless it is current on Franchise Tax payment or is exempt from or not subject to the tax. A false certification will result in permit revocation.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION - UIC
P.O. BOX 12967
AUSTIN, TX 78711-2967

OIL AND GAS WASTE HAULER
VEHICLE IDENTIFICATION

PERMIT ATTACHMENT A

Hauler Name	Permit Number	Expiration Date	Number of Vehicles
CES ENVIRONMENTAL SERVICES, INC.	3998	05/31/2009	23

Make / Model /Yr	Serial No.	Cap. / Unit	License	Inspected
PIONEER /TANKER / 1	1P9TF432311260295	170 / BBLS	39282Y	
FRELL /TANKER /86	1F9AD52BXGA009017	170 / BBLS	07599Z	
POLAR /TANKER /99	1PMS34227X1021742	170 / BBLS	W38729	
HEIL /TANKER /80	H38123	170 / BBLS	98235Y	
KARI-KOOL /TANKER /78	CTK7167	170 / BBLS	X47531	
TRAIL MAST/TANKER /72	72117	170 / BBLS	19954Y	
STE /VAC TRLR /87	1S9T24229H0017285	170 / BBLS	W19915	
FREUHAUF /TT /76	UNX547009	170 / BBLS	W19902	
ACROTANK /VAC TRLR /87	1A9114223H1005002	170 / BBLS	W19903	
ACROTANK /VAC TRLR /87	1A9114226H1005060	170 / BBLS	W19905	
HEIL /TANK TRLR/81	1HLJ1D7B8B9E38396	170 / BBLS	87243Z	
HEIL /TANK TRLR/82	1HLR1D7B5C9E38571	170 / BBLS	52194Y	
KARI-KOOL /TANKER /87	141ST4328G1008888	170 / BBLS	W19945	
FRUEHAUF /TANKER /87	1H4R04426HK002821	170 / BBLS	W19940	
FWF /VAC TANK / 5	1F918138651062012	170 / BBLS	W38546	
FRUEHAUF /VAC TRLR / 6	1F918138561062035	170 / BBLS	W93037	
SUNSHINE /TANK TRLR/88	1S9T00009J1129208	170 / BBLS	W38689	
SUNSHINE /TANK TRLR/88	1S9T00008J1129054	170 / BBLS	W38686	
FRUEHAUF /TANK TRLR/84	1H4T0442XEK009301	170 / BBLS	W38669	
BAR-BEL /VAC TRLR /84	4BUBEE1B5SB955192	170 / BBLS	X12912	
POLAR /TANKER /89	1PMA34228K1010107	170 / BBLS	W38894	
POLAR /TRAILER /89	1PMA3422K1010104	170 / BBLS	W38688	
POLAR /TRAILER /89	1PMA34221K1010109	170 / BBLS	W38687	

A COPY OF THE PART OF THIS LISTING RELEVANT TO THAT VEHICLES ACTIVITIES MUST BE CARRIED IN EACH VEHICLE SUBJECT TO THIS PERMIT

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION - UIC
P.O. BOX 12967
AUSTIN, TX 78711-2967

OIL AND GAS WASTE HAULER
APPROVED DISPOSAL/INJECTION SYSTEMS

PERMIT ATTACHMENT B

Hauler Name	Permit Number	Permit Date	Expiration Date	District Number
CES ENVIRONMENTAL SERVICES, INC.	3998	04/24/2008	05/31/2009	03

System Operator Name / Lease Name	RRC ID	Well	County	Disposal	Project
LASES COMPANY, INC.					
FOLLMER SWD	24952	5	JEFFERSON	14-12417	
HANKAMER-MCLEAN	078626	1	JEFFERSON	14-11022	
VAN TIL	08971	2	JEFFERSON	14-11083	
NEWPARK ENVIRONMENTAL SVCS LLC					
TEXAS EXPLORATION COMPANY "A"	22308	1	JEFFERSON	14-10110	
TEXAS EXPLORATION COMPANY	21948	1	JEFFERSON	W14-9808	
TEXAS EXPLORATION COMPANY	21948	2	JEFFERSON	W14-9852	
TEXAS EXPLORATION COMPANY	21948	4	JEFFERSON	14-10735	
TEXAS EXPLORATION COMPANY	21948	5	JEFFERSON	14-10512	
TEXAS EXPLORATION COMPANY	21948	6	JEFFERSON	14-10628	
TEXAS EXPLORATION COMPANY	21948	7	JEFFERSON	14-10779	
TEXAS EXPLORATION COMPANY	21948	8	JEFFERSON	14-11673	
NES TRINITY TEC	11306	1SW	JEFFERSON	14-10331	
NES TRINITY TEC	11306	7	JEFFERSON	W14-9291	
NES TRINITY TEC	11306	14	JEFFERSON	W14-7488	
CHESSHER	22868	1	JEFFERSON	14-10432	
CHESSHER	22868	3	JEFFERSON	14-10644	
CHESSHER	22868	4	JEFFERSON	14-10934	
CHESSHER	22868	5	JEFFERSON	14-10935	
CHESSHER	22868	6	JEFFERSON	14-10933	
CHESSHER	22868	7	JEFFERSON	14-11186	
CHESSHER	22868	9	JEFFERSON	14-11674	
CHESSHER	22868	10	JEFFERSON	14-11727	
CHESSHER	22868	12	JEFFERSON	14-12138	

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RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION - UIC
P.O. BOX 12967
AUSTIN, TX 78711-2967

OIL AND GAS WASTE HAULER
APPROVED DISPOSAL/INJECTIION SYSTEMS

PERMIT ATTACHMENT B
(Facility)

Hauler Name	Permit Number	Permit Date	Expiration Date	District Number
CES ENVIRONMENTAL SERVICES, INC.	3998	04/24/2008	05/31/2009	03

System Operator Name Facility Name	Dist.	County	Permit No	Expires
NEWPARK ENVIRONMENTAL SVCS LLC				
PORT ARTHUR TREATMENT FACILITY	03	JEFFERSON	STF- 1	
PORT ARTHUR TREATMENT FACILITY	03	JEFFERSON	P- 9890	
PORT ARTHUR TREATMENT FACILITY	03	JEFFERSON	P- 9891	
PORT ARTHUR TREATMENT FACILITY	04	SAN PATRICIO	P- 10108	
PORT ARTHUR TREATMENT FACILITY	03	JEFFERSON	P- 10789	
PORT ARTHUR TREATMENT FACILITY	03	JEFFERSON	P- 10792	

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SAFETY BULLETIN

NOTICE TO WASTE HAULERS AND OPERATORS OF DISPOSAL AND PRODUCING WELLS

Fatal Accident at Waste Disposal Facility Highlights Potential Flammability of Basic Sediment Waste From Gas Leases

INCIDENT

In January of 2003, a flash fire killed three and seriously burned four workers at a commercial oil and gas waste disposal facility. The U. S. Chemical Safety and Hazard Investigation Board (CSB) (website at www.chemsafety.gov) investigated the accident and concluded that neither the waste generator nor the waste hauler recognized the potential flammability hazard of oil and gas waste. The accident involved two vehicles operated by employees of an authorized oil and gas waste hauler who were transporting basic sediment and water (BS&W) in 50-barrel vacuum trucks from gas leases to an authorized commercial disposal facility. Apparently the BS&W contained a significant amount of gas well condensate. The drivers discharged wastes by opening the drain valves at the rear of the vacuum trucks allowing the BS&W to drain into a concrete pit. This method of drainage released sufficient hydrocarbon vapors to form a combustible mixture in air. The drivers left the engines of the vacuum trucks running and the CSB concluded that intake of flammable vapors caused the diesel engine to initially race and then backfire, igniting the vapor cloud to cause the flash fire.

REGULATORY RESPONSIBILITY

The Railroad Commission is providing this notice to waste haulers and operators of disposal and producing wells to remind them of the importance of educating their employees about the potential hazards of oil and gas wastes. The U. S. Department of Transportation hazardous materials regulations apply to (a) each person who offers hazardous materials for transportation, and (b) each carrier who transports a hazardous material. The Railroad Commission advises all authorized waste haulers of their responsibility to determine the hazards of any oil and gas waste that they accept for transport and to comply with applicable regulations regarding worker safety and safe transportation of materials. Where appropriate, operators may need to provide multilingual notice to employers and contractors. U. S. Department of Transportation (DOT) regulations govern the transportation of hazardous materials and, in Texas, the Department of Public Safety (DPS) administers and enforces those regulations. In addition, all employers must comply with appropriate Federal Occupational Safety and Health Administration (OSHA) safety regulations. Appropriate methods of identifying potential hazards may include placarding for transported materials (DOT/DPS regulations) and material safety data sheets (MSDS) for chemical constituents (OSHA regulations).

RESOURCES

Information regarding hazardous material transportation and communication may be found at the following sites:

http://www.fmcsa.dot.gov/safetyprogs/hm/complyhmregs.htm
"How to Comply with Federal Hazardous Materials Regulations," Federal Motor Carrier Safety Administration, U.S. Department of Transportation
http://hazmat.dot.gov/
http://www.txdps.state.tx.us
http://www.txdps.state.tx.us/lw/Publications/hazmat.pdf
"Do you transport hazardous materials?" U.S. Department of Transportation
http://www.osha-slc.gov/SLTC/hazardcommunications/
"Safety and Health Topics: Hazard Communications," Occupational Safety and Health Administration, Department of Labor
http://www.osha-slc.gov/SLTC/etools/oilandgas/
"Oil and Gas Well Drilling and Servicing e-Tool—Explore the Potential Hazards of this Industry," Occupational Safety and Health Administration, Department of Labor

Austin, Texas May 2004

EPAHO119001105

MICHAEL L. WILLIAMS, CHAIRMAN
VICTOR G. CARRILLO, COMMISSIONER
ELIZABETH A. JONES, COMMISSIONER

TOMMIE SEITZ
DIRECTOR, OIL AND GAS DIVISION
JOHN JAMES TINTERA P.G.
ASSISTANT DIRECTOR TECHNICAL PERMITTING

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

April 4, 2008

455-23

CES ENVIROMENTAL SERVICES, INC.
4904 GRIGGS ROAD
HOUSTON TX 77021

RE: Renewal of Waste Hauler's Permit No.3998
Expiration date: 05/31/2008

Your Oil & Gas Waste Hauler's Permit expires on the referenced date. You must apply for an Oil and Gas Waste Hauler's permit before the expiration date in accordance with Statewide Rule 8 (f) as amended January 28, 1992. The procedures for applying for an Oil and Gas Waste Hauler's Permit are outlined below.

1. A FORM WH-1 (APPLICATION FOR OIL AND GAS WASTE HAULER'S PERMIT) is enclosed. Please review the form carefully and complete it.

2. A FORM WH-2 (OIL AND GAS WASTE HAULER'S LIST OF VEHICLES) is enclosed. Please complete the information requested on this form and sign each page in the space indicated at the bottom of the form.

3. A list of disposal systems that you are already authorized to use is enclosed. Please review this list carefully. Draw a line through any system you no longer use. Complete new Form(s) WH-3 (discussed below) for any new oil and gas waste disposal/injection system(s) you wish to have us add to the list.

4. A FORM WH-3 (OIL AND GAS WASTE HAULER'S AUTHORITY TO USE APPROVED DISPOSAL/INJECTION SYSTEM) is enclosed. Please use this form if you wish to use any new oil and gas waste disposal/injection systems.

5. Enclose a NON-refundable $100 PERMIT APPLICATION FEE with your application. Please make checks payable to: RAILROAD COMMISSION OF TEXAS.

6. File your completed application with the Director of Environmental Services in Austin. Please make sure your application consists of the following items:
   a. completed and signed Form WH-1;
   b. completed and signed Form(s) WH-2;
   c. a copy of the corrected list of approved disposal/injection systems;

EPAHO119001106

d. Form(s) WH-3 for any new disposal/injection systems(s) you wish to add; and
e. a $100 permit application fee.

Please note that you no longer file any paper with the Commission's district offices, nor are you required to call the district offices to set up an inspection of your vehicles. Vehicle inspections will be scheduled by the appropriate district office(s) as needed.

Please contact Saundra Manin at (512) 463-6818 if you have any questions or need additional forms.

Enclosures

RRC – HOUSTON / 03

MICHAEL L. WILLIAMS, CHAIRMAN
VICTOR G. CARRILLO, COMMISSIONER
ELIZABETH A. JONES, COMMISSIONER

TOMMIE SEITZ
DIRECTOR, OIL AND GAS DIVISION
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5. Enclose a NON-refundable $100 PERMIT APPLICATION FEE with your application. Please make checks payable to: RAILROAD COMMISSION OF TEXAS.

6. File your completed application with the Director of Environmental Services in Austin. Please make sure your application consists of the following items:
   a. completed and signed Form WH-1;
   b. completed and signed Form(s) WH-2;
   c. a copy of the corrected list of approved disposal/injection systems;

EPAHO119001108

d. Form(s) WH-3 for any new disposal/injection systems(s) you wish to add; and
e. a $100 permit application fee.

Please note that you no longer file any paper with the Commission's district offices, nor are you required to call the district offices to set up an inspection of your vehicles. Vehicle inspections will be scheduled by the appropriate district office(s) as needed.

Please contact Saundra Manin at (512) 463-6818 if you have any questions or need additional forms.

Enclosures

RRC – HOUSTON / 03

8-5-09
8-4 (3)

2007 CES Drum Log

EPAHO119001111

01/5/09
LG
0-4(4)

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 47-07		BA93	55		AR	Diesel For Cleaning VAT		0021608314	Manifest No. [illegible]
Start Date 6/4/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/4/07									Transporter, City & State
Date Shipped 7/11/07									CES Houston TV
Date Accepted 7/11/07									Disposal Facility, City & State
Date Rejected __/__/__									PCI
No. 48-07		BA93	20		AR	Diesel From Cleaning VAT		0021608314	Manifest No. [illegible]
Start Date 6/4/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/4/07									Transporter, City & State
Date Shipped 7/11/07									CES Houston TV
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									PCI
No. 49-07		BA93	55		AR	Diesel From Cleaning VAT		0021609314	Manifest No. [illegible]
Start Date 6/11/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/11/07									Transporter, City & State
Date Shipped 7/11/07									CES Houston TV
Date Accepted 7/11/07									Disposal Facility, City & State
Date Rejected __/__/__									PCI

Facility Manager Signature: _____

Date: _____

EPAHO119001113

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 07-07	13118	226	50		AR	~~XYLENE~~	1993	D001	Manifest No. 002162815JJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State D001 CES Houston TX
Date Shipped 1/9/07									
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									PCI
No. 08-07	13118	226	50		AR	~~XYLENE~~ XYLENE	1993	D001	Manifest No. 002162815JJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State D001 CES
Date Shipped 1/9/07									
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									PCI
No. 09-07	13153	215	50			CUTTERSTOCK	1993	D001	Manifest No. 002162815JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/8/07									Disposal Facility, City & State
Date Rejected __/__/__									PCI

Facility Manager Signature: _____

Date: _____

EPAHO119001114

CES Tankwash

Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 04-07	13118	226	50		AR	~~XYLENE~~	1993	D001	Manifest No. 002168815 JJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/9/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 05-07	13118	226	50		AR	~~XYLENE~~	1993	D001	Manifest No. 002168815 JJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/9/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 06-07	13118	226	50		AR	~~XYLENE~~	1993	D001	Manifest No. 002168815 JJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/9/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001115

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 12-07	13153	215	50			Cutter Stock	1992	D007	Manifest No. 002162815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/8/07									Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 13-07	13153	215	50			Cutter Stock	1992	D001	Manifest No. 002162815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted __/__/__									Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 14-07	13153	215	50			Cutter stock	1992	D001	Manifest No. 002162815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston
Date Shipped 1/8/07									
Date Accepted __/__/__									Disposal Facility, City & State PCI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001116

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 10-07	13153	215	50			Cutter Stock	1992	D001	Manifest No. 002162815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/8/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 11-07	13153	215	50			Cutter Stock	1992	D001	Manifest No. 002162815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/8/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 12-07	13153	215	50			Cutterstock	1992	D001	Manifest No. 00216 7815
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/8/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001117

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 01-07	13118	726	50		AR	XYLENE			Manifest No. 00216281SJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/03/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/12/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 02-07	13118	726	50		AR	XYLENE			Manifest No. 00216281SJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted 1/9/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 03-07	13118	726	50		AR	XYLENE			Manifest No. 00216281SJK
Start Date 1/3/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/3/07									Transporter, City & State CES Houston TX
Date Shipped 1/6/07									
Date Accepted 1/8/07									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001118

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 71-07			55		JP	Sludge			Manifest No. 00215890 4JJK
Start Date 11/08/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/08/07	TW					From			Transporter, City & State CES Houston TX
Date Shipped 11/21/07									
Date Accepted 11/21/07						Diesel			Disposal Facility, City & State PCI
Date Rejected __/__/__						VAY			
No. 72-07	16148	22246	25		CP	Crude oil			Manifest No. 00215890 4JJK
	18636	54237460m	25		CP	Crude oil Flush			
Start Date 11/12/07	16279	23254	15		CP	Crude oil Flus			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/19/07									Transporter, City & State CES Houst. Enviro TX
Date Shipped 11/21/07									
Date Accepted 11/21/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. 73-07	18628	separtue	55		JP	oily / sludge			Manifest No. 00411572
Start Date 12/30/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 12/30/07									Transporter, City & State CES Houston TX
Date Shipped 12/30/07									
Date Accepted 12/30/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									

Facility Manager Signature:

Date:

EPAHO119001119

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 68-07	16021	27170	40		JP	1st Flush Crude oil			Manifest No. 002158904 JSK
~~[illegible]~~	~~17052~~	~~243~~	~~110 gal~~		~~BB~~	~~Crude oil~~			
Start Date 11/09/07	~~16160~~	~~241~~	~~110 gal~~		~~BB~~	~~Red Resin~~			Rec'd Manifest From TSD Yes or No (circle one)
	~~10052~~	~~243~~	~~110 gal~~		~~BB~~	~~Mud~~			
Filled Date 11/15/07	18629	1147	20		JP	Crude oil Flush			Transporter, City & State CES Houston - TX
Date Shipped 11/21/07									
Date Accepted 11/21/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. 69-07									Manifest No. 002158905 JSK
Start Date 11/08/07	TW				JP	Sludge			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/08/07						From			Transporter, City & State CES Houston TX
Date Shipped 11/21/07									
Date Accepted 11/21/07						Diesel			Disposal Facility, City & State PCI
Date Rejected __/__/__						VAT			
No. 70-07									Manifest No. 002158905 JSK
Start Date 11/08/07	TW				JP	Sludge			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/08/07						From			Transporter, City & State CES Houston TX
Date Shipped 11/21/07						Diesel			
Date Accepted 11/21/07									Disposal Facility, City & State PCI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001120

CES Tankwash

Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 15-07	13153	215	50			Cutter Stock	1993	D001	Manifest No. 002162815 JJK
Start Date 1/15/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/15/07									Transporter, City & State CES Houston TX
Date Shipped 1/18/07									
Date Accepted 1/18/07									Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 16-07	13153	215	50			Cutter Stock	1993	D001	Manifest No. 002162815 JJK
Start Date 1/15/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/15/07									Transporter, City & State CES Houston TX
Date Shipped 1/18/07									
Date Accepted 1/18/07									Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 17-07	13153	215	50			cutter stock	1993	D001	Manifest No. 002162815 JJK
Start Date 1/15/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/15/07									Transporter, City & State CES Houston TX
Date Shipped 1/18/07									
Date Accepted 1/19/07									Disposal Facility, City & State PCI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001121

CE_ Tankwash

Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 18-07	13153	215	50			Cutter Stock		D001	Manifest No. 00216 2815 JJK
Start Date 1/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 19-07	13153	215	50			Cutter Stock		D001	Manifest No. 00216 2815 JJK
Start Date 1/5/07						[redacted]			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 20-07	13153	215	50			Cutter Stock		D001	Manifest No. 00216 2815 JJK
Start Date 1/5/07						[redacted]			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 1/5/07									Transporter, City & State CES Houston TX
Date Shipped 1/8/07									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001122

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 24-07	13568	FUP202	50			Crude oil			Manifest No. 00216243855K
Start Date 2/10/06						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/10/06						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 25-07	13568	FUP202	50			Crude oil			Manifest No. 00216243855K
Start Date 2/10/06						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/10/06						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 26-07	13623	1256	55			Crude Oil			Manifest No. 00216243855K
Start Date 2/12/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/12/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001123

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 27-07	13623	1256 SD	55			Crude Oil			Manifest No. 002Le24385JK
Start Date 2/12/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/12/07									Transporter, City & State CES Houston TX
Date Shipped 2/26/07						2-15-07			
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 28-07	13623	1256 SD	55			Crude Oil			Manifest No. 002Le2438 55K
Start Date 2/12/07						Trans into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/12/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 29-07	13580	240NSD	55			Crude oil			Manifest No. 002Le24385SK
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001124

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 30-07	13580	240NSD	55			Crude oil			Manifest No. 00216243855K
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 31-07	13580	240NSD	55			Crude oil			Manifest No. 00216243855K
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 32-07	13580	240NSD	55			Crude oil			Manifest No. 00216243855K
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07						2-15-07			Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature:

Date:

EPAHO119001125

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 33-07	13580	240NSD	55			Crude oil			Manifest No. 002166243855JK
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07									Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 34-07	13580	240NSD	55			Crude oil			Manifest No. 002166243855JK
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07									Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 35-07	13580	240NSD	55			Crude oil			Manifest No. 002166243855JK
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07									Transporter, City & State CES Houston TX
Date Shipped 2/26/07									
Date Accepted 2/26/07									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001126

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 50-07	15434	11620	55		SP	HMDI			Manifest No. 2167738
Start Date 6/30/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/30/07									Transporter, City & State CES Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State US Ecology Robstown TX
Date Rejected __/__/__									
No. 51-07	15434	11620	55		JP	HMDI			Manifest No. 002167738
Start Date 6/30/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/30/07									Transporter, City & State CES Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State US Ecology Robstown TX
Date Rejected __/__/__									
No. 52-07		Diesel VAT	55		JP	Cleaning Of Diesel VAT			Manifest No. 002168314
Start Date 7/25/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/25/07									Transporter, City & State CES Houston TX
Date Shipped 7/25/07									
Date Accepted 7/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001127

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 53-07		Diesel VAT	55		JP	Clean Out Diesel VAT			Manifest No. 002168314
Start Date 7/25/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/25/07									Transporter, City & State CES Houston TX
Date Shipped 8/15/07									Disposal Facility, City & State CES Houston TX
Date Accepted 8/15/07									
Date Rejected __/__/__									
✓ No. 54-07		Diesel VAT	55		JP	Clean out Diesel VAT			Manifest No. 002168314
Start Date 7/25/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 8/15/07									Transporter, City & State CES Houston TX
Date Shipped 8/15/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									
✓ No. 55-07		Diesel VAT	55		J.P.	Clean Diesel VAT			Manifest No. 002168314
Start Date 7/30/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/30/07									Transporter, City & State CES Houston
Date Shipped 8/15/07									Disposal Facility, City & State PLI
Date Accepted 8/15/07									
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001128

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 165-07									Manifest No. 00215993 1
Start Date 9/27/07		STRAW				ROSIN			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 9/27/07									Transporter, City & State CES Houston TX
Date Shipped 11/12/07		BASKET							
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 166-07		STRAW							Manifest No. 00215993 1
Start Date 9/27/07						ROSIN			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 9/27/07		BASKET							Transporter, City & State CES Houston TX
Date Shipped 11/12/07									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 67-07	15930	80[illegible]3584 20			JP	ROSIN			Manifest No. 00215993 1
Start Date 10/12/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 10/01/07									Transporter, City & State CES Houston TX
Date Shipped 11/12/07									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

281 727-5461

EPAHO119001129

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 62-07	15845	LR101	20		JP	CRUDE OIL TANK	UN3267		Manifest No. 002158904 5JK
	15535	~~LR101~~ T354	55		JP	WASTE SLUDGE			
Start Date 10/2/07						/			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/15/07									Transporter, City & State CES Houston TX
Date Shipped 11/20/07									
Date Accepted 11/21/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. 63-07			55						Manifest No. 00215993 1
Start Date 9/27/07						RESIN			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 9/27/07	5 TOTAL BASKETS					277			Transporter, City & State CES Houston TX
Date Shipped 11/01/07									
Date Accepted 11/1/07									Disposal Facility, City & State RCT
Date Rejected __/__/__									
No. 64-07			55						Manifest No. 00215993 1
Start Date 9/27/07	5 TOTAL BASKETS					RESIN 277			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 9/27/07									Transporter, City & State CES Houston TX
Date Shipped 11/01/07									
Date Accepted 11/1/07									Disposal Facility, City & State RCT
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001130

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 74-07	19628	Sep	225		SP	Oily Sludge			Manifest No. 004011572
Start Date 11/30/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 11/30/07									Transporter, City & State CES Houston TX
Date Shipped 12/20/07									
Date Accepted 12/20/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. 08-06									Manifest No.
Start Date __/__/__									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date __/__/__									Transporter, City & State
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									
No.									Manifest No.
Start Date __/__/__									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date __/__/__									Transporter, City & State
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001131

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. ~~59-07~~	16646	T-12	40			Toulene			Manifest No. 002168314
Start Date 8/03/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 8/03/07									Transporter, City & State CES Envir. Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
60-07 No. ~~[illegible]~~	STRAINER BASKETS		30 25		Cody SP	Toluene & Resin			Manifest No. 002168314
Start Date 8/7/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 8/18/07									Transporter, City & State CES Envir. Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State PLI
Date Rejected __/__/__									
No. 60-07	STRAINER BASKETS		25		Cody	Toluene & Resin	Added To 60-07		Manifest No. ~~002168314~~
Start Date 8/7/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date __/__/__									Transporter, City & State
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature:

Date:

CL Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 56-07			55		SP	Diesel/VAT			Manifest No. 002168314
Start Date 7/30/07		Diesel/VAT							Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/30/07									Transporter, City & State CES Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__	Diesel/VAT								Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 57-07	16543	T-653	55		S.P.	Resin			Manifest No. 002168314
Start Date 7/25/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/25/07									Transporter, City & State CES Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State PCI
Date Rejected __/__/__									
No. 58-07	16543	T653	55		SP	Resin			Manifest No. 002168314
Start Date 7/25/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 7/25/07									Transporter, City & State CES Houston TX
Date Shipped __/__/__									
Date Accepted __/__/__									Disposal Facility, City & State PCI
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001133

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 42-07	14314	LT-736	55		JP	Fuel oil			Manifest No. 002166086
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 04/19/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									
No. 43-07	14314	LT-736	55		JP	Fuel oil			Manifest No. 002166084
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 05/17/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									
No. 44-07	14314	LT-736	30		JP	Fuel oil			Manifest No. 002166086
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 05/17/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001134

CES Tankwash

Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 39-07	14314	LT-736	55		JP	Fuel Oil			Manifest No. 002166086
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 5/17/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									
No. 40-07	14314	LT-736	55		JP	Fuel Oil			Manifest No. 002166086
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 5/17/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									
No. 41-07	14314	LT-736	55		JP	Fuel Oil			Manifest No. 002166086
Start Date 4/13/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 4/13/07									Transporter, City & State CES Houston TX
Date Shipped 5/17/07									Disposal Facility, City & State PLI
Date Accepted __/__/__									
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO119001135

CES Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 45-07	19745	88569	55		JP	CRUDE OIL	1267		Manifest No. 002166432
Start Date 5/5/07				FULL					Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 5/5/07									Transporter, City & State CES Houston TX
Date Shipped 5/5/07									
Date Accepted 5/31/07									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. 46-07	19745	88569	25		JP	CRUDE OIL			Manifest No. 002166432
	14868	60152	30		JP	CRUDE OIL 0.1			
Start Date 5/5/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 5/14/07				FULL					Transporter, City & State CES Houston TX
Date Shipped 5/21/07									
Date Accepted __/__/__									Disposal Facility, City & State US Ecology
Date Rejected __/__/__									
No. [illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			Manifest No.
Start Date [illegible]									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 6/4/07									Transporter, City & State
Date Shipped __/__/__									
Date Accepted __/__/__				Void					Disposal Facility, City & State
Date Rejected __/__/__									

Facility Manager Signature: _____

Date: _____

EPAHO1190011136

CE Tankwash
Waste Drum Inventory Form

Drum	Work Order No.	Trailer Number	Qty. Gals.	Commod Code	Handled By	Detailed Chemical Name	Dot Shipping (HC, UN/NA #, PG)	Hazardous Waste Code	Disposal Information
No. 36-07	13580	240NSD	55			Crude oil			Manifest No. 00216243955K
Start Date 2/13/07						Trans. into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/13/07						2-15-07			Transporter, City & State
Date Shipped 2/20/07									CES Houston TX
Date Accepted 2/21/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 37-07	13699	59163	55			Crude oil			Manifest No. 00216243855JK
Start Date 2/13/07						Trans into Box 607			Rec'd Manifest From TSD Yes or No (circle one)
Filled Date 2/15/07									Transporter, City & State
Date Shipped 2/20/07									CES Houston TX
Date Accepted 2/21/07									Disposal Facility, City & State
Date Rejected __/__/__									
No. 38-07						stipper FROM USE			Manifest No. 00216705 1
Start Date 3/29/07									Rec'd Manifest From TSD Yes or No (circle one)
Filled Date __/__/__									Transporter, City & State
Date Shipped 4/16/07									CES Houston TX
Date Accepted __/__/__									Disposal Facility, City & State
Date Rejected __/__/__									TLI

Facility Manager Signature: _____

Date: _____

EPAHO119001137

TCEQ Exit Interview
12-9-08

EPAHO119001138

Regional Director:
Donna Phillips
713-767-3659

DONNA G. PHILLIPS
Regional Director
Field Operations Division

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Street, Suite H, Houston, TX 77023-1423
Direct: 713/767-3659 ■ Office: 713/767-3500
Fax: 713/767-3534
dophilli@tceq.state.tx.us

printed on recycled paper

RAMA YADAV, PH.D., P.E., P.G.
Program Coordinator
Waste Program

Region 12 ■ Houston, Texas

Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H, Houston, TX 77023
Direct 713/767-3636 ■ Office 713/767-3600
Fax 713/767-3646
ryadav@tceq.state.tx.us

printed on recycled paper

SHARAREH RAFATI
Environmental Investigator
Air Section

Region 12 ■ Houston, Texas

Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H, Houston, TX 77023-1423
Direct 713/767-3604 ■ Office 713/767-3700
Fax 713/767-3520
srafati@tceq.state.tx.us

printed on recycled paper

BARBARA JOHNSTON
Environmental Investigator
Waste Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Street, Suite H, Houston, TX 77023-1423
Direct: 713/767-3600 ■ Office: 713/767-3756
Fax: 713/767-3646
bjohnsto@tceq.state.tx.us

printed on recycled paper

GARY FOGARTY
Environmental Investigator
Water Section

Region 12 ■ Houston

Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H, Houston, TX 77023-1486
Direct: 713/767-3654 ■ Office: 713/767-3650
Fax: 713/767-3691
gfogarty@tceq.state.tx.us

printed on recycled paper

8/5/09
KS
0-4 (5)

November 10, 2008

To: Firebird Bulk Carriers

From: CES Environmental Services

I, Brian WARD, picked up 3 drums from Tank Trailer 300 with the last contained "fuel oil" that was here at CES since 10/20/08.

Thank you,

Driver: Brian WARD

Witness: [signature]

Time: 10 22

Date of Pickup: 11/10/08

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.			**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/IHW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

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Issue		**For Records Request, identify the necessary records, the company contact and date due to the agency. For Alleged and Potential Violation issues, include the rule in question with the clearly described potential problem. Other type of issues: fully describe.**	
No.	**Type[1]**	**Rule Citation (if known)**	**Description of Issue**
	AV	30 TAC 335.6	Failure to notify: Correct waste stream information to indicate which waste streams are currently active and inactive. Ensure that waste streams
			include the correct EPA HW Numbers and indicated whether wastes are managed on site, off site, or both. Update waste management
			unit information to specify inactive units, and include all waste management units including tanks, sumps and containers. In addition, correct the
			regulatory status column of the units, and specify all wastes managed in each unit.
	AV	30 TAC 335.(a)(3)/40 CFR 262.34 (a)(2)&(3)	Failure to mark and label containers. The containers in NOR #105, a "less than 90-day" storage area for hazardous wastes, were not labeled with the words "Hazardous Waste" or marked with an accumulation start date.
	RR	40 CFR 264.1(g)(6)/PP IV.B.2	Provide an explanation of how the "frac tanks" are used for wastewater destined for on-site treatment and discharge to the City of Houston POTW.

Note 1: Issue Type Can Be One or More of: AV (Alleged Violation), PV (Potential Violation), O (Other), or RR (Records Request)

Did the TCEQ document the regulated entity named above operating without proper authorization?	❑ Yes X❑ No
Did the investigator advise the regulated entity representative that continued operation is not authorized?	❑ Yes X❑ No

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity; therefore, signature not required.

Barbara E. Johnston	12/11/08		
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001142

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.			**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/IHW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

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No.	**Type[1]**	**Rule Citation (if known)**	**Description of Issue**
	RR	Permit Provision IV.B.2	Provide clarification of which tank(s) discharge to the City of Houston POTW, and how CES is in compliance with this permit provision.
	RR	40 CFR 261.7(a) (1)	Submit standard operating procedures used to determining whether incoming tankers/containers destined for cleaning are empty, and the steps that follow if it is determined that the container does not meet the regulatory definition of empty. Also, provide information regarding waste determinations for the materials removed from the containers.
	RR	30 TAC 335.24	Provide detailed information regarding the glycol, methylene chloride, and mixed alcohols recycling processes, including information concerning the final use of the recycled materials.
	RR		Provide a list of all materials that CES claims to be recycling, and provide a detailed explanation of how CES has determined that these materials are not solid wastes.

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Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001143

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.				**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048	
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/IHW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

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Barbara E. Johnston	12/11/08	Prabhakar P Thangudu	12/15/08
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001144

109	POTW
110	POTW
111	POTW
112	POTW
113	POTW
114	POTW
115	POTW
116	POTW
117	POTW
118	POTW
119	POTW
120	POTW
121	POTW
122	POTW
129	POTW

Sample Point	Category	Tanks
2	A - metals	10, 12
3	B oils	4, 5, 6
4	C organics	7, 8, 9
5	main sample well	discharge line

---

11 sludge, filter press

1, 2, 3 inhouse

EPAHO119001146

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.				**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048	
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/IHW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

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✓	AV	30 TAC 335.(a)(3)/40 CFR 262.34 (a)(2)&(3)	Failure to mark and label containers. The containers in NOR #105, a "less than 90-day" storage area for hazardous wastes, were not labeled with the words "Hazardous Waste" or marked with an accumulation start date.
✓	RR	40 CFR 264.1(g)(6)/PP IV.B.2	Provide an explanation of how the "frac tanks" are used for wastewater destined for on-site treatment and discharge to the City of Houston POTW.

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Barbara E. Johnston	12/11/08	Prabhakar Thangudu / Prabhakar R. Thangudu	12/15/08
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001147

RR 40 CFR 264.1(g)(6) PP IV.B.2

Provide an explanation of how the "fractanks" are used for waste water destined for on-site treatment and discharge to the City of Hoston POTW

Per Waste Receipt Classification under 40 CFR 437 (copy attached), the incoming wastewater is classified under one of the three subcategories. (metals subcategory: subpart A; oils subcategory: Subpart B; Organics Subcategory: Subpart C). The "fractanks" are used for the temporary Storage of incoming wastewater before it is treated and discharged to City of Hoston POTW.

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.			**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/IHW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

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✓	RR	30 TAC 335.24	Provide detailed information regarding the glycol, methylene chloride, and mixed alcohols recycling processes, including information concerning the final use of the recycled materials.
	RR		Provide a list of all materials that CES claims to be recycling, and provide a detailed explanation of how CES has determined that these materials are not solid wastes.

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Barbara E. Johnston	12/11/08	Prabhakar Thangudu / Prabhakar P Thangudu	12/15/08
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001149

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.			**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/HW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmentai.com	**Date E-mailed:**	12/12/08

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	RR		Provide a list of all materials that CES claims to be recycling, and provide a detailed explanation of how CES has determined that these materials are not solid wastes.

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Barbara E. Johnston	12/11/08	Prabhakar Thangudu	12/15/08
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

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EPAHO119001150

Glycols, which are typically ethylene glycol, are tested for % purity and resold "as is" without further processing.

Methylene chloride typically is received as a mixture with methanol. These two are distilled and recovered to be sold as products.

Mixed alcohol streams are not processed but rather segregated and sold "as is".

Methylene chloride sold to
- PAR Technology
- Anchor Color
- Chem-Orph
- SoChem
- Hydrocarbon Resources

Mexed alcohol sold to
- Chem-Orph

Glycol sold to
- Sabre Processing
- Hutchinson & Hayes
- KMCO
- Skyhawk Chemicals
- Gulf Stream Tanker

EPAHO119001151

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.			**TCEQ Add. ID No. RN No (optional)**	RN100693282 TCEQ SWR No. 30900 ISW Permit No. 39048		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	ISW/HW CEI		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-675-1460	**Date Contacted**	11/05-07/08 12/9/08
Title	HSE Manager			**E-mail:**	pthangudu@cesenvironmental.com	**Date E-mailed:**	12/12/08

NOTICE: The information provided in this Note is intended to provide clarity to issues that have arisen to the date of this Note during the investigation process between the agency and the company and *does not represent agency findings related to violations.* Any potential or alleged violations discovered after the date of this Note will be communicated by telephone to the regulated entity representative prior to the issuance of a notice of violation or enforcement. Conclusions drawn from this investigation, including additional violations or potential violations discovered (if any) during the course of this investigation, will be documented in this investigation's final report.

Issue		**For Records Request, identify the necessary records, the company contact and date due to the agency. For Alleged and Potential Violation issues, include the rule in question with the clearly described potential problem. Other type of issues: fully describe.**	
No.	**Type[1]**	**Rule Citation (if known)**	**Description of Issue**
	RR	Permit Provision IV.B.2	Provide clarification of which tank(s) discharge to the City of Houston POTW, and how CES is in compliance with this permit provision.
	RR	40 CFR 264.7(a) (1)	Submit standard operating procedures used to determining whether incoming tankers/containers destined for cleaning are empty, and the steps that follow if it is determined that the container does not meet the regulatory definition of empty. Also, provide information regarding waste determinations for the materials removed from the containers.
	RR	30 TAC 335.24	Provide detailed information regarding the glycol, methylene chloride, and mixed alcohols recycling processes, including information concerning the final use of the recycled materials.
	RR		Provide a list of all materials that CES claims to be recycling, and provide a detailed explanation of how CES has determined that these materials are not solid wastes.

Note 1: Issue Type Can Be One or More of: AV (Alleged Violation), PV (Potential Violation), O (Other), or RR (Records Request)

Did the TCEQ document the regulated entity named above operating without proper authorization?	☐ Yes X☐ No
Did the investigator advise the regulated entity representative that continued operation is not authorized?	☐ Yes X☐ No

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity; therefore, signature not required.

Barbara E. Johnston	12/11/08	Prabhakar P Thangudu	12/15/08
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

If you have questions about any information on this form, please contact your local TCEQ Regional Office. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, call 512/239-3282.

EPAHO119001152

Subject: RE: Exit Interview

Thanks.

>>> Prabhaker Thangudu <pthangudu@cesenvironmental.com> 12/11/2008 7:31 AM >>>

Sharareh:

I sent what records I could gather when Barbara came. I am still working on item number 6 on exit interview form, page 1. One of the three boilers is a stationary boiler. One of the other two was acquired more recently. I am still doing the research and as soon as I have the information I will provide it you. If I cannot come up with the information by next Wednesday, I will inform you so. Please know that I will do everything possible to comply.

Regards,

Prabhakar

From: Sharareh Rafati [mailto:SRafati@tceq.state.tx.us]
Sent: Wednesday, December 10, 2008 5:18 PM
To: Prabhaker Thangudu
Cc: Billie Zaporteza
Subject: Re: Exit Interview

Prabhakar,

Barbara gave me a package from you that included some of the records that I had requested in the forwarded email below. Thank you for sending these records.

I haven't finished looking at everything yet, but I noticed that the records that I wanted for the three boilers weren't included; this item was on the first page as item number 6, and the requested records were the annual fuel usage for each boiler, plus the testing required for the three boilers per 117.2035(e).

Please send these remaining records by next Wednesday.

Sharareh Rafati
Field Operations, TCEQ - Region 12 Air Section
5425 Polk Avenue, Suite H
Houston, TX 77023-1423
713-767-3604 (Office)
713-767-3761 (Fax)
srafati@tceq.state.tx.us

>>> Sharareh Rafati 11/21/2008 1:19 PM >>>
Prabhakar,

Attached is an Exit Interview Form which lists 5 alleged violations, four of which require formal enforcement action. Therefore, all five violations will be referred to the TCEQ Enforcement Division.

As you know, operation under PBRs is contingent upon meeting the PBR representations in the PBR registrations. Therefore, it is indicated on the form, that we have determined that CES is operating without proper authorization. This is due to substantial lack of recordkeeping required to demonstrate compliance with the representations in the certified PBRs. Therefore, CES is advised that continued operation is not authorized.

Please note that the submission of this Exit Interview Form does not conclude the investigation and does not represent the final results of the inspection. As you will note, the attached form includes requests for additional records. More violations may be cited depending upon further review of any records/documents.

If you have any questions please let me know.

Sharareh Rafati
Field Operations, TCEQ - Region 12 Air Section
5425 Polk Avenue, Suite H
Houston, TX 77023-1423
713-767-3604 (Office)
713-767-3761 (Fax)
srafati@tceq.state.tx.us

TCEQ EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental			**TCEQ Add. ID No. RN No. (optional)**	SWR No. 30900		
Investigation Type	CEI	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	IHW		
Regulated Entity Contact	Prabharar Thangudu			**Telephone No.**	713-676-1460	**Date Contacted**	12/9/08
Title	~~EH~~ HSE MGR			**Fax No.**	713-676-1676	**Date Faxed**	

NOTICE: The information provided in this form is intended to provide clarity to issues that have arisen during the investigation process between the TCEQ and the regulated entity named above and *does not represent final TCEQ findings related to violations*. Any potential or alleged violations discovered after the date on this form will be communicated by telephone to the regulated entity representative prior to the issuance of a notice of violation or enforcement. Conclusions drawn from this investigation, including additional violations or potential violations discovered (if any) during the course of this investigation, will be documented in a final investigation report.

Issue		**For Records Request: identify the necessary records, the company contact and date due to the agency. For Alleged and Potential Violation issues: include the rule in question with the clearly described potential problem. Other type of issues: fully describe.**	
No.	**Type[1]**	**Rule Citation (if known)**	**Description of Issue**
1)	AV	30 TAC 335.6 (C)	Update NOR – WASTE STREAMS / WASTE MGMT UNITS / ON/OFF SITE DESIGNATION
2)	AV	30 TAC 335(a)(3)	CONTAINERS IN NOR IOS NOT LABELED / MARKED CLEARLY
~~3)~~		262.34 (a)(3)	
	AR	→	PROCEDURES FOR USE OF "FRAC" TANKS FOR WW GOING TO PERMITTED UNIT #3
	AR	→	EXPLANATION OF USE OF TANK FOR DISCHARGE TO POTW (PROVISION IV B)
	AR	→	PROCEDURE FOR DETERMINING WHETHER INCOMING TANKS ARE "RCRA EMPTY"
	AR		ADDITIONAL INFORMATION REGARDING RECYCLING ACTIVITIES

[1]**Issue Type Can Be One or More of: AV (Alleged Violation), PV (Potential Violation), O (Other), or RR (Records Request)**

Did the TCEQ document the regulated entity named above operating without proper authorization?	☐ Yes	☒ No
Did the investigator advise the regulated entity representative that continued operation is not authorized?	☐ Yes	☐ No N/A

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity; therefore, signature not required.

Barbara Johnston	12/9/08		12-9-08
Investigator Name (Signed & Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

If you have questions about any information on this form, please contact your local TCEQ Regional Office.
Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, call 512-239-3282.

White Copy: Regulated Entity Representative **Yellow Copy: TCEQ** ***(Note: Use additional pages as necessary)*** **Page ____ of ____**
TCEQ-20085 (Rev. 6/07)

EPAHO119001155

9013409H

Look @ Manifests / LDRs

06	JAN	APR	JULY
07	FEB	MAY	AUG
08	MAR	JUNE	SEPT

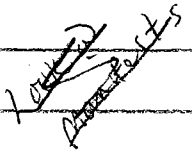
9005609H

Look @ manifests for these HW

Ask for LDR notification for these

06	JAN	MAR	JUNE
07	FEB	APR	MAY
08	JUN	AUG	OCT

LDRs also



9010609H

06 FEB APR JUNE

07 AUG OCT DEC

08 SEPT JAN NOV

LDR's also

From: Prabhaker Thangudu <pthangudu@cesenvironmental.com>
To: Barbara Johnston <BJohnsto@tceq.state.tx.us>
Date: 12/4/2008 3:10 PM
Subject: Product List

Barbara:

Following is a list of products that we deal with at CES, some are sold 'as is' and others after processing. ~~These materials are not stored on site~~. I will keep this list updated as we come across additional products.

1. Acetic acid — Pt A → B
2. Base oil ✓
3. Black oil ✓
4. Caustics (NaOH, KOH)
5. Crude oil ← Broker - CES is a broker - NO processing at CES
6. Fuel additives
7. Glycols
8. Light ends
9. Methacrylate — Pt A → B
10. Methylene chloride
11. Mixed alcohols (methanol, ethanol, butanol, isopropyl alcohol) * BURNED
12. Plastics
13. Recovered solvents (toluene, hexane, methyl ethyl ketone)
14. Spent acids (sulfuric acid, nitric acid, hydrochloric acid)
15. Viscosity modifiers
16. Waxes (C18+)

Please let me know if you need additional information.

Regards,

Prabhakar

● = STORED ON SITE / PROCESSED ON SITE

◉ =

Recycling: how it is done

2008 TRUCK CLEANING LOGS

JAN	05th
FEB	12th
MAR	15
APRIL	20
MAY	25
JUNE	8
JULY	13
AUG	17
SEPT	23
OCT	26
NOV	28
DEC	30

From: Prabhaker Thangudu <pthangudu@cesenvironmental.com>
To: Barbara Johnston <BJohnsto@tceq.state.tx.us>
Date: 12/4/2008 3:10 PM
Subject: Product List

Barbara:

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15. Viscosity modifiers
16. Waxes (C18+)

Please let me know if you need additional information.

Regards,

Prabhakar

● = STORED ON SITE / PROCESSED ON SITE

◉ =

CES follows TCEQ Regulatory Guidance ~~[illegible]~~ (RG-240). ~~CES~~ According to RCRA regulations, a material must be defined as a solid waste before it can be considered a hazardous waste. The regulatory definition of solid waste, found in 261.2(a), encompasses the following materials: (1) materials that are abandoned; (2) materials that are recycled; (3) materials that are inherently waste-like; and (4) waste military munitions.

//

materials that are recycled are a special subset of the solid waste universe. When recycled, some materials may qualify for an exclusion from the definition of solid waste and fall out of RCRA regulation or be subject to less-stringent regulatory controls.

//

A material is recycled if it is used, reused, or reclaimed 261.1(c)(7). A material is reclaimed if it is processed to recover a usable product or if it is regenerated. A material is used or reused

if it is either employed as an ingredient in an industrial process to make a product or if it is employed as an effective substitute for a commercial product.

CES follows ~~no~~ TCEQ notification requirements ~~and~~ by submitting the ~~form~~ Form TCEQ-0524 ~~to~~ (Notification form for Receiving and Recycling Hazardous & Industrial Waste).
~~Methylene chloride~~

TCEQ AUDIT
11-5-2008 multi media Audit

DOB

EPAHO119001164

-5-2008 TCEQ Multimedia audit conducted at CES by 4 Agents from TCEQ. It started at around 9:15am and lasted through 1:15pm. They toured the entire facility and verified NOR with existing waste Management units. They will be back tomorrow at 9am

11-21-

-6-08 Lisa, Sharareh, & Barbara were at CES today along with Phil & Desiree from WCM Phil worked with Sharareh on air issues & Barbara & Lisa with Prabhakar on waste issues.

1-7-08 Barbara & Lisa and Desiree were here today ~~to~~ on waste issues.
Before leaving Barbara said they will come back another day.

(1) She said to email her site plan
(2) update NOR on streams 9001191, ~~9005609~~ 9002519 on/off; add D018 & D002 to 9001609H
(3) make sure the drums in 105 they said were products & not waste
(4) ~~need~~ we are not processing haz waste liquids in ~~Unit~~ under permit Mod

11-21-08 NOR was updated to reflect suggestions from Barbara

Waste Code	90011195	Treatment on/off
	90025191	" "
	90056094	Added 2 EPA Codes D002, D018

8/5/09
0-4 (6)

DOCUMENT REQUEST LIST
RCRA Compliance Evaluation Investigation

General Procedure

The Compliance Evaluation Investigation (CEI) will consist of a **record review** and a **site investigation**. The records evaluation generally will proceed in two stages. First, the TCEQ Investigator will identify various records to be reviewed. Generally these records will date back three years from the present, but some of the records will be for specific time periods. Second, according to a schedule to be developed on-site, the investigator will review the records and request copies, as needed. Additionally, document copies may be requested at a later date for review at the TCEQ regional office. The investigator will have a camera onsite to document areas of concern during the field portion of the investigation. So that we may utilize the inspection time most efficiently, it is requested that you assemble and have available the following information, **if applicable**, on the date of the investigation:

1. Facility map or sketch showing location of all waste management units, including satellite accumulation areas. ✓

2. Brief description of facility operations and process areas, including simplified process flow diagrams. ✓

3. Current copy of Notice of Registration (NOR). ✓

4. List of tanks that manage wastes. Include the following for hazardous waste tanks: tank identity, NOR #, location, date/year put into service, whether or not tank has secondary containment, wastes handled; tank system assessment records. ✓

5. List of all container storage areas and satellite accumulation areas with their locations. Include the number and types of containers and their contents present at each location (at time of investigation). ✓

6. List of all closed or abandoned solid waste management units. Include date and closure documentation. ✓

7. List of primary off-site disposal/treatment/recycling facilities utilized.

Ryan 8. Waste classification documentation.

9. All supporting data for land disposal restriction (LDR) determinations made using knowledge of waste, or waste analyses.

10. Annual waste summaries (at least 3 years) and last Biennial Report.

11. Waste shipment summaries (out-of-state only) for at least 3 years.

12. "Used oil and used oil filter" management records.

13. Monthly waste receipt summaries.

14. Waste Analysis Plan.

15. Notifications for any hazardous waste intended to be exported.

16. Waste shipping manifests, and LDR notices and certifications (past 3 years).

17. Exception reports for any manifests not received back from designated TSD facilities.

18. Inspection schedule, inspection logs for all monitoring equipment, safety and emergency equipment, security devices, operating and structural equipment.

19. Container storage area and tank inspection logs.

20. Employee training plan, training records for Hazardous Waste handlers, including job titles and descriptions, name of each employee, documentation of the type and amount of training each employee has received.

21. Current contingency plan and evidence it has been submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

22. Summary reports and documentation of all incidents that required implementation of the contingency plan (past 3 years).

23. List and description of all emergency response equipment onsite with their locations.

24. Arrangements with police, fire departments, hospitals, and emergency response agencies.

n/a 25. Unmanifested waste reports for any hazardous waste received from off-site without accompanying manifests.

26. Reports for any releases to the environment (reportable and nonreportable).

27 Source Reduction and Waste Minimization Plan (Pollution Prevention Plan) and annual progress reports.

n/a 28. Deed recordation documents for closed solid waste land disposal units.

Ryan 29. Notification forms for recycled hazardous or industrial wastes.

30. Air and wastewater permit numbers, if any.

31. Financial Assurance documentation.

n/a 32. Information on RCRA groundwater monitoring status.
- Site map locating each monitoring well and associated waste management unit
- Changes to the RCRA Monitor Well System since the last Groundwater Monitoring Inspection or facility RCRA Compliance Evaluation Inspection
- Sampling and Analysis Plan

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6. List of all closed or abandoned solid waste management units. Include date and closure documentation.

7. List of primary off-site disposal/treatment/recycling facilities utilized.

Ryan 8. Waste classification documentation.

9. All supporting data for land disposal restriction (LDR) determinations made using knowledge of waste, or waste analyses.

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11. Waste shipment summaries (out-of-state only) for at least 3 years.

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- Site map locating each monitoring well and associated waste management unit
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- Sampling and Analysis Plan

Info requested by Barbara Johnston, TCEQ, 7-9-09

EPAHO1190011174

8/5/04
LES
O-4
(2)

Prabhaker Thangudu

From: Prabhaker Thangudu
Sent: Tuesday, July 14, 2009 9:38 AM
To: 'Barbara Johnston'
Cc: Clark Hickman; Matt Bowman
Subject: RE: Additional questions regarding waste management procedures
Attachments: Truck Cleaning Operations.pdf

Barbara:

The four additional questions are answered below.

1. How exactly does CES determine whether heels/wastes in incoming tankers destined for cleaning area are treatable on site?

Incoming tankers are evaluated to see if they can be cleaned on site based on the information provided by the customer and they are either accepted or rejected for tank cleaning. Once accepted, they go through tank cleaning as described in the attached scanned document 'Truck Cleaning Operations.'

2. Are any of the solvents recycled by CES sold as fuels, or are they all sold for use as degreasing operations and other applications typically associated with virgin solvents?

All solvents recycled at CES are sold into other solvent applications such as barge cleaning solvents, wax/paraffin cutting solvents, crude cutting solvents, paint stripper, mineral extraction solvents, etc.

3. What happens to the spent carbon used in the solvent recovery process? It does not appear to be listed as a waste on your notice of registration.

CES is claiming 'sludge exemption' for the spent carbon. The ensuing explanation may help in interpreting this exemption.

The sludge exemption may apply for spent carbons generated from an air pollution control facility, a municipal, commercial, or industrial wastewater treatment plant, or a water supply treatment plant. This exemption is used when the generator of the spent carbon intends to send the spent carbon to a facility where the material will be reactivated for reuse.

Spent activated carbon can be classified under the RCRA in one of two manners. In some cases, it can be classified as a "spent material." In other cases, spent activated carbon is defined as a sludge and not a solid waste. For this reason it is not listed as a waste on our notice of registration.

4. Please provide the names of the companies who purchase your three types of petroleum products--and how are the used oil streams used by these customers?

a) Oily Water
b) Base Oil
c) CES Fuel

a) Oily Water

Oily water is not sold as a product.

EPAHO119001176

b) Base Oil

Base oil is sold directly to lube oil blending and packaging plants. They in turn blend these products and package them for use in the US and abroad.

c) CES Fuel

CES Non-Haz Fuels comprising non-haz materials recovered from inbound products and non-haz waste streams is sold to cement kilns for heat value.

I hope the information provided here is of help in submitting your response to your management.

Regards,
Prabhakar
281-433-9792 Cell

-----Original Message-----
From: Barbara Johnston [mailto:BJohnsto@tceq.state.tx.us]
Sent: Thursday, July 09, 2009 7:11 PM
To: Clark Hickman; Matt Bowman; Prabhaker Thangudu
Subject: Additional questions regarding waste management procedures

Gentlemen,
I didn't realize there was an emergency at your facility on Tuesday when Matt called me. I am sorry to hear about the accident, and hope you are all coping as well as possible. As I said previously, management has reviewed the report generated after the site visits in Nov., Dec. and March, and has asked some additional questions. I felt that the easiest way to address these was to ask you them directly. Some may seem redundant, but I want to be absolutely certain I have the correct information prior to submission.

1. How exactly does CES determine whether heels/wastes in incoming tankers destined for cleaning area are treatable on site?

2.Are any of the solvents recycled by CES sold as fuels, or are they all sold for use as degreasing operations and other applications typically associated with virgin solvents?

3. What happens to the spent carbon used in the solvent recovery process? It does not appear to be listed as a waste on your notice of registration.

4. Please provide the names of the companies who purchase your three types of petroleum products--and how are the used oil streams used by these customers?
a)Oily Water
b) Base Oil
c) CES Fuel

Please contact me at 713-767-3756 if you need further clarification prior to responding.

Regards,

Barbara Johnston

EPAHO119001177

Env. Investigator
TCEQ Region 12
713-767-3656

EPAHO119001178

3.0 TRUCK CLEANING OPERATIONS

3.1 IDENTIFY CARGO

Upon receiving an empty tank truck for cleaning at the facility, the contents last delivered by the tank truck are determined. The customer supplies a copy of the shipping manifest and/or a Material Data Safety Sheet (MSDS) for the most recent material hauled in the tank truck. This information is used in determining POTW compatibility, the management method for any residual material (or heel) in the tank truck, and the appropriate tank cleaning solution.

3.2 HEEL MANAGEMENT

Based on the shipping manifest and/or MSDS for the most recently shipped material, the proper heel management technique (e.g., storage in drums and shipment off-site or addition to the wastewater pre-treatment system) will be determined.

The truck is first inspected. Tank trucks with excessive amounts of heel will be returned to the customer or an additional charge may be assessed for the management of larger quantities of waste material. Large quantities of heel will be drained before pre-rinsing

Using the information collected under Section 3.1 above, a determination of whether the heel is a compatible or incompatible material will be made. In general, materials that are not water soluble and multi-phase materials are incompatible. Many water-soluble materials are POTW compatible.

Compatible pollutants are materials which are considered treatable at the POTW (e.g., food materials, some detergents, etc.) or which are incompatible with POTW and are effectively removed by pre-treatment at the CES facility (e.g., acids and bases).

Incompatible pollutants are materials which are considered as not treatable at the POTW and which are not effectively removed by the CES pre-treatment facility (e.g., petroleum products, emulsified oils). The heel from a tank truck, which last hauled an incompatible pollutant, will not be treated on-site. These incompatible pollutants (materials) will be stored and shipped off-site to a properly permitted facility for treatment and/or disposal.

3.3 PRE-RINSE

Thick, viscous, or tacky materials are difficult to remove from the tank truck. In addition, some trailers are not sloped to a central sump, making complete removal of residuals (heel) difficult. In these cases a pre-rinse solution (frequently hot water and steam) is used to reduce viscocity and to promote removal of residual materials. Pre-rinse is managed similarly to heel. Information collected under Section 3.1 above is used to determine POTW compatibility and to ensure regulatory compliance.

EPAHO119001179

4.0 WASTE MANAGEMENT

4.1 COMPATIBLE WASTES

The final rinse and other wastewater streams that are classified as compatible are collected and treated in the CES wastewater pre-treatment facility. Treatment is continuous and approximately 17,000 gallons per day is discharged to the POTW.

4.2 POTW INCOMPATIBLE WASTES

Incompatible wastes are collected in drums and bulk containers and labeled appropriately. Employees will label drums and classify them as hazardous and nonhazardous waste. These materials will be managed off-site.

4.3 RECYCLING AND REUSE

In some cases the heel and pre-rinse may be suitable for treatment at CES. Examples include caustic (used in caustic vat) and acids used to neutralize excess caustic in the wastewater treatment plant. Where possible, CES will recycle such chemicals for appropriate uses.

EPAHO119001180

Prabhaker Thangudu

From: Steve Bates [sbates@bateschemical.com]
Sent: Monday, July 13, 2009 4:46 PM
To: Prabhaker Thangudu
Subject: FW: CES Spent Carbon
Attachments: SLUDGE EXEMPTION Q and A final.pdf; 20090109122142812.pdf

I will be sending you several emails that were sent at that time period. There were a couple of faxes that I will have to fax to you as well. What is your fax number.

It looks as though CES had classified this spent carbon as hazmat, but claimed the sludge exemption, to be able to ship it with out a manifest. CES was dealing directly with Siemens for the return and regeneration of your spent carbon. CES made all of the spent carbon deliveries using a CES vehicle, to Siemens. I will send the other emails as requested. Please let me know if this is what you need from me?

Thank you

Steve Bates

Office 281-328-1677
Fax 281-328-8337
Cell 713-304-1225
www.bateschemical.com

From: Fleming, Clark C (WT) [mailto:Clark.Fleming@siemens.com]
Sent: Friday, January 09, 2009 12:22 PM
To: Steve Bates
Subject: CES Spent Carbon

Steve,
Looking at the analytical data you dropped off, benzene is the only thing that is above the TCLP limit. As we discussed, this could be profiled as exempt because the carbon is going to be recycled for beneficial reuse. I attached some background info on the sludge exemption, as well as the form that is filled out and would need to be signed. Let me know if CES would like to go this direction or forward me the signed form. Once I know if they will go either exempt or RCRA haz, I can submit to our people and should have an approved profile with a couple business days. Feel free to call me with any questions.

<<SLUDGE EXEMPTION Q and A final.pdf>> <<20090109122142812.pdf>>
You have been invited to view a presentation titled "SWT GAC Reactivation Services". Its length is 00:04:16.
Please use link below to view presentation:
http://www.brainshark.com/siemenswater/vu?pi=512087834

Thanks,

Clark Fleming
Inside Sales
Environmental Services - Activated Carbon
Siemens Water Technologies Corp.
5175 World Houston Parkway,
Suite 150
Houston, TX 77032
Phone 281-227-2866 x 105
Cell Phone 281-216-2970
Fax 281-227-2864
Email Clark.Fleming@Siemens.com

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-5758 • FAX (928) 669-5775 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2664 • FAX (530) 527-0544 EPA ID: CAR 000 058 784

PROFILE ADDENDUM FOR SLUDGE EXEMPTION

Generator: CES Environmental Services

Site Address: 4904 Griggs Road **City/State:** Houston, TX

The following information must be provided before approval of the profile if the generator requests that the spent carbon be classified as a non-hazardous sludge for reclamation in accordance with 40 CFR 261.2.

1. Is the subject spent carbon a sludge, as defined at 40 CFR 260.10?
☑Yes ☐No

2. Was the subject spent carbon generated from a municipal, commercial, or industrial wastewater treatment plant or water supply treatment plant or air pollution control facility?
☑Yes ☐No

3. Is the subject spent carbon a RCRA listed waste?
☐Yes ☑No

4. Was the subject spent carbon ever placed in contact with, or used to treat, a RCRA **listed** waste?
☐Yes ☑No

5. Was the subject spent carbon generated by a RCRA regulated treatment, storage or disposal facility?
☐Yes ☑No

6. If question 5 is checked YES, does it "contain" or is it "derived from" a RCRA listed waste?
☐Yes ☐No

7. Is the subject spent carbon exempt from hazardous waste regulation in the state of generation?
☑Yes ☐No

I certify that the information on this form is true and accurately describes the subject spent carbon on the attached spent carbon profile form. I further certify that the subject spent carbon is exempt from regulation as a hazardous waste.

Printed Name **Signature**

Title **Date**

SIEMENS Water Technologies

SLUDGE EXEMPTION:

FREQUENTLY ASKED QUESTIONS

What is the sludge exemption?
Spent activated carbon generated in certain applications may qualify for what is known as the "sludge exemption". This allows the spent carbon to be handled (packaging, shipping and storage) as a non-hazardous waste and is exempt from the regulations for hazardous waste as described in 40 CFR §262.

When can the sludge exemption be applied to spent activated carbon?
The sludge exemption may apply for spent carbons generated from an air pollution control facility, a municipal, commercial, or industrial wastewater treatment plant, or a water supply treatment plant. The exemption only applies to spent carbon that is not exposed to any wastes specifically listed in 40 CFR §261, and is only used when the generator of the spent carbon intends to send the spent carbon to a facility where the material will be reactivated for reuse.

How do the regulations allow spent activated carbon to be classified as a sludge?
Spent activated carbon can be classified under the Resource Conservation and Recovery Act (RCRA) in one of two manners. In some cases, it can be classified as a "spent material." Spent materials are defined in 40 CFR §261.1(c)(1) for the purposes of §§261.2 and §§261.6 as:

> *"A spent material is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing,"*

In other cases spent activated carbon is defined as a sludge, as defined in 40 CFR §260.10:

> *"sludge means any solid, semi-solid, or liquid waste generated from a municipal commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant."*

The Environmental Protection Agency (EPA) further provides that a spent carbon may be classified as a sludge when the spent carbon contains no listed hazardous waste and the spent carbon is returned to a reactivation facility, where the spent carbon is reclaimed. Since the spent carbon in these applications meets the definition of a sludge, it is not considered a solid waste and therefore not considered as a hazardous waste.

To support this conclusion, US EPA provided guidance on the question of classification of spent activated carbon in a memorandum dated April 2, 1986. The memorandum was written by Ms. Marcia Williams (Director, Office of Solid Waste) to Mr. Stephen R. Wassersug (Director of the Hazardous Waste Management Division). In the memorandum, Ms. Williams states:

> *"Is the spent carbon a solid waste?"*
>
> *"In general, yes. As you correctly state in your letter, spent carbon can be defined as spent material or sludge (i.e. spent carbon would normally be considered a spent material, unless it results from pollution control in which case it is considered a sludge)...Spent materials (whether or not they are listed or contain a listed hazardous waste) and listed sludges being reclaimed are solid wastes...On the other hand, if the spent carbon contains a characteristic sludge or by-product, it is not defined as a solid waste (even if the spent carbon exhibits a hazardous waste characteristic)."*

Thus, in the applications described by the EPA, the spent activated carbon can be classified as a sludge, and not a spent material. Furthermore, Per 40 CFR §261.2 a sludge is not a solid waste when sent for reclamation it contains no listed hazardous wastes. A material is reclaimed if it is:

..."processed to recover a usable product, or if it is regenerated"...

Can Siemens Water Technologies reactivate my spent carbon?
Reactivation of spent carbon fits the EPA definition of reclamation as described above, whether the spent carbon is returned to the generator after reactivation, or resold to another customer. Siemens Water Technologies' RCRA-approved reactivation facility in Parker, Arizona follows the federal sludge exemption regulations, and is thus an approved facility for the reactivation of carbons that fall under the sludge exemption.

Siemens Water Technologies can reactivate carbons that are classified as hazardous, on the Federal level as well as CA state hazardous level, at one of our regional reactivation plants located across the US. Each spent carbon is different and prior to accepting for transfer a profile must be completed. There are several contaminants, such as PCBs, which our plants do not handle. A local Siemens Water Technologies Sales and Technical Support specialist can assist in determining the next step for handling your spent carbon.

How can I claim the sludge exemption for my spent activated carbon?
The sludge exemption must be accepted by the governing state environmental regulations in both the generator's home state and the state in which the reactivation facility resides. To claim the exemption, contact your facility's home state environmental regulatory agency to obtain their approval.

What shipping considerations are there for sludge exempt spent carbons?
Spent carbon profiled as RCRA sludge exempt can be transported either as a DOT-regulated hazardous material or as a non DOT-regulated material. The choice between the two is determined by the quantity, in one container, of the hazardous substance on the spent carbon. If that quantity equals or exceeds the Reportable Quantity (RQ) for the hazardous substance, the spent carbon is a DOT-regulated Class 9 hazardous material. If that quantity is less than the hazardous substance's RQ, the spent carbon is not DOT-regulated.

Prabhaker Thangudu

From: Steve Bates [sbates@bateschemical.com]
Sent: Monday, July 13, 2009 4:47 PM
To: Prabhaker Thangudu
Subject: FW: CESW90012EX.pdf - Adobe Reader
Attachments: CESW90012EX.pdf

From: Fleming, Clark C (WT) [mailto:Clark.Fleming@siemens.com]
Sent: Wednesday, January 14, 2009 4:07 PM
To: Steve Bates
Subject: FW: CESW90012EX.pdf - Adobe Reader

<<CESW90012EX>>

Steve,
Here is the profile approval for CES. How would you like to proceed with it shipping out? I will be out tomorrow on business travel but will be back in the office Friday. Feel free to give me a call when you get a chance.

You have been invited to view a presentation titled "SWT GAC Reactivation Services". Its length is 00:04:16. Please use link below to view presentation:
http://www.brainshark.com/siemenswater/vu?pi=512087834

Thanks,

Clark Fleming
Inside Sales
Environmental Services - Activated Carbon
Siemens Water Technologies Corp.
5175 World Houston Parkway,
Suite 150
Houston, TX 77032
Phone 281-227-2866 x 105
Cell Phone 281-216-2970
Fax 281-227-2864
Email Clark.Fleming@Siemens.com
www.water.siemens.com

PLEASE NOTE WE HAVE MOVED AND HAVE NEW OFFICE PHONE NUMBERS

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From: Provins, Roy (WT)
Sent: Wednesday, January 14, 2009 11:21 AM

To: Fleming, Clark C (WT)
Cc: Deonarine, Kristina (WT)
Subject: CESW90012EX.pdf - Adobe Reader

EPAHO119001186

SIEMENS

2523 Mutahar Street - Box 3308 Parker, AZ 85344 *AZD 982 441 263*
11711 Reading Road Red Bluff, CA 96080 *CAR 000 058 784*

January 14, 2009

Consultant:

Generator Mailing Address:

(713) 676-1460
CES Environmental Services Inc.
4904 Griggs Road
Houston, TX 77021-

The following Spent Carbon Profile has been approved for acceptance at Siemens Water Technologies Corp.:

Generator:	CES Environmental Services Inc.	
EPA ID:	TXD008950461	
Site Address:	4904 Griggs Road Houston, TX 77021-	
Waste Codes:	Exempt	Sludge exemption per generator
Carbon Type:	Vapor	
PH Range:	4.1 to 10.5	
Profile Number:	W90012EX	
Valid Through:	1/14/2011	

Please feel free to call the undersigned at (928) 669-5758 if you have any questions.

Sincerely,

Douglas Eisner
Profiling Chemist

Siemens Water Technologies Corp. has all the necessary permits and licenses for the waste that has been characterized and identified by this profile.

Prabhaker Thangudu

From: Steve Bates [sbates@bateschemical.com]
Sent: Monday, July 13, 2009 4:48 PM
To: Prabhaker Thangudu
Subject: FW: CESW90012EX.pdf - Adobe Reader

From: Fleming, Clark C (WT) [mailto:Clark.Fleming@siemens.com]
Sent: Friday, January 16, 2009 8:48 AM
To: Steve Bates
Subject: RE: CESW90012EX.pdf - Adobe Reader

Steve,
They can bring it anytime M-F (8:30-4:30) to the World Houston address. Please just have them reference the profile # and have them see me if there are any questions or issues. Thanks.

You have been invited to view a presentation titled "SWT GAC Reactivation Services". Its length is 00:04:16. Please use link below to view presentation:
http://www.brainshark.com/siemenswater/vu?pi=512087834

Thanks,

Clark Fleming
Inside Sales
Environmental Services - Activated Carbon
Siemens Water Technologies Corp.
5175 World Houston Parkway,
Suite 150
Houston, TX 77032
Phone 281-227-2866 x 105
Cell Phone 281-216-2970
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From: Steve Bates [mailto:sbates@bateschemical.com]
Sent: Wednesday, January 14, 2009 4:14 PM
To: Fleming, Clark C (WT)
Subject: RE: CESW90012EX.pdf - Adobe Reader

Clark,

They will probably deliver it to you on their truck. Is that ok? What do they need as far as delivery paperwork for Siemens? Do they need an appointment or do we need to set up the return with anyone? What address do they deliver to ? Is there a contact and phone number for that delivery?
I believe that they have 10 - 12 super sacks of product.

Thank you

Steve Bates

Office 281-328-1677
Fax 281-328-8337
Cell 713-304-1225
www.bateschemical.com

From: Fleming, Clark C (WT) [mailto:Clark.Fleming@siemens.com]
Sent: Wednesday, January 14, 2009 4:07 PM
To: Steve Bates
Subject: FW: CESW90012EX.pdf - Adobe Reader

<<CESW90012EX>>

Steve,
Here is the profile approval for CES. How would you like to proceed with it shipping out? I will be out tomorrow on business travel but will be back in the office Friday. Feel free to give me a call when you get a chance.

You have been invited to view a presentation titled "SWT GAC Reactivation Services". Its length is 00:04:16. Please use link below to view presentation:
http://www.brainshark.com/siemenswater/vu?pi=512087834

Thanks,

Clark Fleming
Inside Sales
Environmental Services - Activated Carbon
Siemens Water Technologies Corp.
5175 World Houston Parkway,
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From: Provins, Roy (WT)
Sent: Wednesday, January 14, 2009 11:21 AM
To: Fleming, Clark C (WT)
Cc: Deonarine, Kristina (WT)
Subject: CESW90012EX.pdf - Adobe Reader

EPAHO119001190

Prabhaker Thangudu

From: Steve Bates [sbates@bateschemical.com]
Sent: Monday, July 13, 2009 4:50 PM
To: Prabhaker Thangudu
Subject: FW: Acceptance

From: Fleming, Clark C (WT) [mailto:Clark.Fleming@siemens.com]
Sent: Monday, December 15, 2008 8:16 AM
To: Steve Bates
Subject: RE: Acceptance

Steve,
They havent sent me a sample or the profile forms yet.

You have been invited to view a presentation titled "SWT GAC Reactivation Services". Its length is 00:04:16. Please use link below to view presentation:
http://www.brainshark.com/siemenswater/vu?pi=512087834

Thanks,

Clark Fleming
Inside Sales
Environmental Services - Activated Carbon
Siemens Water Technologies Corp.
5175 World Houston Parkway,
Suite 150
Houston, TX 77032
Phone 281-227-2866 x 105
Cell Phone 281-216-2970
Fax 281-227-2864
Email Clark.Fleming@Siemens.com
www.water.siemens.com

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From: Steve Bates [mailto:SBates@bateschemical.com]
Sent: Friday, December 12, 2008 8:43 AM
To: Fleming, Clark C (WT)
Subject: Acceptance

Clark,

When you return could you please check on the CES spent carbon acceptance. How long does it normally take to approve product for return. Once accepted how does it work from there?

Thanks

Steve Bates

Office 281-328-1677
Fax 281-328-8337
Cell 713-304-1225
www.bateschemical.com

EPAHO119001192

Prabhaker Thangudu

From: Barbara Johnston [BJohnsto@tceq.state.tx.us]
Sent: Thursday, July 09, 2009 7:11 PM
To: Clark Hickman; Matt Bowman; Prabhaker Thangudu
Subject: Additional questions regarding waste management procedures

Gentlemen,
I didn't realize there was an emergency at your facility on Tuesday when Matt called me. I am sorry to hear about the accident, and hope you are all coping as well as possible. As I said previously, management has reviewed the report generated after the site visits in Nov., Dec. and March, and has asked some additional questions. I felt that the easiest way to address these was to ask you them directly. Some may seem redundant, but I want to be absolutely certain I have the correct information prior to submission.

1. How exactly does CES determine whether heels/wastes in incoming tankers destined for cleaning area are treatable on site? DONE

2.Are any of the solvents recycled by CES sold as fuels, or are they all sold for use as degreasing operations and other applications typically associated with virgin solvents?
Restricted and Unrestricted lightends are sold. Unrestricted lightends are →

3. What happens to the spent carbon used in the solvent recovery process? It does not appear to be listed as a waste on your notice of registration. Prabhaker

4. Please provide the names of the companies who purchase your three types of petroleum products--and how are the used oil streams used by these customers?
a)Oily Water –
b) Base Oil
c) CES Fuel

Please contact me at 713-767-3756 if you need further clarification prior to responding.

Regards,

They have always come in as haz. waste for recycling on manifests. They then get processed to clean them up for use.

2. All solvents recycled at CES are sold into other solvent applications such as barge cleaning solvents, wax/paraffin cutting solvents, crude cutting solvents, paint strippers, mineral extraction solvents, etc.

Barbara Johnston
Env. Investigator
TCEQ Region 12
713-767-3656

EPAHO119001193

(4)

(a) Oily Water is not sold as a product. Oil is recovered from the water by phase separation and heat. [redacted] It is then sold to Diffrnt markets depending on quality (ash, water, btu, etc.) and demand.

(b) Base oil is sold directly to lube oil blending and packaging plants. They blend these products and package ~~those~~ them for use in the US and abroad.

(c) CES NON-Haz. Fuel is sold to GeoCycle, a ^ cement kiln for heat value. ~~[redacted]~~ This is ~~[redacted]~~ comprised of NON-haz. materials recovered from inbound products and NON-Haz. waste streams.

- #6 oil market
- cutter stock
- Asphalt Burners

(2) ~~cont'd~~

~~Sold for use into markets where it can be burned as a fuel. Restricted light ends are sold into markets that can only use the material as a solvent for degreasing and not burned as a fuel. These customers sign a letter stating that they will not use the restricted light ends as a fuel.~~

(4) ~~Profile approval w/ necessary supporting documents including MSDS, third-party laboratory analytical, as well as CES sample and review.~~

(3) Spent carbon is recycled by a third-party handler by regeneration.

SIEMENS

2523 Mutahar Street - Box 3308 Parker, AZ 85344 AZD 982 441 263
11711 Reading Road Red Bluff, CA 96080 CAR 000 058 784

January 14, 2009

Consultant:

Generator Mailing Address:

(713) 676-1460
CES Environmental Services Inc.
4904 Griggs Road
Houston, TX 77021-

The following Spent Carbon Profile has been approved for acceptance at Siemens Water Technologies Corp.:

Generator:	CES Environmental Services Inc.
EPA ID:	TXD008950461
Site Address:	4904 Griggs Road Houston, TX 77021-
Waste Codes:	Exempt Sludge exemption per generator
Carbon Type:	Vapor
PH Range:	4.1 to 10.5
Profile Number:	W90012EX
Valid Through:	1/14/2011

Please feel free to call the undersigned at (928) 669-5758 if you have any questions.

Sincerely,

Douglas Eisner

Douglas Eisner @ Siemens.com
Profiling Chemist
510-639-7274

Siemens Water Technologies Corp. has all the necessary permits and licenses for the waste that has been characterized and identified by this profile.

SIEMENS 2523 Mutahar Street - Box 3308 Parker, AZ 85344 AZD 982 441 263
11711 Reading Road Red Bluff, CA 96080 CAR 000 058 784

January 14, 2009

Consultant:

Generator Mailing Address:

(713) 676-1460
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Houston, TX 77021-

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Generator:	CES Environmental Services Inc.
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Site Address:	4904 Griggs Road Houston, TX 77021-
Waste Codes:	Exempt Sludge exemption per generator
Carbon Type:	Vapor
PH Range:	4.1 to 10.5
Profile Number:	W90012EX
Valid Through:	1/14/2011

Please feel free to call the undersigned at (928) 669-5758 if you have any questions.

Sincerely,

Douglas Eisner
Profiling Chemist

Siemens Water Technologies Corp. has all the necessary permits and licenses for the waste that has been characterized and identified by this profile.

Laboratory Analysis Report

Total Number of Pages: 14

Job ID : 08100314

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-8080, fax: 713-453-8091, http://www.ablabs.com

Client: Project Name :
1008-24 CES Spent Carbon Testing

Report To:	Client Name:	CES Environmental	P.O.#: 1008-24
	Attn:	Gary Peterson	Sample Collected By:
	Client Address:	4904 Griggs Rd	Date Collected: 10/10/08
	City, State, Zip:	Houston, Texas 77021	

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
Scrubber System Spent Used Carbon, 10-2008 / 1008-24	Solid	08100314.01

Released By: Sonia West
Title: Senior Project Manager
Date: 10/21/2008

This Laboratory is NELAP (1104704213-08-TX) accredited. Effective: 07/01/2008; Expires: 06/03/2009
Scope: Non-Potable Water, Drinking Water, Air, Solid, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client.

Date Received: 10/13/2008 12:34

EPAHO119001197

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 08100314

Date: 10/21/2008

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimt	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	Rptl limit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	surr	Surrogate
MS	Matrix Spike	T	Time
MSD	Matrix Spike Duplicate	TNTC	Too numerous to count
MW	Molecular Weight		

Qualifier Definition

EPAHO119001198

LABORATORY TEST RESULTS

Job ID : 08100314

Date 10/21/2008

Client Name: CES Environmental

Attn: Gary Peterson

Project Name: 1008-24 CES Spent Carbon Testing

Client Sample ID: Scrubber System Spent Used Carbon, 10-2008 / 1008-24

Job Sample ID: 08100314.01

Date Collected: 10/10/08

Sample Matrix Solid

Time Collected: 14:15

Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SW-846 6010C	TCLP Metals								
	Antimony	BRL	mg/L	1	0.1	1		10/15/08 22:14	PGm
	Arsenic	BRL	mg/L	1	0.04	1.8		10/15/08 22:14	PGm
	Barium	0.263	mg/L	1	0.04	100.0		10/15/08 22:14	PGm
	Beryllium	BRL	mg/L	1	0.04	0.08		10/15/08 22:14	PGm
	Cadmium	BRL	mg/L	1	0.04	0.5		10/15/08 22:14	PGm
	Chromium	BRL	mg/L	1	0.04	5.0		10/15/08 22:14	PGm
	Lead	BRL	mg/L	1	0.04	1.5		10/15/08 22:14	PGm
	Nickel	BRL	mg/L	1	0.04	70		10/15/08 22:14	PGm
	Selenium	BRL	mg/L	1	0.1	1.0		10/15/08 22:14	PGm
	Silver	BRL	mg/L	1	0.04	5.0		10/15/08 22:14	PGm
SW-846 7470A	TCLP Metals, Mercury								
	Mercury	BRL	mg/L	1	0.0005	0.2		10/16/08 14:18	TK
SW-846 8260B	TCLP VOC								
	1,1-Dichloroethylene	BRL	mg/L	1	0.13	0.6		10/14/08 16:37	HW
	1,2-Dichloroethane	BRL	mg/L	1	0.13	0.5		10/14/08 16:37	HW
	1,4-Dichlorobenzene	BRL	mg/L	1	0.15	7.5		10/14/08 16:37	HW
	Benzene	3.34	mg/L	5	0.65	0.5		10/14/08 15:12	HW
	Carbon tetrachloride	BRL	mg/L	1	0.12	0.5		10/14/08 16:37	HW
	Chlorobenzene	BRL	mg/L	1	0.15	70		10/14/08 16:37	HW
	Chloroform	BRL	mg/L	1	0.12	6		10/14/08 16:37	HW
	MEK	0.805	mg/L	1	0.13	200		10/14/08 16:37	HW
	Tetrachloroethylene	BRL	mg/L	1	0.16	0.7		10/14/08 16:37	HW
	Trichloroethylene	BRL	mg/L	1	0.13	0.5		10/14/08 16:37	HW
	Vinyl Chloride	BRL	mg/L	1	0.1	0.2		10/14/08 16:37	HW
	Dibromofluoromethane(surr)	92.7	%	1	70-130			10/14/08 16:37	HW
	Toluene-d8(surr)	95.9	%	1	70-130			10/14/08 16:37	HW
	1,2-Dichloroethane-d4(surr)	91.1	%	1	70-130			10/14/08 16:37	HW
	p-Bromofluorobenzene(surr)	99.2	%	1	70-130			10/14/08 16:37	HW
SW-846 8270D	TCLP Semivolatiles								
	1,4-Dichlorobenzene	BRL	mg/L	1	0.05	7.5		10/16/08 13:09	ML
	2,4,5-Trichlorophenol	BRL	mg/L	1	0.05	400		10/16/08 13:09	ML
	2,4,6-Trichlorophenol	BRL	mg/L	1	0.05	2		10/16/08 13:09	ML
	2,4-Dinitrotoluene	BRL	mg/L	1	0.05	0.13		10/16/08 13:09	ML
	2-Methylphenol	BRL	mg/L	1	0.05	200		10/16/08 13:09	ML
	3- & 4-Methylphenols	BRL	mg/L	1	0.05	200		10/16/08 13:09	ML
	Hexachlorobenzene	BRL	mg/L	1	0.05	0.13		10/16/08 13:09	ML
	Hexachlorobutadiene	BRL	mg/L	1	0.05	0.4		10/16/08 13:09	ML

EPAHO119001199

LABORATORY TEST RESULTS

Job ID : 08100314

Date 10/21/2008

Client Name: CES Environmental

Attn: Gary Peterson

Project Name: 1008-24 CES Spent Carbon Testing

Client Sample ID: Scrubber System Spent Used Carbon, 10-2008 / 1008-24

Job Sample ID: 08100314.01

Date Collected: 10/10/08

Sample Matrix Solid

Time Collected: 14:15

Other Information:

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SW-846 8270D	TCLP Semivolatiles								
	Hexachloroethane	BRL	mg/L	1	0.05	3		10/16/08 13:09	ML
	Nitrobenzene	BRL	mg/L	1	0.05	2		10/16/08 13:09	ML
	Pentachlorophenol	BRL	mg/L	1	1.25	100		10/16/08 13:09	ML
	Pyridine	BRL	mg/L	1	0.05	4		10/16/08 13:09	ML
	Phenol-d6(surr)	57	%	1	15-120			10/16/08 13:09	ML
	2-Fluorobiphenyl(surr)	61.1	%	1	30-115			10/16/08 13:09	ML
	Nitrobenzene-d5(surr)	52.4	%	1	20-120			10/16/08 13:09	ML
	2-Fluorophenol(surr)	57	%	1	20-115			10/16/08 13:09	ML
	p-Terphenyl-d14(surr)	51.9	%	1	30-140			10/16/08 13:09	ML
	2,4,6-Tribromophenol(surr)	61.3	%	1	10-120			10/16/08 13:09	ML

EPAHO119001200

QUALITY CONTROL CERTIFICATE

Job ID : 08100314 **Date :** 10/21/2008

Analysis : TCLP VOC **Method :** SW-846 8260B **Reporting Units :** mg/L

QC Batch ID : Qb08101536 **Created Date :** 10/14/08 **Created By :** Whulmei

Samples In This QC Batch : 08100314 01

Sample Preparation : P808IC1406 **Prep Method :** SW-846 5030C **Prep Date :** 10/14/08 10:00 **Prep By :** Whulmei
TCLP Prep : P808IC1316 **Prep Method :** SW-846 1311 **Prep Date :** 10/13/08 16:30 **Prep By :** Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RpcLimit		Qual
1,1-Dichloroethylene	75-35-4	BRL	mg/L	1	0.13		
1,2-Dichloroethane	107-06-2	BRL	mg/L	1	0.13		
1,4-Dichlorobenzene	106-46-7	BRL	mg/L	1	0.15		
Benzene	71-43-2	BRL	mg/L	1	0.13		
Carbon tetrachloride	56-23-5	BRL	mg/L	1	0.13		
Chlorobenzene	108-90-7	BRL	mg/L	1	0.15		
Chloroform	67-66-3	BRL	mg/L	1	0.13		
MEK	78-93-3	BRL	mg/L	1	0.13		
Tetrachloroethylene	127-18-4	BRL	mg/L	1	0.16		
Trichloroethylene	79-01-6	BRL	mg/L	1	0.13		
Vinyl Chloride	75-01-4	BRL	mg/L	1	0.1		

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
1,1-Dichloroethylene	0.5	0.528	106	0.5	0.513	103	4.75	25	70-130	
Benzene	0.5	0.533	107	0.5	0.521	104	2.27	25	70-130	
Chlorobenzene	0.5	0.499	99.8	0.5	0.431	86.2	14.6	25	70-130	
Tetrachloroethylene	0.5	0.395	79	0.5	0.374	74.8	5.46	25	70-130	
Trichloroethylene	0.5	0.546	109	0.5	0.505	101	7.8	25	70-130	

QC Type: MS and MSD
QC Sample ID: 08100253.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
1,1-Dichloroethylene	BRL	0.5	0.54	108						70-130	
Benzene	BRL	0.5	0.535	101						70-130	
Chlorobenzene	BRL	0.5	0.509	102						70-130	
Trichloroethylene	BRL	0.5	0.535	107						70-130	

Refer to the Definition page for terms.

EPAHO119001201

QUALITY CONTROL CERTIFICATE

Job ID : 08100314 **Date :** 10/21/2008

Analysis : TCLP Metals **Method :** SW-846 6010C **Reporting Units :** mg/L

QC Batch ID : QB08101601 **Created Date :** 10/15/08 **Created By :** Pgurgula

Samples in This QC Batch : 08100314.01

Digestion :	PB08101601	**Prep Method :**	SW-846 3010A	**Prep Date :**	10/15/08 16:00	**Prep By :**	Pgurgula
TCLP Prep :	PB08101316	**Prep Method :**	SW-846 1311	**Prep Date :**	10/13/08 16:30	**Prep By :**	Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
Antimony	7440-36-0	BRL	mg/L	1	0.1	
Arsenic	7440-38-2	BRL	mg/L	1	0.04	
Barium	7440-39-3	BRL	mg/L	1	0.04	
Beryllium	7440-41-7	BRL	mg/L	1	0.04	
Cadmium	7440-43-9	BRL	mg/L	1	0.04	
Chromium	7440-47-3	BRL	mg/L	1	0.04	
Lead	7439-92-1	BRL	mg/L	1	0.04	
Nickel	7440-02-0	BRL	mg/L	1	0.04	
Selenium	7782-49-2	BRL	mg/L	1	0.1	
Silver	7440-22-4	BRL	mg/L	1	0.04	

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Antimony	2	1.92	96	2	1.98	99	3.08	20	80-120	
Arsenic	2	1.97	98.5	2	2.02	101	2.51	20	80-120	
Barium	2	1.81	90.5	2	1.86	93	2.72	20	80-120	
Beryllium	2	1.90	95	2	1.95	97.5	2.60	20	80-120	
Cadmium	2	1.97	98.5	2	2.03	102	3.00	20	80-120	
Chromium	2	1.83	91.5	2	1.88	94	2.70	20	80-120	
Lead	2	1.85	92.5	2	1.90	95	2.67	20	80-120	
Nickel	2	1.83	91.5	2	1.88	94	2.70	20	80-120	
Selenium	2	2.03	102	2	2.08	104	2.43	20	80-120	
Silver	2	1.92	96	2	1.97	98.5	2.57	20	80-120	

QC Type: MS and MSD
QC Sample ID: 08100257.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Antimony	BRL	2	1.95	97.5						70-130	
Arsenic	BRL	2	1.99	99.5						45-138	
Barium	0.767	2	2.59	91.2						39-135	
Beryllium	BRL	2	1.96	97.9						70-130	
Cadmium	BRL	2	2.00	99.8						56-125	
Chromium	BRL	2	1.87	93.3						52-125	
Lead	BRL	2	1.86	92.8						55-125	

Refer to the Definition page for terms.

EPAHO119001202

QUALITY CONTROL CERTIFICATE

Job ID : 08100314 **Date :** 10/21/2008

Analysis : TCLP Metals **Method :** SW-846 6010C **Reporting Units :** mg/L

QC Batch ID : QS08101601 **Created Date :** 10/15/08 **Created By :** Pguirguis

Samples In This QC Batch : 08100314.01

QC Type: MS and MSD
QC Sample ID: 08100257.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD Ctrl Limit	%Rec Ctrl Limit	Qual
Nickel	BRL	2	1.84	91.5						70-130	
Selenium	BRL	2	2.06	102						70-130	
Silver	BRL	2	1.97	98.4						26-148	

Refer to the Definition page for terms.

EPAHO119001203

QUALITY CONTROL CERTIFICATE

Job ID : 08100314 **Date :** 10/21/2008

Analysis : TCLP Metals, Mercury **Method :** SW-846 7470A **Reporting Units :** mg/L

QC Batch ID : Qb08101629 **Created Date :** 10/16/08 **Created By :** Tkhuc

Samples in This QC Batch : 08100314.01

Digestion :	PB08101622	**Prep Method :** SW-846 7470A	**Prep Date :**	10/16/08 02:00	**Prep By :**	Tkhuc
TCLP Prep :	PB08101316	**Prep Method :** SW-846 1311	**Prep Date :**	10/13/08 16:30	**Prep By :**	Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit	Qual
Mercury	7439-97-6	BRL	mg/L	1	0.0005	

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
Mercury	0.005	0.0053	105	0.005	0.0050	100	5.06	35	71-143	

QC Type: MS and MSD
QC Sample ID: 08100374.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Mercury	BRL	0.005	0.0053	105	0.005	0.0052	105	0.57	35	61-175	

Refer to the Definition page for terms.

EPAHO119001204

QUALITY CONTROL CERTIFICATE

Job ID : 08100314 **Date :** 10/21/2008

Analysis : TCLP Semivolatiles **Method :** SW-846 8270D **Reporting Units :** mg/L

QC Batch ID : Qc08101630 **Created Date :** 10/16/08 **Created By :** MH

Samples In This QC Batch : 08100314.01

Extraction : PB08101605 **Prep Method :** SW-846 3510C **Prep Date :** 10/16/08 08:00 **Prep By :** Lwang

TCLP Prep : PB08101316 **Prep Method :** SW-846 1311 **Prep Date :** 10/13/08 16:30 **Prep By :** Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
1,4-Dichlorobenzene	106-46-7	BRL	mg/L	1	0.05		
2,4,5-Trichlorophenol	95-95-4	BRL	mg/L	1	0.05		
2,4,6-Trichlorophenol	88-06-2	BRL	mg/L	1	0.05		
2,4-Dinitrotoluene	121-14-2	BRL	mg/L	1	0.05		
2-Methylphenol	95-48-7	BRL	mg/L	1	0.05		
3- & 4-Methylphenols	108-39-4 & 106-44-5	BRL	mg/L	1	0.05		
Hexachlorobenzene	118-74-1	BRL	mg/L	1	0.05		
Hexachlorobutadiene	87-68-3	BRL	mg/L	1	0.05		
Hexachloroethane	67-72-1	BRL	mg/L	1	0.05		
Nitrobenzene	98-95-3	BRL	mg/L	1	0.05		
Pentachlorophenol	87-86-5	BRL	mg/L	1	1.25		
Pyridine	110-861	BRL	mg/L	1	0.05		

QC Type: LCS and LCSD

Parameter	LCS Spk Added	LCS Result	LCS % Rec	LCSD Spk Added	LCSD Result	LCSD % Rec	RPD	RPD CtrlLimit	%Recovery CtrlLimit	Qual
1,4-Dichlorobenzene	0.25	0.164	65.6	0.25	0.168	67.2	2.41	35	24-134	
2,4,5-Trichlorophenol	0.25	0.176	70.4	0.25	0.172	68.8	2.29	35	6-115	
2,4,6-Trichlorophenol	0.25	0.172	68.8	0.25	0.178	71.2	3.43	35	4-138	
2,4-Dinitrotoluene	0.25	0.176	70.4	0.25	0.186	74.4	5.52	35	32-114	
2-Methylphenol	0.25	0.155	62	0.25	0.165	66	6.25	35	6-132	
3- & 4-Methylphenols	0.5	0.301	60.2	0.5	0.323	64.6	7.05	35	29-132	
Hexachlorobenzene	0.25	0.183	73.2	0.25	0.192	76.8	4.8	35	44-142	
Hexachlorobutadiene	0.25	0.149	59.6	0.25	0.15	60	0.66	35	20-124	
Hexachloroethane	0.25	0.178	71.2	0.25	0.187	74.8	4.93	35	14-136	
Nitrobenzene	0.25	0.171	68.4	0.25	0.176	70.4	2.88	35	38-146	
Pentachlorophenol	0.25	0.11	44	0.25	0.117	46.8	6.17	35	25-125	
Pyridine	0.25	0.116	46.4	0.25	0.119	47.6	2.55	35	6-112	

Refer to the Definition page for terms.

EPAHO119001205

CES Environmental Services SPECIAL PROJECTS

Chain of Custody Record

CES Environmental Services
4904 Griggs Rd.
Houston, TX 77021
Main Number: (713) 676-1460
Fax: (713) 676-1676

Suite 100

PRIVATE ANALYTICAL SAMPLING LABORATORY
A&B Environmental Services, 10100 East Freeway, Houston TX, 77029, Fax (713) 453-6091; Phone (713) 453-6060

Project Name	Sample Name	Comments/Special Instructions:
CES Spent Carbon Testing	See Below	Turnaround Time Required: Regular
Project Supervisor: Gary Peterson		Date Needed: 10-21-2008 Number of Days: 6
SAMPLE COLLECTED BY: PRINT: Gary Peterson SIGN: Gary Peterson		OTHER INFORMATION:
Date & Time Sample Collected: 10-10-2008 2:15 PM		Sample Matrix: SOLID, granular carbon
Composite Date and Time: 10-10-2008 2:17 PM		Sampling: Composite caught from 6 super sacks of carbon
Six bulk sacks of carbon were sampled and composited into two liter containers (1 sample given to the lab)		Sample Container: Plastic
		Comments/Special Instructions: Spent Carbon Profile is attached w/ chemical components from attachment.
Type & No. of Samples & Containers		Sample volume: 1,000 grams
Plastic 1	PRESERVATION	SAMPLE ID: Scrubber System Spent Used Carbon, 10-2008
Composite of 6 Bulk Sacks	Yes, Cool	LAB LOG ID: 1008-24

Requested Analytical Testing: TCLP Volatiles, TCLP Semi-volatiles, TCLP Metals (11)

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Gary K Peterson	10-13-2008	12:10 PM	Arthur Peterson	10/13/08	12:10 PM
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Arthur Peterson	10/13/08	1234	UPS	10/13/08	1234
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

EPAHO119001206

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-5758 • FAX (928) 669-5775 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2664 • FAX (530) 527-0544 EPA ID: CAR 000 058 784

SPENT CARBON PROFILE FORM

GENERATOR INFORMATION

1. a) Generator: CES Environmental Services, Inc. b) Site Address: SAME
   Mailing Address: 4904 Griggs Road, Houston, Texas 77021
   c) Contact Name: Gary R. Peterson d) EPA ID#: TXD008950461
   e) Phone No: (713) 676-1460 f) Fax No: (713) 676-1676

CONSULTANT INFORMATION

2. a) Consultant: b) Contact:
   Mailing Address: c) Phone:
   d) Fax:
   e) Email:

PROPERTIES AND COMPOSITION OF THE SPENT CARBON

3. Provide a specific description of the process generating the spent carbon including constituents being treated.
   (Please note if application is for potable water or food processing)
   The spent carbon comes from the scrubber system in the waste water hydrocarbon operations processing area used to scrub vapors emitted from processing. The chemical composition of the constituents being treated is attached.
   (benzene & MEK)

4. If this is a Renewal, Provide the Existing Profile Approval Number:

5. Type of Spent Carbon: ☐ Aqueous ☒ Vapor

6. Foreign Material: ☐ Yes ☒ No (rocks, dirt, sand, etc.)

7. Handling: ☐ Bulk ☐ Drum ☐ Adsorber ☒ Bulk Bag ☐ Other

8. Free Liquid Range: ☒ 0 ☐ 1 – 15% 9. Liquid Flashpoint: ☐ < 140°F ☐ > 140°F ☒ N/A Vapor

10. pH Range: ☐ <2 ☐ 2-4 ☒ 4.1-10.5 ☐ >10.5

11. Strong Odor? ☐ Yes ☒ No If yes, please Describe

12. Is spent carbon generated from a Superfund Site? ☐ Yes ☒ No

13. Is Spent Carbon Generated at a Subpart FF Facility? (Benzene NESHAP) ☐ Yes ☒ No

14. Does the waste contain benzene which is required to be managed and treated in accordance with the provisions of Subpart FF (40 CFR 61.342(f)(2)?
    Note: If yes, total benzene analysis is also required. ☐ Yes ☒ No

Revised 6/1/06

EPAHO119001207

15. DOES THE SPENT CARBON CONTAIN ANY OF THE FOLLOWING

A. Polychlorinated Biphenyls (PCBs)	☐ Yes	☒ No
B. Dioxins and/or Furans	☐ Yes	☒ No
C. Dibromochloropropane (DBCP)	☐ Yes	☒ No
D. Sulfide or Cyanide	☐ Yes	☒ No
E. Explosive, Pyrophoric and/or Radioactive material	☐ Yes	☒ No
F. Infectious material	☐ Yes	☒ No
G. Shock Sensitive material	☐ Yes	☒ No
H. Oxidizer	☐ Yes	☒ No
I. Heavy Metals	☐ Yes	☒ No

GENERATOR CLASSIFICATION

16. Is the Spent Carbon a RCRA Hazardous Waste? ☐ Yes ☒ No
If yes, list waste code(s) below:
RCRA Hazardous Waste requires "TT RCRA" Analysis

17. Is the Spent Carbon a State Hazardous Waste? ☐ Yes ☒ No
If yes, list waste code(s) below:

18. Is this Waste Subject to the Land Disposal Restriction Notification? ☐ Yes ☒ No

19. Estimated Annual Carbon Usage:

GENERATOR CERTIFICATION

I hereby certify that all information on this and all attached documents are true and that this information accurately describes the subject spent carbon. I further certify that all samples and analyses submitted are representative of the subject spent carbon in accordance with the procedures established in 40 CFR 261 Appendix I or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize Siemens Water Technologies to obtain a sample from any waste shipment for purposes of confirmation or further investigation. If I am a consultant signing on behalf of the generator, I have their proper approval.

Gary R Peterson — Printed Name

Gary R Peterson — Signature

Laboratory and Quality Assurance Mgr. — Title

10-13-2008 — Date

For Internal Use Only:
W90012 EX
Profile Approval Number

Valid Through

Revised 01/05/06

Page 2 of 2

EPAHO119001208

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-6758 • FAX (928) 669-6776 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2684 • FAX (530) 527-0844 EPA ID: CAR 000 058 784

PROFILE ADDENDUM FOR SLUDGE EXEMPTION

Generator: CES Environmental Services

Site Address: 4904 Griggs Road **City/State:** Houston, TX

The following information must be provided before approval of the profile if the generator requests that the spent carbon be classified as a non-hazardous sludge for reclamation in accordance with 40 CFR 261.2.

1. Is the subject spent carbon a sludge, as defined at 40 CFR 260.10?
   ☒Yes ☐No
2. Was the subject spent carbon generated from a municipal, commercial, or industrial wastewater treatment plant or water supply treatment plant or air pollution control facility?
   ☒Yes ☐No
3. Is the subject spent carbon a RCRA listed waste?
   ☐Yes ☒No
4. Was the subject spent carbon ever placed in contact with, or used to treat, a RCRA listed waste?
   ☐Yes ☒No
5. Was the subject spent carbon generated by a RCRA regulated treatment, storage or disposal facility?
   ☐Yes ☒No
6. If question 5 is checked YES, does it "contain" or is it "derived from" a RCRA listed waste?
   ☐Yes ☐No
7. Is the subject spent carbon exempt from hazardous waste regulation in the state of generation?
   ☒Yes ☐No

I certify that the information on this form is true and accurately describes the subject spent carbon on the attached spent carbon profile form. I further certify that the subject spent carbon is exempt from regulation as a hazardous waste.

Gary Peterson
Printed Name

Gary Peterson
Signature

Laboratory Manager
Title

1-12-2009
Date

EPAHO119001209

Texas Natural Resource Conservation Commission

INTEROFFICE MEMORANDUM

To: Beverly Hartsock, Deputy Director
Office of Policy & Regulatory Development

Date: August 5, 1998

Thru: Ann McGinley, Director, Enforcement Division
Susan Ferguson, Director, Waste Policy & Regulations Division
Minor Hibbs, Director, Industrial & Hazardous Waste Division

From: Anne Rhyne, Enforcement Team II,
Waste Section, Enforcement Division

Subject: Management of Residues from Containers

TSD FACILITIES
- Texas Molecular (TEDGODFRE
- Vopax (JIMMY)
- ONYX - CWM
- SK

The purpose of this memo is to describe the specific scenario in which a facility may receive for storage or repackaging hazardous wastes without a RCRA permit, to provide guidance on the proper manifesting of waste residues from containers, and to describe the requirements for hazardous wastes generated in a product tank. This memo is intended to be used as guidance when evaluating facilities which receive tanks or containers from off-site for cleaning or reconditioning. It is divided into three main categories: Facilities Which Receive Non-Empty Waste Containers, Facilities Which Receive Empty Waste Containers, and Facilities Which Receive Product Containers.

I. Facilities Which Receive Waste Containers and / or Tanker Trailers Which Do Not Meet the Definition of RCRA Empty:

If the containers are not empty, as defined in 40 Code of Federal Regulations (CFR) Section (§) 261.7, these facilities receive hazardous waste. These facilities often receive the containers and tankers from either the generator or a Treatment, Storage, Disposal facility (TSD), remove the waste residue or "heel" from the container, then ship the removed waste off-site. A facility operating in this manner may have to obtain a permit, unless the following procedures are followed.

A. When is the Facility Not Required to Obtain a Permit?

The facility is not required to obtain a permit if:

1) The facility operates as a transfer facility in compliance with 30 Tex. Admin. Code § 335.94 (*Transfer Facility Requirements*) i.e., is a registered transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of § 335.65 (*Packaging*) on-site for a period of ten days or less. If the facility removes and repackages waste, then

2) The facility removes and repackages the waste using dry methods only, such as scraping or gravity draining. If the facility uses any solvent, including water, to remove the waste from the container, see Section I.B. of this memo.

B. When is the Facility Required to Obtain a Permit or Other Authorization?

The facility is required to obtain a permit or other authorization if:

1) The facility is not in compliance with 30 Tex. Admin. Code § 335.2 (*Permit Required*), i.e., allows or permits any activity of unauthorized storage, processing, or disposal of any industrial solid waste or municipal hazardous waste, or

2) The facility operates as a transfer facility but does not comply with all provisions of 30 Tex. Admin. Code § 335.94, i.e., stores hazardous waste on-site for longer periods than ten days, or

3) The facility uses a method to remove the waste residue which would alter the physical or chemical character or composition of the waste, such as rinsing with water or other solvents. These methods of waste removal would be considered "processing" as defined in 30 Tex. Admin. Code § 335.1 (*Definitions*).

C. How Should Waste Removed from RCRA Non-Empty Containers Be Manifested?

Assuming that the originally designated TSD was not able to remove the waste from the container to meet the definition of RCRA empty, the TSD shall contact the generator to inform the generator that not enough of the contents could be removed at the TSD to meet the definition of RCRA empty, and request instructions from the generator. If the generator wishes to send the container to a transfer / tank wash facility, the TSD must make the following adjustments to the **original manifest**. Then the generator shall complete a **new manifest**. The new manifest shall accompany the RCRA non-empty container to the transfer / tank wash facility, and shall also accompany the removed waste residue as it is shipped from the transfer / tank wash facility to a destination TSD. The manifests shall be completed in the following manner:

1) On the **original manifest,** the TSD shall correct Section 13, *Total Quantity*, to list the actual amount of waste removed from the container at the TSD facility.

2) On the **original manifest**, the TSD shall fill out Section 15, *Special Handling Instructions and Additional Information,* or Section 19, *Discrepancy Indication Space* with the following information:

- a note explaining that the entire contents of the container could not be removed;
- the container's new destination (the transfer / tank wash facility name and associated TNRCC Solid Waste Registration Number); and
- the new manifest document number, so that the original manifest can be matched to the new manifest, allowing for complete "cradle-to-grave" tracking of the waste shipment.

3) The **new manifest** shall list the following information:

- the original generator as the generator of the waste;
- the transporter(s) used to transport the waste from the TSD to the transfer / tank wash facility and then to the destination TSD, in Sections 5-8, and in Sections C-F, *Transporter 1 Company Name*, etc.
- an authorized TSD (either the original TSD or another TSD) in Section 9, and in Sections G and H, *Designated Facility Name and Site Address,* etc. Note: the waste may not go back to the original generator unless the original generator is authorized to receive hazardous waste for processing, storage, or disposal;
- Before the waste is shipped from the transfer / tank wash facility, Section 12, *Number and Type of Containers,* of the new manifest shall be corrected. Example: If the new manifest which arrived at the transfer / tank wash facility listed one (1) tanker trailer containing 1,000 lbs. of waste, and the transfer / tank wash facility removed all the waste from the tanker and placed that waste in drums, the correction on the manifest as the waste leaves the facility would state five (5) drums containing 1,000 lbs. of waste.
- any necessary corrections to Section 13, *Total Quantity* and Section 14, *Unit Weight / Volume.*
- the original manifest document number in Section 15, *Special Handling Instructions and Additional Information*, or in Section 19, *Discrepancy Indication Space*, and a statement that this waste is being shipped to the transfer / tank wash site because the TSD was not able to clean the container to RCRA empty; and

- the generator's signature and the date in Section 16, *Generator's Certification.*

Note: If a transfer / tank wash facility is not able to remove the waste such that the container meets the definition of RCRA empty using dry methods only, then the transfer / tank wash facility must notify the generator and send the non-empty container to a TSD chosen by the generator. If the transfer / tank wash facility intends to solvent rinse non-empty containers, then the facility must first obtain a permit as discussed in Section I.B. of this memo.

II. Facilities Which Receive Waste Containers and / or Tanker Trailers Which are RCRA Empty:

How is the Waste Removed from an Empty Container Regulated?

If the material removed from the container was a manifested waste or is going to be disposed (including use as a waste fuel or burning for energy recovery) it meets the definition of a solid waste. **The facility which removed the waste from the RCRA empty container or tanker would be considered the generator of this new waste.** (For wastes generated in a product tank or product transport vehicle, see Section III.A. of this memo). The November 25, 1980 Federal Register, 45 FR 78526, which added the empty container rule to 40 CFR Part 261 refers to the residues from empty containers as "unregulated residues". Therefore, **the waste residue removed from an empty container is not subject to hazardous waste regulation under parts 261 through 265 or part 268, 270 or 124 or to the notification requirements of section 3010 of RCRA.** It is the responsibility of the generator to comply with all applicable record keeping requirements of 30 Tex. Admin. Code § 335.9 for all industrial and hazardous wastes generated, including maintaining documentation to support any contentions or claims regarding the description, character, and classification of all wastes generated, stored, processed, and disposed of on-site or shipped off-site. Specifically, the generator shall document that this waste was generated from the clean out of RCRA empty container(s). The waste residue shall be managed as a nonhazardous, industrial solid waste, subject to all applicable requirements of 30 Tex. Admin. Code Chapter 335. However, if any solvents were used to remove the residue from the container, or if the residue was mixed with hazardous waste, then the waste may become subject to regulation as a hazardous waste.

The residue from an empty container may be regulated as a hazardous waste in the following circumstances:

1) If the residue was mixed with an F-listed solvent. If the residue was removed using any solvents which, when spent, are listed in 40 CFR § 261.31 (*Hazardous wastes from non-specific sources*), during the cleaning process and the resultant waste meets the listing definition, then it is a hazardous waste.

2) If the residue was mixed with a listed hazardous waste. If the residue was mixed with a waste from the F,K, P, or U lists, then the resultant waste also would be a hazardous waste.

3) If the residue was mixed with a characteristically hazardous waste. If, instead of an F-listed solvent rinse, the residue was mixed with a material that exhibited a characteristic of a hazardous waste (the "D" waste codes), and if the resultant waste exhibits the same characteristic, then it is a hazardous waste.

Note: If the residue was mixed with uncontaminated water, the waste would not be considered characteristically hazardous. Since the residue itself was exempted from hazardous waste regulation, the residue mixed with water would not be considered hazardous.

III. Facilities Which Receive Containers and / or Tanker Trailers Which Contain Product Residues:

A. Are Residues Removed from *Product* Containers Subject to the Same Requirements as Residues Removed from *Waste* Containers?

No. Residues from product containers may or may not be solid wastes, whereas residues from waste containers have already been determined to be solid wastes. A container which previously held product

or raw material may still contain residues which are going to be removed at a transfer / tank wash facility before the container is reused. If the product removed from the container is going to be used for its intended purpose, then it would not be a *discarded* material, and therefore, would not be a solid waste, as defined in 40 CFR § 261.2(a)(1) (*Definition of solid waste*). A discarded material is any material which is abandoned, recycled, or inherently waste-like, as these terms are defined in 40 CFR § 261.2(b),(c), and (d). Product residues removed from a container may also be exempt from regulation as a solid waste under 40 CFR § 261.2(c), Table 1 or 40 CFR § 261.2(e) (*Materials that are not solid waste when recycled.*)

In addition, an exemption exists for any hazardous waste generated in certain product tanks. 40 CFR § 261.4(c) (*Hazardous wastes which are exempted from certain regulations*), states that a hazardous waste which is generated in a product or raw material storage tank, or product or raw material transport vehicle or vessel is not subject to regulation under parts 262 through 265, 268, 270, 271, and 124 until it **exits** the unit in which it was generated or unless it remains in the unit more than 90 days after the unit ceases to be operated for the manufacturing, storage, or transportation of product or raw materials. **The facility which removes this residue from the container or tanker would be considered the generator of this waste and all applicable generator requirements would apply.**

As discussed in the October 30, 1980 Federal Register, 45 FR 72024, the exemption in 40 CFR § 261.4(c) was intended for "sludges and residues" which are periodically removed through washing of the product transport vehicles and vessels. This waste, unless exempted from hazardous waste regulation under 40 CFR § 261.4(b) (*Solid wastes which are not hazardous wastes*) shall be compared to the characteristics of a hazardous waste described in 40 CFR Subpart C, and the lists of hazardous waste described in 40 CFR Subpart D. If the removed material is a waste and is not exempted from hazardous waste regulation under 40 CFR § 261.4(b) (*Solid wastes which are not hazardous wastes*), then this waste shall be compared to the characteristics of a hazardous waste described in 40 CFR Subpart C. If any solvents listed in 40 CFR § 261.31 were used to clean out the residue, this waste shall also be compared to the lists of hazardous waste described in 40 CFR Subpart D.

B. How Long Can the Residue Remain in the Container and Still Meet the Exemption?

No more than 90 days. In order to be exempted from regulation, the waste generated in a product tank or product transport vehicle must not remain in that unit more than 90 days after the unit ceases to be operated for manufacturing, storage, or transportation of product or raw materials. In addition, the October 30, 1980 Federal Register, 45 FR 72024, states, "the 90-day accumulation period starts when the hazardous waste is removed from the tank, vehicle, vessel or unit, except in the case where a tank, vehicle, vessel or unit ceases to be operated for its primary purpose, in which case the period starts when operation ceases." It is important to note that there may be two separate storage time limits on the same residue. The residue can remain in the unit up to 90 days, then once it is removed from the unit and placed into containers, the generator may store it for an additional time period in compliance with 30 Tex. Admin. Code § 335.69 (*Accumulation Time*). For example, a large quantity generator may store waste for up to 90 days, provided that all applicable provisions of § 335.69 are met. As stated in Section III.A. of this memo, the generator is the facility which removed the residue from the unit.

C. Are Facilities Which Receive Containers and / or Tanker Trailers Which Contain Product Residue Required to Obtain a Permit?

No, provided the residues do not remain in the container more than 90 days after the unit ceases to be operated for the transportation or storage of product or raw material, regardless of whether the container was stored at the transfer / tank wash facility or another location. Note: If the bulk of the product in the unit was removed at some location before the unit was transported to a transfer / tank wash facility for cleaning, it is probable that the transfer / tank wash facility will actually have less than 90 days before the waste must be removed from the unit. As soon as the facility removes the residue, the facility becomes the generator of this waste and all applicable generator requirements would apply.

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 24, 2003

Mr. Sean Easton, Vice President
CES Environmental Services, Inc.
4904 Griggs Road
Houston, TX 77021

Re: Removal of Hazardous Heels From Tanker Trailer/Waste Containers
Solid Waste Registration Number **30900**
Technical Analysis File Number **2914**

Dear Mr. Easton:

The Technical Analysis Team of the Texas Commission on Environmental Quality (TCEQ) has received your letter of March 7, 2003 regarding the requirements that must be met in order for CES Environmental Services, Inc. (hereafter referred to as CES) to properly remove hazardous heels from tanker trailers or waste containers that are *not* "RCRA empty". On behalf of the TCEQ, I wish to thank you for the opportunity to respond to your letter.

In your letter, you state that, based on the TCEQ interoffice memorandum dated August 5, 1998 entitled, "Management of Residues from Containers", it is CES' understanding that it may remove the hazardous waste heels from tanker trailers or containers that are not "RCRA empty" provided that the following conditions are met:

1. CES is registered with the TCEQ as a transporter of hazardous waste;

2. CES is registered with the TCEQ as a transfer facility and is in compliance with 30 Texas Administrative Code (TAC) Section 335.94 and 30 TAC Section 335.65;

3. Before any heel removal can be started, CES must receive the trailer or other waste container accompanied by a new manifest that is filled out in accordance with the instructions listed in Part C of the aforementioned memorandum;

4. CES must use only dry methods of removal (e.g., scrapping, digging, gravity draining etc.) that do *not* alter the physical or chemical properties of the waste; and

5. Once the hazardous heels have been removed, CES must properly label, store and transport the resulting waste to a permitted TSD facility for final disposal as well as make the referenced changes to the manifest.

EPAHO119001214

Re: Removal of Hazardous Heels From Tanker Trailer/Waste Containers
Solid Waste Registration Number **30900**
Technical Analysis File Number **2914**

Provided that the information in your letter is accurate and complete and: (1) CES complies with what, if any, permit requirements to which it may be subject, (2) CES complies with the requirements of 30 TAC Section 335.4 and Section 26.121 of the Texas Water Code and (3) CES complies with what, if any notification requirements found in 30 TAC Section 335.6 that may apply to CES and which are not covered above, the conditions listed above are sufficient for CES to comply with TCEQ regulations in order to remove hazardous waste heels from tanker trailers or waste containers that are not RCRA empty.

If you have any questions regarding this matter, please contact Mr. Jesse Boultinghouse of my team at (512) 239-2334. If responding by letter, please use Mail Code (MC-130) in the address.

Sincerely,

M. Scott Green

Scott Green, Leader
Technical Analysis Team
I&H Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality

MSG/JKB/cm

ENVIRONMENTAL PROFESSIONALS

WCM

The WCM Group, Inc.

March 5, 2003

City of Houston
Department of Public Works & Engineering
Wastewater Operations
Industrial Wastewater Services
Attn: Mr. Clyde Smith

Reference: CES Environmental; 4904 Griggs Rd., Houston TX; Wastewater Permit # 6806

Dear Mr. Smith,

On behalf of CES Environmental, per the wastewater requirements by the City of Houston Department of Public Works & Engineering, please see enclosed a copy of the abovementioned facility's Pollutant Management Plan. Should you have any questions pertaining to this plan, please feel free to contact me at 281-446-7070.

Sincerely,

Joseph E. Brown
Manager Transportation Services

JEB/dsm

P.O. Box 3247, Humble, TX 77347-3247 Tel (281) 446-7070 Fax (281) 446-3348 110 N. Bender Ave., Humble, TX 77338

CITY OF HOUSTON

Department of Public Works & Engineering
Industrial Wastewater Service
10500 Bellaire Blvd • Houston, Texas 77072
(281) 575-2800 / Fax (281) 983-6700

Lee P. Brown Mayor

Council Members: Bruce Tatro Carol M. Galloway Mark Goldberg Ada Edwards Addie Wiseman Mark A. Ellis Bert Keller Gabriel Vasquez Carol Alvarado Annise D. Parker Gordon Quan Shelly Sekula-Rodriguez M.D. Michael Berry Carroll G. Robinson Controller: Judy Gray Johnson

MATT BOWMAN
PRESIDENT
CES ENVIRONMENTAL SERVICES
4904 GRIGGS ROAD
HOUSTON, TX 77021

April 22, 2003

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Dear Mr. Bowman:

Attached please find your firm's amended Industrial Waste Permit No. 6806. Please make note of the special reporting requirements of Endorsement T, which is now part of your amended permit. Please refer to this current version of the Industrial Waste Permit and disregard all previously issued permits.

If you have any questions regarding this matter please call Charles Graham at (281) 575-2834.

Sincerely,

Clyde Smith
Assistant Operations Manager
Wastewater Operations
Public Works and Engineering

6806

ENDORSEMENT T

In accordance with the provisions listed in Chapter 47; Article V; (Disposal of Industrial Waste Through City Sewer System), and 40 CFR Part 442 (Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category) the following provisions are to your Industrial Waste Permit.

As an alternative to achieving Pretreatment Standards for Existing Sources of Pollution (PSES) your firm has submitted a Pollutant Management Plan (PMP).

a. **The facility is required to conduct its operations in accordance with the Pollutant Management Plan.**

b. **The facility shall notify the Industrial Wastewater Service prior to renewing or modifying their Industrial Waste Permit, of the intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting a certification statement of their intent to utilize a Pollutant Management Plan. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR Part 403.12(l).**

c. **The facility shall submit a copy of their Pollutant Management Plan to the Industrial Wastewater Service at the time they apply to renew or modify their Industrial Waste Permit.**

d. **The facility shall maintain at their office and make available for inspection the Pollutant Management Plan.**

The Pollutant Management Plan shall **include:**

I. **Procedures for identifying cargo's, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW.**

II. **For cargo's identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other waste waters, and handled in an appropriate manner;**

III. **For cargo's identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be pre-rinsed or pre-steamed as appropriate and the wastewater segregated from waste waters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;**

IV. **All spent cleaning solutions, including interior caustic washes, interior pre-solve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;**

V. Provisions for appropriate recycling or re-use of cleaning agents;
VI. Provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);
VII. Provisions for appropriate recycling or re-use of segregated waste waters (including heels and pre-rinse/pre-steam wastes);
VIII. Provisions for off-site treatment or disposal, or effective pretreatment of segregated waste waters (including heels, pre-rinse/pre-steam wastes, spent cleaning solutions);
IX. Information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and
X. Provisions for maintaining appropriate records of heel management procedures, pre-rinse/pre-steam management procedures, operator training, and proper operation and maintenance of any pretreatment system.

CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021
Phone: (713) 676-1460
Fax: (713 676-1676

Fax Transmittal

Total Number of Pages (Including cover sheet): 5

Date: 6/27/03

To: Joe Brown (281) 446-3348

From: **Sean Easton**
CES Environmental Services, Inc.
Mobile Phone: (713) 416-4160

Notes: Here's what the City sent us for the discharge permit.

Thanks,
SEAN

POLLUTANT MANAGEMENT PLAN

COMPLIANCE GUIDE

Prepared for
CES ENVIRONMENTAL SERVICES, INC.
Houston, Texas

Prepared by
THE WCM GROUP, INC.
Humble, Texas

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EPAHO119001222

ATTACHMENTS

A - APPROVAL LETTER

B - SITE MAP AND FLOW DIAGRAM

C - TRAINING REQUIREMENTS

D - FACILITY'S TCEQ NOTICE OF REGISTRATION

EPAHO119001223

1.0 INTRODUCTION AND CERTIFICATION

This Pollutant Management Plan (PMP) was developed in accordance with the guidance in 40 CFR 442.16(b) for compliance with the pre-treatment standards for the Transportation Equipment Cleaning category. CES Environmental Services, Inc. (CES) will conduct its operations as described in this PMP. The PMP will be submitted for approval to the City of Houston, Industrial Wastewater Service, Department of Public Works and Engineering. After approval, the Houston Public Works approval letter will be included in Attachment A.

CES is committed to this plan and certifies that it will utilize this PMP for compliance with the pre-treatment standards for the Transportation Equipment Cleaning category.

Steve Stricker
Operations Manager
CES Environmental Services, Inc.

3-7-03
Date

EPAHO119001224

3.0 TRUCK CLEANING OPERATIONS

3.1 IDENTIFY CARGO

Upon receiving an empty tank truck for cleaning at the facility, the contents last delivered by the tank truck are determined. The customer supplies a copy of the shipping manifest and/or a Material Data Safety Sheet (MSDS) for the most recent material hauled in the tank truck. This information is used in determining POTW compatibility, the management method for any residual material (or heel) in the tank truck, and the appropriate tank cleaning solution.

3.2 HEEL MANAGEMENT

Based on the shipping manifest and/or MSDS for the most recently shipped material, the proper heel management technique (e.g., storage in drums and shipment off-site or addition to the wastewater pre-treatment system) will be determined.

The truck is first inspected. Tank trucks with excessive amounts of heel will be returned to the customer or an additional charge may be assessed for the management of larger quantities of waste material. Large quantities of heel will be drained before pre-rinsing

Using the information collected under Section 3.1 above, a determination of whether the heel is a compatible or incompatible material will be made. In general, materials that are not water soluble and multi-phase materials are incompatible. Many water-soluble materials are POTW compatible.

Compatible pollutants are materials which are considered treatable at the POTW (e.g., food materials, some detergents, etc.) or which are incompatible with POTW and are effectively removed by pre-treatment at the CES facility (e.g., acids and bases).

Incompatible pollutants are materials which are considered as not treatable at the POTW and which are not effectively removed by the CES pre-treatment facility (e.g., petroleum products, emulsified oils). The heel from a tank truck, which last hauled an incompatible pollutant, will not be treated on-site. These incompatible pollutants (materials) will be stored and shipped off-site to a properly permitted facility for treatment and/or disposal.

3.3 PRE-RINSE

Thick, viscous, or tacky materials are difficult to remove from the tank truck. In addition, some trailers are not sloped to a central sump, making complete removal of residuals (heel) difficult. In these cases a pre-rinse solution (frequently hot water and steam) is used to reduce viscocity and to promote removal of residual materials. Pre-rinse is managed similarly to heel. Information collected under Section 3.1 above is used to determine POTW compatibility and to ensure regulatory compliance.

EPAHO119001225

4.0 WASTE MANAGEMENT

4.1 COMPATIBLE WASTES

The final rinse and other wastewater streams that are classified as compatible are collected and treated in the CES wastewater pre-treatment facility. Treatment is continuous and approximately 17,000 gallons per day is discharged to the POTW.

4.2 POTW INCOMPATIBLE WASTES

Incompatible wastes are collected in drums and bulk containers and labeled appropriately. Employees will label drums and classify them as hazardous and nonhazardous waste. These materials will be managed off-site.

4.3 RECYCLING AND REUSE

In some cases the heel and pre-rinse may be suitable for treatment at CES. Examples include caustic (used in caustic vat) and acids used to neutralize excess caustic in the wastewater treatment plant. Where possible, CES will recycle such chemicals for appropriate uses.

EPAHO119001226

5.0 CHEMICAL MANAGEMENT

The CES facility utilizes cleaners, brighteners, detergents, etc. The table below summarizes the chemicals used at CES and the average and maximum quantity in storage at any given time.

CLEANER	AVERAGE QUANTITY	MAXIMUM QUANTITY
All-Brite	150 Gallons	300 Gallons
Fleet Wash #2	150 Gallons	300 Gallons
Ezee –Strip	100 Gallons	200 Gallons
Sodium Hydroxide	2,000 Lbs	4,000 Lbs

Spent cleaners including interior caustic washes, interior pre-solve washes, interior detergent washes and interior acid washes are analyzed and shipped off-site, when necessary.

CES reuses the cleaning chemicals continuously by re-circulating and reheating material drained from the trailers. At the point that the cleaner becomes ineffective in removing contaminants from trailers it is replaced with fresh cleaner. The spent solution is managed off-site. CES prefers to utilize nontoxic or "low toxicity" cleaning compounds where possible to minimize any potential adverse effects on its wastewater pre-treatment system, the POTW, and the environment, in general. Where possible, aqueous solutions are used rather than solvents. When solvents are utilized, for example to remove resins, a less hazardous solvent is utilized. Other waste minimization measures include minimizing the amount of hazardous waste generated through the use of nonhazardous solvents, minimizing the amount of heel in incoming trucks, and using the minimum effective amount of solvent or water for pre-rinse. See Attachment D for a copy of the facility's current "Notice of Registration" (NOR) with the Texas Commission on Environmental Quality (TCEQ).

EPAHO119001227

6.0 PLAN ADMINISTRATION, TRAINING, RECORDS

6.1 PMP MODIFICATIONS

In the event of any changes made to pollution control system or a modification to the City of Houston, Public Works Department wastewater discharge permit, the PMP will be appropriately amended or modified as necessary, and a new certification statement will be prepared and submitted to the Public Works Department for review and approval.

6.2 TRAINING

The CES facility manager is responsible for ensuring that CES employees are properly trained in the requirements of this plan and that work practices at CES are in compliance with this plan. At least annually, all CES washrack employees will receive refresher training on the requirements of this plan. New employees will be trained in the requirements of this plan before they are allowed to work, except under the direct supervision of an experienced coworker or supervisor. Training requirements are listed in Attachment C.

6.3 RECORDKEEPING

CES will maintain records on truck trailers received for washing including the former contents of each truck trailer, heel management, any hazardous waste generated and employee training on the requirements of this plan.

EPAHO119001228

7.0 EMERGENCY PROCEDURES

7.1 RESPONSIBLE EMPLOYEES

The following CES employees should be contacted in the event of an emergency:

		Office	Home
Facility Manager	Steve Stricker	713-676-1460	979-345-5885
Washrack Supervisor	Jesus Lara	713-676-1460	936-258-8479

7.2 LEAK AND SPILL PREVENTION AND COUNTERMEASURES

Cleaning and other chemicals are purchased in drums and totes and stored behind the washrack. There are no floor drains in that contained storage area. Spills can be contained in that area. Any spillage will be collected in drums and properly disposed.

A spill kit including acid and caustic neutralizing agents, gloves, goggles, adsorbent materials, a container for spent adsorbent and other tools is located at each cleaning rack. A fire extinguisher is located on the washrack. First aid kit supplies are located in the shop. A drawing illustrating the storage locations for hazardous waste and cleaning chemicals and safety equipment locations is provided in Attachment B.

7.3 DISCHARGE PERMIT NONCOMPLIANCE

CES will notify the Houston Public Works Department within 1 hour of discovering an upset, malfunction, spill, accident or other incident that may have resulted in permit noncompliance. A written report on the incident that resulted in permit noncompliance will be submitted to public works within five (5) days of the incident. The written report will include the following information:

- A description and evaluation of the cause of the incident. Include the location of the incident, information on the chemical discharged to the City of Houston, the time and date it occurred and information on the quantity of chemical discharged and the amount of contaminated water discharged.
- The duration of the noncompliance including dates and times, and if still occurring when compliance will be achieved.
- Proposed steps to prevent reoccurrence of the incident.

EPAHO119001229

BATES CHEMICAL, INC.

FAXED JUL 14 2009

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Prabhaker Thangudu	Lee Ann Lockwood
COMPANY: CES Environmental	DATE: 7/14/09
PHONE NUMBER:	SENDER'S PHONE NUMBER: (281) 328-1677
FAX NUMBER: 713-676-1676	SENDER'S FAX NUMBER: (281) 328-8337
RE: Spent Carbon	E-MAIL: llockwood@bateschemical.com NO. OF PAGES:

☐ URGENT ■ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☺ PLEASE RECYCLE

NOTES/COMMENTS:

Information regarding Spent carbon as requested.

WOMEN'S BUSINESS ENTERPRISE NATIONAL COUNCIL

107 SOUTH RAMSEY LOOP ★ CROSBY, TEXAS 77532
PHONE: (281) 328-1677 ★ FAX: (281) 328-8337

WBEA Women's Business Enterprise Alliance

SIEMENS 2523 Mutahar Street - Box 3308 Parker, AZ 85344 AZD 982 441 263
11711 Reading Road Red Bluff, CA 96080 CAR 000 058 784

January 14, 2009

Consultant:

Generator Mailing Address:

(713) 676-1460
CES Environmental Services Inc.
4904 Griggs Road
Houston, TX 77021-

The following Spent Carbon Profile has been approved for acceptance at Siemens Water Technologies Corp.:

Generator:	CES Environmental Services Inc.
EPA ID:	TXD008950461
Site Address:	4904 Griggs Road Houston, TX 77021-
Waste Codes:	Exempt Sludge exemption per generator
Carbon Type:	Vapor
PH Range:	4.1 to 10.5
Profile Number:	W90012EX
Valid Through:	1/14/2011

Please feel free to call the undersigned at (928) 669-5758 if you have any questions.

Sincerely,

Douglas Eisner
Profiling Chemist

Siemens Water Technologies Corp. has all the necessary permits and licenses for the waste that has been characterized and identified by this profile.

Mercury Environmental Services, Inc.

6913 HWY 225, Deer Park, TX 77536
Phone: (281)-476-4534 Fax: (281)-476-4406

CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

Phone: (713) 676-1460
Fax: (713) 748-8664

Attn: **Prabhaker Thangudu**

- CERTIFICATE OF RESULTS -

MES Lab#: 9030145
Client Sample ID: Spent Carbon
Extended ID: CES Sample #0309-26

Sample Collect Date: 3/12/2009 @ 8:00:00 AM **Sample Type:** Grab
Sample Receipt Date: 3/12/2009 @ 11:32:00 AM

Test Group / Method

TCLP Benzene Method: SW-846 8260B	MDL	RL	Result	Units	Analyst: HDG Date / Time
Benzene	0.005	0.5	H 26.6	mg/L	3/15/2009 / 10:36 PM

Flags: H: Exceeds "High Limit" L: Below "Low Limit" RL=regulatory limit

John Keller, Ph.D., Lab Director

Monday, March 16, 2009
Date

Report Date: *16-Mar-09*

MAR-27-2009 09:52 CES ENVIRONMENTAL 7137488664 P.005 01/03
PAGE

9030145

MERCURY ENVIRONMENTAL SERVICES
QA/QC REPORT

SURROGATE SPIKE RECOVERY FOR BTEX	% REC
Dibromofluoromethane	98
Toluene-d8	101
4-Bromofluorobenzene	98

Key to QA Abbreviations

MS=Matrix Spike
MSD=Matrix Spike Duplicate
RPD=Relative Percent Deviation
MB=Method Blank
LCS=Laboratory Control Standard
CCV=Continuing Calibration Verification
CCB=Continuing Calibration Blank
%Rec=Percent Recovery
MDL=Minimum Detection Limit
RL=Regulatory Limit

Signature: John Keller
John Keller, Ph.D. / Laboratory Director

March 16, 2009

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

MERCURY ENVIRON LABORATORIES, LLC.
6913 Hwy. 225, Deer Park, TX 77536
(281) 476-4534 / (800) 771-4637
Fax: (281) 476-4408 / After Hours: (281) 844-2306
e-mail: mesenv@aol.com

Results To: Joe Camp	Invoice To:
Company: CES Environmental	Company: SAME
Address: 4904 Griggs Rd.	Address:
City: Houston State: TX Zip: 77021	City: State: Zip:
Phone: 713-676-1460	Phone:
Fax: 713-676-1676	Fax:
e-Mail: jcamp@cesenvironmental.com	e-Mail:

TAT - WORKING DAYS: (7) 3 2 1 ASAP

Matrix Key: W:Water WW:Waste Water S:Solid SO:Soil O:Oil SL:Sludge SE:Sediment WI:Wipe O:Oil OR:Organic OT:Other

Container Type Key: P:Plastic G:Glass V:VOA O:Other

Preservation Key: 1:Ice(4SoD) 2:HCl 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:NONE

NOTES:

Project Name:

Project Location:

Project No:

PO#: Quote#:

Container Type:	P												
Container ID:	A	B	C	D	E	F	G	H	I	J	K	L	M
Preservation:	1												
Volume:	1L												

PARAMETERS FOR ANALYSIS

MEL USE ONLY (LAB NO.)	YOUR SAMPLE ID.	DATE/TIME SAMPLED	MATRIX	GRAB/COMP.	TCLP Benzene	IF SPECIAL DETECTION LIMITS REQUIRED DETAIL BELOW:
9030145	1) spent carbon (3/12/09)	3/12/09 8:00AM	S	GRAB	X	
	2) (CES Sample #0309-26)					
	3)					
	4)					
	5)					on ice
	6)					2°
	7)					
	8)					
	9)					
	10)					

Relinquished By (Sign):	Print Name:	Company:	Date:	Time:	Received By (Sign):	Print Name:	Company:	Date:	Time:
[signature]	Joe Camp	CES Environmental	3/12/09	11:32AM	Ronda Hargrave		MEL	3-12-09	11:32 am
Relinquished By (Sign):	Print Name:	Company:	Date:	Time:	Received By (Sign):	Print Name:	Company:	Date:	Time:
Relinquished By (Sign):	Print Name:	Company:	Date:	Time:	Received By (Sign):	Print Name:	Company:	Date:	Time:

Note: Delivery of samples constitutes acceptance of terms and conditions in the Price Schedule.

CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021
Phone: (713) 676-1460
Fax: (713 676-1676

Fax Transmittal

Total Number of Pages (Including cover sheet): 3

Date: 1-12-09

To: STEVE 281-328-8337

From: Loren Thomas
CES Environmental Services, Inc.

Notes: WE CHANGED GENERATOR CLASSIFICATION.

THERE'S 3.34 PPM BENZENE WASTE CODE D018

EPAHO119001235

CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021
Phone: (713) 676-1460
Fax: (713 676-1676

Fax Transmittal

Total Number of Pages (Including cover sheet): 7

Date: 3-27-09

To: STEVE BATES 281-328-8337

281-798-4430 Loren - Cell

From: Loren Thomas
CES Environmental Services, Inc.

Notes: HERE'S THE PROFILE FOR SIEMENS WATER TECHNOLOGIES. WE HAVE 6 or 8 BAGS OF SPENT CARBON.

THANKS LOREN.

3/30 Product in 55 gal drums used drums because the scrubber blew up. Some vapors. Loren will return carbon.

* Loren sent a second profile - not needed. Process hasn't changed Can be used 1st for 2 years.

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-5758 • FAX (928) 669-5775 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2664 • FAX (530) 527-0544 EPA ID: CAR 000 058 784

SPENT CARBON PROFILE FORM

GENERATOR INFORMATION

1. a) Generator: CES Environmental Services, Inc.
   Mailing Address: 4904 Griggs Rd
   Houston, TX 77021
   b) Site Address: SAME
   c) Contact Name: Joe Camp
   d) EPA ID#: TXD008950461
   e) Phone No: (713) 676-1460
   f) Fax No: (713) 676-1676

CONSULTANT INFORMATION

2. a) Consultant: _____
   Mailing Address: _____
   b) Contact: _____
   c) Phone: _____
   d) Fax: _____
   e) Email: _____

PROPERTIES AND COMPOSITION OF THE SPENT CARBON

3. Provide a specific description of the process generating the spent carbon including constituents being treated.
   (Please note if application is for potable water or food processing)

The spent carbon comes from drums that scrub vapors in our Hydrocarbon Processing Facility. The constituents are C3 to C8 hydrocarbons.

4. If this is a Renewal, Provide the Existing Profile Approval Number: _____

5. Type of Spent Carbon: ☐ Aqueous ☒ Vapor
6. Foreign Material: ☐ Yes ☐ No (rocks, dirt, sand, etc.)
7. Handling: ☐ Bulk ☐ Drum ☐ Adsorber ☒ Bulk Bag ☐ Other _____
8. Free Liquid Range: ☒ 0 ☐ 1 - 15%
9. Liquid Flashpoint: ☐ < 140°F ☐ >140°F ☐ N/A Vapor
10. pH Range: ☐ <2 ☐ 2-4 ☐ 4.1-10.5 ☐ >10.5
11. Strong Odor? ☐ Yes ☐ No If yes, please Describe _____
12. Is spent carbon generated from a Superfund Site? ☐ Yes ☒ No
13. Is Spent Carbon Generated at a Subpart FF Facility? (Benzene NESHAP) ☐ Yes ☒ No
14. Does the waste contain benzene which is required to be managed and treated in accordance with the provisions of Subpart FF (40 CFR 61.342(f)(2)? ☒ Yes ☐ No
    Note: If yes, total benzene analysis is also required

EPAHO119001237

15. DOES THE SPENT CARBON CONTAIN ANY OF THE FOLLOWING

A. Polychlorinated Biphenyls (PCBs)	☐ Yes	☒ No
B. Dioxins and/or Furans	☐ Yes	☒ No
C. Dibromochloropropane (DBCP)	☐ Yes	☒ No
D. Sulfide or Cyanide	☐ Yes	☒ No
E. Explosive, Pyrophoric and/or Radioactive material	☐ Yes	☒ No
F. Infectious material	☐ Yes	☒ No
G. Shock Sensitive material	☐ Yes	☒ No
H. Oxidizer	☐ Yes	☒ No
I. Heavy Metals	☐ Yes	☒ No

GENERATOR CLASSIFICATION

16. Is the Spent Carbon a **RCRA** Hazardous Waste? ☒ Yes ☐ No
If yes, list waste code(s) below:
RCRA Hazardous Waste requires "11 RCRA" Analysis

D018 = 2616 ppm

17. Is the Spent Carbon a State Hazardous Waste? ☐ Yes ☒ No
If yes, list waste code(s) below:

18. Is this Waste Subject to the Land Disposal Restriction Notification? ☐ Yes ☒ No

19. Estimated Annual Carbon Usage:

GENERATOR CERTIFICATION

I hereby certify that all information on this and all attached documents are true and that this information accurately describes the subject spent carbon. I further certify that all samples and analyses submitted are representative of the subject spent carbon in accordance with the procedures established in 40 CFR 261 Appendix I or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize Siemens Water Technologies to obtain a sample from any waste shipment for purposes of confirmation or further investigation. If I am a consultant signing on behalf of the generator, I have their proper approval.

Joe Camp
Printed Name

Signature

Director of Processing
Title

3/23/09
Date

For Internal Use Only:

Profile Approval Number

Valid Through

EPAHO119001238

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-5758 - FAX (928) 669-5775 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2684 • FAX (530) 527-0544 EPA ID: CAR 000 058 784

PROFILE ADDENDUM FOR SLUDGE EXEMPTION

Generator: CES Environmental Services

Site Address: 4904 Briggs Road **City/State:** Houston, TX

The following information must be provided before approval of the profile if the generator requests that the spent carbon be classified as a non-hazardous sludge for reclamation in accordance with 40 CFR 261.2.

1. Is the subject spent carbon a sludge, as defined at 40 CFR 260.10?
☑Yes ☐No

2. Was the subject spent carbon generated from a municipal, commercial, or industrial wastewater treatment plant or water supply treatment plant or air pollution control facility?
☑Yes ☐No

3. Is the subject spent carbon a RCRA listed waste?
☐Yes ☑No

4. Was the subject spent carbon ever placed in contact with, or used to treat, a RCRA **listed** waste?
☐Yes ☑No

5. Was the subject spent carbon generated by a RCRA regulated treatment, storage or disposal facility?
☐Yes ☑No

6. If question 5 is checked YES, does it "contain" or is it "derived from" a RCRA listed waste?
☐Yes ☐No

7. Is the subject spent carbon exempt from hazardous waste regulation in the state of generation?
☑Yes ☐No

I certify that the information on this form is true and accurately describes the subject spent carbon on the attached spent carbon profile form. I further certify that the subject spent carbon is exempt from regulation as a hazardous waste.

Joe Camp
Printed Name

Director of Processing
Title

Signature

3/23/09
Date

EPAHO119001239

BATES CHEMICAL, INC.

FAXED JAN 12 2009

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Clark Fleming	Lee Ann Lockwood
COMPANY:	DATE:
Siemens	JANUARY 12, 2009
PHONE NUMBER:	SENDER'S PHONE NUMBER:
281-227-2866	(281) 328-1677
FAX NUMBER:	SENDER'S FAX NUMBER:
281-227-2864	(281) 328-8337
RE:	E-MAIL: NO. OF PAGES:
CES Profile	llockwood@bateschemical.com

☐ URGENT ■ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☺ PLEASE RECYCLE

NOTES/COMMENTS:

Please see the attached changes on the CES profile

WOMEN'S BUSINESS ENTERPRISE NATIONAL COUNCIL

107 SOUTH RAMSEY LOOP ★ CROSBY, TEXAS 77532
PHONE: (281) 328-1677 ★ FAX: (281) 328-8337

WBEA Women's Business Enterprise Alliance

Siemens Water Technologies

Arizona Facility: 2523 Mutahar Street • P.O. Box 3308 • Parker, AZ 85344
(928) 669-6758 • FAX (928) 669-6775 EPA ID: AZD 982 441 263
California Facility: 11711 Reading Road • Red Bluff, CA 96080
(530) 527-2684 • FAX (530) 527-0544 EPA ID: CAR 000 058 784

PROFILE ADDENDUM FOR SLUDGE EXEMPTION

Generator: CES Environmental Services

Site Address: 4904 Griggs Road **City/State:** Houston, TX

The following information must be provided before approval of the profile if the generator requests that the spent carbon be classified as a non-hazardous sludge for reclamation in accordance with 40 CFR 261.2.

1. Is the subject spent carbon a sludge, as defined at 40 CFR 260.10?
   ☒Yes ☐No
2. Was the subject spent carbon generated from a municipal, commercial, or industrial wastewater treatment plant or water supply treatment plant or air pollution control facility?
   ☒Yes ☐No
3. Is the subject spent carbon a RCRA listed waste?
   ☐Yes ☒No
4. Was the subject spent carbon ever placed in contact with, or used to treat, a RCRA listed waste?
   ☐Yes ☒No
5. Was the subject spent carbon generated by a RCRA regulated treatment, storage or disposal facility?
   ☐Yes ☒No
6. If question 5 is checked YES, does it "contain" or is it "derived from" a RCRA listed waste?
   ☐Yes ☐No
7. Is the subject spent carbon exempt from hazardous waste regulation in the state of generation?
   ☒Yes ☐No

I certify that the information on this form is true and accurately describes the subject spent carbon on the attached spent carbon profile form. I further certify that the subject spent carbon is exempt from regulation as a hazardous waste.

Gary Peterson
Printed Name

Gary Peterson
Signature

Laboratory Manager
Title

1-12-2009
Date

15. DOES THE SPENT CARBON CONTAIN ANY OF THE FOLLOWING

A. Polychlorinated Biphenyls (PCBs)	☐ Yes	☒ No
B. Dioxins and/or Furans	☐ Yes	☒ No
C. Dibromochloropropane (DBCP)	☐ Yes	☒ No
D. Sulfide or Cyanide	☐ Yes	☒ No
E. Explosive, Pyrophoric and/or Radioactive material	☐ Yes	☒ No
F. Infectious material	☐ Yes	☒ No
G. Shock Sensitive material	☐ Yes	☒ No
H. Oxidizer	☐ Yes	☒ No
I. Heavy Metals	☐ Yes	☒ No

GENERATOR CLASSIFICATION

16. Is the Spent Carbon a RCRA Hazardous Waste? ☒ Yes ☐ No DLP
If yes, list waste code(s) below:
RCRA Hazardous Waste requires "TT RCRA" Analysis

D018 = 3.34 ppm

17. Is the Spent Carbon a State Hazardous Waste? ☐ Yes ☒ No
If yes, list waste code(s) below:

18. Is this Waste Subject to the Land Disposal Restriction Notification? ☐ Yes ☒ No

19. Estimated Annual Carbon Usage:

GENERATOR CERTIFICATION

I hereby certify that all information on this and all attached documents are true and that this information accurately describes the subject spent carbon. I further certify that all samples and analyses submitted are representative of the subject spent carbon in accordance with the procedures established in 40 CFR 261 Appendix I or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize Siemens Water Technologies to obtain a sample from any waste shipment for purposes of confirmation or further investigation. If I am a consultant signing on behalf of the generator, I have their proper approval.

Gary R Peterson
Printed Name

Gary Peterson
Signature

Laboratory and Quality Assurance Mgr.
Title

10-13-2008
Date

For Internal Use Only:

Profile Approval Number

Valid Through

Revised 6/16/06

Page 2 of 2

EPAHO119001242

TCEQ - Records Request
11-21-2008

EPAHO119001243

8/5/09
0-4 B

ENTECH ENGINEERING INC.

P.O. Box 890746 • Houston, Texas 77289-0746 • (281) 332-3118

December 17, 2008
Entech Proposal
No. EP2008-12-86

Mr. Prabhakar R. Thangudu
HSE Manager
CES Environmental Services, Inc.
4904 Griggs Road
Houston, Texas 77021
Via E-Mail: pthangudu@cesenvironmental.com

SUBJECT: **PROPOSAL TO CONDUCT NO_X/CO/O_2 EMISSIONS INITIAL DEMONSTRATION OF COMPLIANCE TESTS ON TWO (2) BOILERS (EPN _____ AND _____) ACCORDING TO 30 TAC 117 (ATTAINMENT DEMONSTRATION) AT THE CES ENVIRONMENTAL SERVICES, INC.'S HOUSTON PLANT IN HOUSTON, HARRIS COUNTY, TEXAS (REGULATED ENTITY NUMBER: RN100693282; CUSTOMER REFERENCE NUMBER: CN60618946; ACCOUNT NUMBER: HG-1270-B; PERMIT BY RULE 30 TAC 106.183)**

Dear Mr. Thangudu:

According to our meeting on December 12, 2008, Entech Engineering is pleased to present this proposal to conduct Initial Demonstration of Compliance block three one-hour tests for nitrogen oxides (NO_X), carbon monoxide (CO), and excess oxygen (O_2) emissions on two (2) boilers at the CES Environmental Services, Inc.'s Houston Plant in Houston, Harris County, Texas. The objective of this program is to demonstrate initial compliance of two boilers on NO_X, CO, and O_2 emissions according the Texas Commission on Environmental Quality (TCEQ) Regulation VII (30 TAC 117) Section 117.2035 (Monitoring and Testing Requirements).

CES Environmental Services, Inc. operates two (2) natural gas fired boilers that are rated at 3.36 and 6.28 million-British-Thermal-Units-per-hour (MMBtu/hr). Boiler No. 1 is an 80 horsepower (HP), 150 psig steam generator manufactured by Williams Davis while Boiler No. 2 is an 100 HP, 150 psig steam generator manufactured by Cleaver Brooks. The two boilers are designated in the TCEQ Permit By Rule (30 TAC 106.183) as Emission Point Numbers (EPNs) _____ and _____, respectively.

In this program, the emission test is conducted to demonstrate initial compliance under §117.2035(e) where units operating without CEMS or PEMS must demonstrate compliance according to the requirements of §117.8000 (relating to Stack Testing Requirements). §117.8000(b) requires that the unit operates at the maximum rated capacity, or as near as practicable. Compliance must be determined based on the average of three one-hour emission test runs. §117.8000(c) requires that testing on NO_X, CO, and O_2 emission concentrations be performed using Reference Methods 7E or 20; 10, 10A, or 10B; and 3A or 20, respectively.

EPAHO119001245

In this program, three one-hour runs will be conducted on the two boilers measuring NO_X, CO, and O_2 concentrations with the boilers operating at or near their maximum rated capacities. Entech will measure NO_X and CO concentrations in parts-per-million-by-volume-dry-basis (ppmvd) and O_2 in volume percent (%vol.) from the boiler stacks. Stack flow rates will be determined using fuel flow rates and stoichiometric F_d factors calculated from the fuel composition according to the Reference Method 19. The F_d factor will be used to calculate the NO_X and CO emissions in pounds-per-million-British-Thermal-Unit (lb/MMBtu) for the units. The results will then be multiplied by the units' total heat input in million-British-Thermal-Unit-per-hour (MMBtu/hr) to determine mass emission rates in pounds-per-hour (lb/hr). In this program, plant personnel will conduct the fuel composition analysis and provide the fuel flow rate data. As an option, Entech may conduct the fuel analysis at additional cost, which is presented in the Program Cost section. The proposed program comprises four tasks as follows.

TASK I - PROGRAM COORDINATION, NOTIFICATION (BY CES ENVIRONMENTAL SERVICES, INC.), PREPARATION, TRAVEL, AND SETUP

TASK II - TWO (2) BOILERS (EPNs _____ AND _____) NO_X/CO/O2 EMISSION TESTS PER TCEQ 30 TAC 117 (ATTAINMENT DEMONSTRATION)

- **A. NITROGEN OXIDES (NO_X)**
- **B. CARBON MONOXIDE (CO)**
- **C. EXCESS OXYGEN (O_2)**

TASK III - LABORATORY ANALYSES (OPTIONAL)

- **A. C_1-C_6 PARAFFINS OLEFINS**
- **B. MISCELLANEOUS GASES (H_2, CO, CO_2, N_2, H_2)**

TASK IV - DOCUMENTATION

These tasks are delineated in the following sections.

EPAHO119001246

PROPOSED PROGRAM

TASK I - PROGRAM COORDINATION, NOTIFICATION (BY CES ENVIRONMENTAL SERVICES, INC.), PREPARATION, TRAVEL, AND SETUP

At initiation of the program, the testing requirements and procedures will be discussed and agreed between CES Environmental Services, Inc. and Entech Engineering. A test plan, including test schedules, responsibilities, and/or additional testing requirements will be formulated during this phase of the program. The test location, sample port requirements, and unit operating conditions will also be established during this phase. At times, the pretest discussion in Task I results in changes to the labor, equipment, and laboratory analysis requirements; if changes occur, the corresponding cost-estimate will be modified to reflect those changes.

Notification - Although notification to the TCEQ is not required for minor sources conducting Attainment Demonstration tests, a notification to the TCEQ is recommended. According to §117.345(b)(1), a verbal notification should be given to the TCEQ 15 days prior the compliance test date and a written notice should follow 15 days after testing is completed.

Sampling Facility Requirements - Prior to field testing, Entech Engineering will prepare the test equipment and travel from League City to the test site in Houston, Harris County, Texas. Entech Engineering assumes that, adequate sampling facilities, such as platforms, ports, monorails or brackets for monorails, scaffolding or cranes, power supplies, protection from excessive heat, etc., will be provided by the plant.

For conducting emission concentration tests on the boiler, one three-inch sampling port meeting the 40CFR60 Appendix B, Performance Specification (PS) 2, §3.2 requirements will be needed. 40CFR60 Appendix B PS2 §3.2 requires that the Reference Method (RM) sampling location be located at least two equivalent diameters downstream from the nearest control device, the point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate may occur, and at least a half equivalent diameter upstream from the effluent exhaust or control device. A minimum of one sampling port with inside diameter of at least two inches that provides a measurement line passing through the centroidal area and in the direction of any expected stratification will be needed. The CEMS and RM locations need not be the same. Overall, the sample port design and location have to conform to the requirements specified in the 40CFR60 Appendix B, Performance Specification 2.

For the compliance test, Entech Engineering will measure gaseous concentrations from the boiler stacks. Boiler No. 1 has a circular stack that protrudes approximately two feet past the roof line of the building where boiler is mounted. The stack internal diameter (ID) measures approximately 20 inches. The stack has a rain-cap but does not have sampling ports. Boiler No. 2 has a circular stack that protrudes approximately four feet past the roof line of the building where boiler is mounted. The stack internal diameter (ID) measures approximately 24 inches. The stack has a rain-cap but does not have sampling ports. Entech requests that at least one two-inch sampling port with a two-inch extension be installed on each stack at approximately 12 inches upstream of the

EPAHO119001247

exhaust. The sampling nozzle should point to the front of the building where the test trailer will be located. Scaffolding of lift will be needed to access the sampling ports.

Power Supply - Entech Engineering assumes that the electric power will be supplied by the plant. In this program, a test trailer equipped with Continuous Emission Monitoring Systems (CEMS) will be used to measure the gaseous concentrations of NO_X, CO, and O_2. The test trailer will require a power supply of 440 or 480-VAC single-phase (such as a welding outlet) with a 30-Amp breaker. Alternatively, a 220-VAC or 240-VAC outlet with a 60-Amp breaker maybe used. The power supply must be within 50 feet of the sampling location.

TASK II - TWO (2) BOILERS (EPNs _____ AND _____) NO_X/CO/O2 EMISSION TESTS PER TCEQ 30 TAC 117 (ATTAINMENT DEMONSTRATION)

Sampling Approach - According to §117.2035(e), units operating without CEMS or PEMS must demonstrate compliance according to the requirements of §117.8000 (relating to Stack Testing Requirements). §117.8000(b) requires that the unit operate at the maximum rated capacity, or as near as practicable. Compliance must be determined based on the average of three one-hour emission test runs. §117.8000(c) requires that testing on NO_X, CO, and O_2 emission concentrations be performed using Reference Methods 7E or 20; 10, 10A, or 10B; and 3A or 20, respectively.

For the compliance test, emission concentrations of O_2, NO_X, and CO will be measured using instrumentations according to the Reference Methods 3A, 7E, and 10, respectively. Stack flow rates will be determined using fuel compositions and fuel flow rates. The stoichiometric F_d factor for calculating the NO_X and CO emissions in pounds-per-million-British-Thermal-Unit (lb/MMBtu) will be determined according to the Reference Method 19. The mass emission rates in pounds-per-hour (lb/hr) will be calculated by multiplying the emission concentrations in lb/MMBtu to each unit's total heat input, which, in turn, is calculated by multiplying the fuel flow rates by the fuel's higher heating value (HHV). Alternatively, the stack flow rates may be determined by measuring the stack velocity and moisture contents at additional costs, which are not presented in this proposal.

Entech Engineering proposes that one series of three one-hour runs be conducted on each boiler stack under one operating condition to obtain representative emission averages; compliance status of the unit will be determined based on the arithmetic average of the three runs. The tests will be conducted with the unit operating at or near the maximum achievable capacity. CES Environmental Services, Inc. personnel will be responsible for collecting operational data to correlate to emission parameters. Process data such as load, fuel flow rates, and other applicable operational parameters that can correlate operating conditions to emission parameters will be collected by CES Environmental Services, Inc. personnel at fifteen-minute intervals.

In recent years, the TCEQ has requested that one fuel sample if the unit is natural gas fired or three fuel samples if the unit is plant gas fired be analyzed to determine the fuel compositions. The fuel analysis may be conducted by the plant or Entech Engineering. The cost for conducting the fuel analysis is presented as an option in the Program Cost section. For Entech to perform the fuel composition determination, one to three integrated fuel gas samples will be collected in Tedlar bags and analyzed for C_1-C_6 paraffins and olefins using a gas chromatograph equipped with flame ionization detector (GC/FID). The results may be used to calculate the F_d factor in this program.

EPAHO119001248

Miscellaneous gases such as hydrogen (H_2), oxygen (O_2), carbon dioxide (CO_2), and nitrogen (N_2) will be analyzed using gas chromatograph equipped with thermal conductivity detector (GC/TCD) per the ASTM Method D1946-90.

Sampling Methods - The proposed sampling procedures for this program shall be consistent with the methods described in 40CFR 60, Appendix A and/or the TCEQ Sampling Procedures Manual, except as noted. Sample points will be selected according to Performance Specification 2 or Reference Method 1 or 1A, if applicable. Velocity and volumetric flow rate measurements and moisture content measurements will not be conducted. Carbon dioxide (CO_2) concentrations, if determined, will be measured on-line or by collecting integrated flue gas samples in Tedlar bags and analyzing for CO_2 using Orsat Gas Analyzer or gas chromatograph equipped with thermal conductivity detector (GC/TCD).

For the O_2, NO_X, and CO emissions, Entech Engineering proposes to measure the concentrations using Reference Methods 3A, 7E, and 10, respectively. The pollutants' mass emission rates will be determined using the EPA F_d factors and the boiler and one preheater's fuel flow rates. The test parameters and their respective sampling methods are described as follows.

SAMPLE POINT DETERMINATION - 40CFR60, Appendix B, Performance Specification 2, §3.2 for concentration tests. EPA Reference Method 1 "Sample and Velocity Traverses for Stationary Sources" or 1A "Sample and Velocity Traverses for Stationary Sources with Small Stacks or Ducts" for velocity traverse tests, if applicable.

EXCESS OXYGEN (O_2), CARBON DIOXIDE (CO_2), & NITROGEN (N_2) - EPA Reference Method 3 "Gas Analysis for the Determination of Dry Molecular Weight", 3A "Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrumental Analyzer Procedure)", 3B "Gas Analysis for the Determination of Emission Rate Correction Factor or Excess Air" or 3C "Determination of Carbon Dioxide, Methane, Nitrogen, and Excess Oxygen From Stationary Sources".

NITROGEN OXIDES (NO_X) - EPA Reference Method 7E "Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedures)".

CARBON MONOXIDE (CO) - EPA Reference Method 10 "Determination of Carbon Monoxide Emissions From Stationary Sources".

F_d FACTORS - EPA Reference Method 19 "Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates".

HYDROCARBONS (C_1-C_6 PARAFFINS/OLEFINS) (OPTIONAL) - Integrated fuel samples will be collected in Tedlar bags and analyzed for C_1 through C_6 paraffins and olefins using gas chromatograph equipped with flame ionization detector (GC/FID).

EPAHO119001249

MISCELLANEOUS GASES (OPTIONAL) - Hydrogen (H_2), nitrogen (N_2), oxygen (O_2), and carbon dioxide (CO_2) concentrations in the fuel gas will be analyzed according to ASTM Test Method D1946-90 using gas chromatograph equipped with thermal conductivity detector (GC/TCD).

These sampling methods will be selected as applicable according to the emission parameters. Some sampling methods may be modified and other methods maybe added as the test protocol is finalized.

TASK III - LABORATORY ANALYSES

After completion of field testing, Entech personnel will tear down, pack, and transport all sampling equipment and emission samples back to League City, Texas. The emission samples will be reduced on site before transporting to Entech's emission laboratory. Laboratory analyses will be performed by Entech Engineering, and/or other commercial laboratories, if applicable, per the EPA and/or TCEQ laboratory procedures. In this program, if gaseous fuel analysis is performed by Entech, the C_1-C_6 paraffins/olefins will be analyzed using gas chromatograph equipped with flame ionization detector (GC/FID). Miscellaneous gases such as H_2, N_2, CO, CO_2, and O_2 may be analyzed using gas chromatograph equipped with thermal conductivity detector (GC/TCD).

TASK IV - DOCUMENTATION

The required calculations and tabulations will be performed after all laboratory analyses are completed. A final report will be issued within 60 days after completion of testing. This report will document the findings and results of the program and provide all pertinent information concerning the test program.

Entech Engineering estimates that two experienced test persons (1 Environmental Scientist and 1 Environmental Technician) will be needed to perform Task II. Additionally, a Consulting Engineer or Principal Environmental Scientist will be assigned as the program manager, whose responsibility includes program coordination, supervision, and technical assistance. Testing will be based on conducting three one-hour runs per boiler on two boilers in two eight-hour days. The test program also includes four hours for equipment set up one day before testing and one hour for tear down immediately following the test. These time allocations are based on the actual time required for Entech personnel to perform the proposed tasks and do no include delays or down time from the plant operation; if plant operational or scheduling delay occurs, additional cost will incur.

EPAHO119001250

PROGRAM SCHEDULE

A tentative test schedule for conducting the $NO_X/CO/O_2$ emission concentration tests on two boilers at the CES Environmental Services, Inc.'s facility is summarized in the following table.

TASK		NO. OF DAYS	
I	Preparation	0.25	
	Equipment setup on Boiler No. 1	0.5	(4 hrs)
II	$NO_X/CO/O_2$ emission test on Boiler No. 1	1.0	(8 hrs)
	Equipment setup on Boiler No. 2		(1 hr)
II	$NO_X/CO/O_2$ emission test on Boiler No. 2	1.0	(8 hrs)
	Equipment teardown		(1 hr)
III	Laboratory analyses (Optional)	15.0	
IV	Documentation	2.0	

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PROGRAM COST

The cost-estimate for conducting $NO_X/CO/O_2$ emissions Initial Demonstration of Compliance test on two boilers at the CES Environmental Services, Inc.'s facility in Houston, Harris County, Texas is presented as follows:

Basic Program

- $NO_X/CO/O_2$ emission tests on two (2) boilers in Houston, Texas (3x1hr. runs x 2 boilers) = $ 9,510.00
(Costs include all labor, equipment, lab analyses, living & incidental charges as proposed)

Options (Costs of options selected will be added to the Basic Program cost)

- Pretest Meeting with the TCEQ (in Houston, TX)	**= $**	**495.00**
- Fuel analysis (incl. C_1-C_6 paraffins/olefins, H_2, O_2, N_2, CO_2, CO) (Cost per sample)	**= $**	**250.00**

The cost-estimates presented above take into consideration a normal amount of scope and scheduling changes for this type of work. Therefore, the fees quoted maybe considered a "firm-price" cost that will not be exceeded without approval from you. However, the cost should not be considered "fixed-price" when delays incurring excessive overtime to site personnel and/or scope change requiring additional time, labor, equipment, and analysis. Entech Engineering generally works on a consulting basis and charges only for actual time expended. Labor daily rates are based on an eight-hour day, while equipment rates are based on a 24-hour day. Overtime hours will be charged at one and one-half times the normal hourly rates. Related travel and incidental expenses, computer time, and purchased materials are billed at cost plus 10% to cover general and administrative expenses associated with providing these services.

The cost-estimate for this program is based on the proposed test schedule, which includes all labor, equipment, travel, living, and incidental charges. Alteration to the test plan that requires additional testing time, equipment, and/or laboratory analyses will incur extra charges, which will be added to the total estimated cost. The cost presented assumes that the tests will be conducted continuously without down time from the plant operation or other scheduling delays. Down time occurs during the program that extends the program beyond the allocated time will be billed for standby cost according to the Entech 2008 Rate Schedule, plus per diem expenditures, if applicable. Entech Engineering's normal standby charges for equipment are at 70% of the normal daily rates.

Invoices are issued at the end of the program or on the first day of each month for the period ending on the last day of the preceding month. Invoices show a breakdown of labor by classification and details of other costs. Terms are net 30 days. The maximum costs agreed in our contract or purchase order will not be exceeded without prior approval from you. This cost quotation is valid for 60 days from the date of the proposal.

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The proposed program will be performed by experienced personnel from our League City, Texas office. This experience and Entech Engineering's past performances, assure CES Environmental Services, Inc. of a successful and cost-effective program. We appreciate the opportunity to present this proposal and look forward to working with you in the near-future. Please call me if you have any questions or comments concerning this proposal.

Sincerely,

Billy T. Y. Lee, P.E.
President

EPAHO119001253

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

THE HOUSTON-GALVESTON-BRAZORIA AREA

Minor Source Rule

An Air Quality Rule for Equipment at Your Business

What Are the Record-Keeping and Reporting Requirements of the Minor Source NO_x Rule? (Boilers, Process Heaters, Stationary Engines, and Turbines)

RG-440C (9/08)

EPAHO119001254

Buddy Garcia, Chairman
Larry R. Soward, Commissioner
Bryan W. Shaw, Ph.D., Commissioner
Mark R. Vickery, P.G., Executive Director

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Minor Source Rule

An Air Quality Rule for Equipment at Your Business

What are the record-keeping and reporting requirements of the Minor Source NO_x Rule? (boilers, process heaters, stationary engines, and turbines)

How can this guide help me?

This publication summarizes the TCEQ's record-keeping and reporting requirements under rules covering minor sources of nitrogen oxides (NO_x) in the Houston-Galveston-Brazoria area. NO_x sources include equipment such as boilers, process heaters, stationary engines, and turbines. This Minor Source Rule applies only to businesses that qualify as minor sources. This rule is designed to protect air quality and human health.

This publication contains information to help you comply with proper record-keeping and reporting requirements in accordance with the rules found in 30 Texas Administrative Code (30 TAC), Sections 117.2000–2045.

What if I'm in violation of TCEQ rules?

It is always better to report your own violations than to be the subject of a complaint or to have the TCEQ discover violations during an investigation. If you find you are in violation of TCEQ rules, you are encouraged to make good-faith efforts to report problems as soon as you become aware of them and to develop a TCEQ-approved plan to correct those problems.

Keep in mind that this publication does not contain the complete rules or all of the information you may need to be in compliance.

See Note One on page 5 for instructions on finding the text of this rule and other state environmental rules on the Secretary of State's Web site. You may keep up to date with efforts to improve air quality in the Houston-Galveston-Brazoria area by signing up for the automated mailing list for Texas' State Implementation Plan (SIP), or subscribe to the TCEQ's e-mail update service at <www.tceq.state.tx.us> and click on the "sign up for e-mail updates" icon. To join the mailing list, send a blank e-mail with no subject or message to <join-sip@listserv.tceq.state.tx.us>. You will be notified of stakeholder meetings, public hearings, and comment periods for draft rules and air quality plans.

See Note Two on page 5 for instructions on how to locate information about calculating your emissions, and to determine emission factors, along with information on resources that can be used for record keeping and reporting.

Record-keeping requirements for your equipment.

1. Required equipment records depend upon the following:
   - the type of equipment;
   - whether or not the equipment is partially exempt from this rule;
   - whether or not the equipment has a Continuous Emissions Monitoring System (CEMS) or a Predictive Emissions Monitoring System (PEMS) installed; and
   - the type of fuel.

   The specific records for each type of equipment are listed in 30 TAC 117.2045(a). (See Note One to obtain information on locating these rules on the Internet.)

2. Table 1 outlines records you must keep if your equipment is **not fully or partially exempt** (non-exempt equipment). Record-keeping requirements for partially exempt equipment are outlined in a separate TCEQ publication, RG-440a. For instructions on how to order or download guidance documents from the TCEQ Web site, see Note One.

EPAHO119001256

Table 1. Record-keeping Requirements for Non-exempt Equipment

✔ = Required

Required Records	Type of Equipment			
	Units *without* a CEMS or PEMS	Units *with* a CEMS or PEMS	Engines	Diesel or dual-fuel engines
Annual fuel usage by the unit	✔	✔	✔	✔
Hourly emissions and fuel usage **or** stack exhaust flow for units complying with an emission limit enforced on a block one-hour average		✔		
Daily emissions and fuel usage **or** stack exhaust flow for units with an emission limit enforced on a 30-day rolling average in lbs/Btu heat input and lbs/day or tons/day		✔		
Maintenance on catalytic converter, air-fuel ratio controller, and other emissions-related control systems including the date and specific maintenance performed			✔	✔
Quarterly NO_x and CO measurements [see 30 TAC 117.8140(b) for specifics on measurements]			✔	✔
NO_x and CO measurements within two weeks of ■ any engine maintenance that could increase NO_x emissions; ■ O_2-sensor replacement; ■ catalyst cleaning; or ■ catalyst replacement [see 30 TAC117.8140(b) for specifics on measurements]			✔	✔
Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, or steam-to-fuel or water-to-fuel ratio monitoring systems	✔	✔	✔	✔
Results of performance and other testing (see 30 TAC 117.2035 for testing details)	✔	✔	✔	✔
Dates of operation				✔
Start and end times of operation				✔
Identification of the engine				✔
Total hours of operation for each month and for the most recent 12 consecutive months				✔

- This publication contains information on a variety of logs that can be used to keep the required records and can be downloaded from <www.tceq.state.tx.us/goto/nox>. **You are not mandated to use these specific logs.** You may keep the records in any way that meets the requirements of the rule. The logs are in suggested form only and are offered as a courtesy.
- The record-keeping requirements differ depending on the type of equipment and whether it is exempt from some portion of the rule or not.
- Because most of the records will apply to a specific piece of equipment, the TCEQ recommends that you maintain a set of file folders or a notebook for each piece of equipment. Table 2 gives one example of an organizational scheme for the data, for file folders, or for a notebook.
- You may wish to include the name of the equipment and the year on the notebook cover and spine.
- You must keep all records for at least five years and they must be available for inspection upon request to any representative of the TCEQ, the U.S. Environmental Protection Agency, or any local air-pollution-control agency having jurisdiction.

EPAHO119001257

Table 2. Example Notebook Tabs and File Folders

Generic Folder Title or Tab	*Example Folder Title or Notebook Tab*	*Folder Contents or Information Stored Behind the Tab*
[Unit Identification] General Information	Boiler #1: General Info	Manufacturer's information, guarantees, maintenance contracts, etc.
[Unit Identification] Year—Testing, Maintenance, Etc.	Boiler #1: 2006—Testing, Maintenance, etc.	All records of testing, maintenance, repairs, calibrations etc. performed during the specified year
[Unit Identification] Year—Operations Logs	Boiler #1: 2006—Operations Logs	All the logs completed in a given year

Refer to the list of log forms in Table 3 to determine which of the logs are applicable to your specific equipment.

Table 3. Log Forms Available Online at <www.tceq.state.tx.us/goto/nox>

1. Emergency Engine Operation
2. Diesel or Dual-fuel Engine Testing and Maintenance Operations
3. Daily Engine Operations
4. Annual Fuel Usage
5. Exempt School Boiler Monthly Operations
6. Total Monthly Fuel Usage for Site
7. Engine Emissions
8. Daily Emissions—Non-exempt Equipment with a NO_x CEMS or PEMS—30-day Rolling Average
9. Daily Emissions—Non-exempt Equipment with a NO_x CEMS or PEMS—Block One-hour Average
10. 30-Day Rolling Averages

EPAHO119001258

Table 4. Record-Keeping Logs for Equipment

✔ = Required

Equipment	Logs										Additional Records
	1	2	3	4	5	6	7	8	9	10	
Engines											
Gas or dual-fuel engines operated only in emergency situations.	✔	✔									
Diesel engines meeting **all** of the following conditions: 1. operated only in emergency situations; 2. placed into service before Oct. 1, 2001; and 3. not modified after Oct. 1, 2001.	✔	✔									
Diesel engines meeting **all** of the following conditions: 1. placed into service before Oct. 1, 2001; 2. operated <100 hr/yr (based on a rolling 12-month average); and 3. not modified, reconstructed, or relocated on or after Oct. 1, 2001.		✔	✔ (1)								
Diesel engines meeting **all** of the following conditions: 1. placed into service on or after Oct, 1, 2001; 2. new, modified, reconstructed, or relocated stationary engine; 3. operated <100 hr/yr in non-emergency situations, based on a 12-month rolling average; and 4. meeting emission standards for non-road engines in effect at the time of installation, modification, reconstruction, or relocation.		✔	✔ (1)								
Non-exempt engines **with** an NO_x CEMS or PEMS			✔ (2)	✔			✔	✔ (3)	✔ (3)	✔ (3) (4)	■ Catalytic converter, air-fuel ratio controller, or other emissions-related maintenance, including the date and nature of corrective actions taken ■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing
Non-exempt engines **without** an NO_x CEMS or PEMS			✔ (2)	✔			✔				■ Catalytic converter, air-fuel ratio controller, or other emissions-related maintenance, including the date and nature of corrective actions taken ■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing
Boilers											
Exempt boiler located at an independent school district property				✔	✔	✔					
Exempt boiler with an NO_x CEMS or PEMS not located at an independent school district property				✔							
Exempt boiler without an NO_x CEMS or PEMS not located at an independent school district property				✔							
Non-exempt boiler with an NO_x CEMS or PEMS				✔				✔ (3)	✔ (3)	✔ (3) (4)	■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing
Non-exempt boiler without an NO_x CEMS or PEMS				✔							■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing
Turbines											
Non-exempt turbine with an NO_x CEMS or PEMS				✔				✔ (3)	✔ (3)	✔ (3) (4)	■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing
Non-exempt turbine without an NO_x CEMS or PEMS				✔							■ Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems ■ Results of performance testing

(1) Must be recorded with an elapsed run time meter.
(2) Required for diesel or dual-fuel engines only; must be recorded with an elapsed-run-time meter.
(3) Use Log 9 or Logs 8 and 10 depending on the averaging period required.
(4) See Note Three on page 5.

EPAHO119001259

Note One: How to Locate TCEQ and EPA Rules

This regulatory guide explains some sections of Texas' Minor Source Rule (30 TAC 117.2000–2045).

To find the text of this rule, follow these steps:

1. Go to <www.sos.state.tx.us/tac/index.shtml>.
2. Click <info.sos.state.tx.us/pls/pub/readtac$ext.viewtac> at the bottom of the page.
3. Click *Title 30 Environmental Quality.*
4. Click *Part 1 Texas Commission on Environmental Quality.*
5. Click Chapter *117 Control of Air Pollution from Nitrogen Compounds.*
6. Click *Subchapter D Combustion Control at Minor Sources in Ozone Nonattainment Areas.*
7. Click *Division 1 Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources.*

You can find the text of other state environmental rules by following steps 1–4 and then clicking on the appropriate chapter and subsequent links.

Federal environmental rules from the EPA are in Title 40 of the Code of Federal Regulations. The CFR can be found at <www.gpoaccess.gov/cfr/index.html>. There are multiple versions reflecting various amendments over the years. You should check the 2005 version unless otherwise specified in this document.

Note Two: How to Locate Compliance-Assistance Information for the NO_x Minor Source Rule

For information that will assist with emission calculations and specifications, along with operating requirements, record keeping, and reporting, visit <www.tceq.state.tx.us/goto/nox>.

Also, companion TCEQ publications in the *Minor Source Rule* series—*Is My Boiler, Process Heater, Stationary Engine, or Turbine Regulated ...?* (RG-440a) and *What are the Operating, Monitoring, Testing, and Emission-Calculation Requirements of the Minor Source NO_x Rule?* (RG-440b)—contain information to help you determine whether equipment operating in the Houston-Galveston-Brazoria area is included in the rule, along with information to assist with calculations and operating requirements. Call TCEQ Publications at 512-239-0028 to request copies, or you can view or print publications at at <www.tceq.state.tx.us/publications> and forms at <www.tceq.state.tx.us/forms>.

Note Three: Example—Calculating a 30-Day Rolling Average

If your emission limit is enforced on a rolling 30-day average, you must calculate your average every day, using the emissions for that day plus the previous 29 days. You may download log forms and spreadsheets from <www.tceq.state.tx.us/goto/nox> to calculate and track your 30-day rolling averages, along with the potential emissions from your equipment.

EPAHO119001260

Example: The date is Jan. 15, 2006. The equipment is a boiler rated at 20 MMBtu/hr with an emission factor of 0.14 lbs NO_x/MMBtu. The number of hours the boiler operates each day is variable.

Step 1. Determine your emissions for Jan. 15, 2006.

Step 2. Add together your emissions for Jan. 15, 2006, plus the previous 29 days.

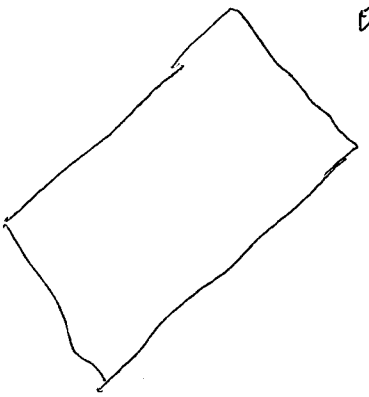
Day	Date	lb/MMBtu	lbs/day or tons/day
1	1/15/2006	0.14	67.2 lbs/day
2	1/14/2006	0.14	67.2 lbs/day
3	1/13/2006	0.14	36.4 lbs/day
4	1/12/2006	0.14	67.2 lbs/day
5	1/11/2006	0.14	67.2 lbs/day
6	1/10/2006	0.14	67.2 lbs/day
7	1/9/2006	0.14	36.4 lbs/day
8	1/8/2006	0.14	28.0 lbs/day
9	1/7/2006	0.14	67.2 lbs/day
10	1/6/2006	0.14	67.2 lbs/day
11	1/5/2006	0.14	28.0 lbs/day
12	1/4/2006	0.14	67.2 lbs/day
13	1/3/2006	0.14	67.2 lbs/day
14	1/2/2006	0.14	67.2 lbs/day
15	1/1/2006	0.14	28.0 lbs/day
16	12/31/2005	0.14	28.0 lbs/day
17	12/30/2005	0.14	28.0 lbs/day
18	12/29/2005	0.14	28.0 lbs/day
19	12/28/2005	0.14	28.0 lbs/day
20	12/27/2005	0.14	28.0 lbs/day
21	12/26/2005	0.14	36.4 lbs/day
22	12/25/2005	0.14	28.0 lbs/day
23	12/24/2005	0.14	28.0 lbs/day
24	12/23/2005	0.14	36.4 lbs/day
25	12/22/2005	0.14	28.0 lbs/day
26	12/21/2005	0.14	28.0 lbs/day
27	12/20/2005	0.14	36.4 lbs/day
28	12/19/2005	0.14	36.4 lbs/day
29	12/18/2005	0.14	36.4 lbs/day
30	12/17/2005	0.14	36.4 lbs/day
Totals		4.2	1,229.2
Averages (Total/30)		0.14	43.30667

Step 3. Enter the averages in your log.

Step 4. Repeat this calculation on Jan. 16, 2006, using the data for Dec. 18, 2006–Jan. 16, 2006.

EPAHO119001261

Trey ~~Flaman~~ Chapman
512-413-2725
tchapman@ ~~earth~~ erthworks.com



Gossom:

Ralph:
281-379-7197

Natural Gas

(1) William & Davis
80 HP — TW Boiler

(2) Clever Brooks
100 HP — infront (stolt)
retrofitted with lowNox

(3) Williams & Davis
30 HP

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Company:	CES Environmental Servic
Phone:	281-433-9792 *
Email:	pthangudu@cesenvironme *
Boiler Size:	Select Any
Boiler Fuel Type:	Natural Gas
Burner Size:	(Million BTU's)
Boiler Operating Pressure:	(psi)
Services Required:	☑ Technical ☐ Boiler ☐ Burner ☐ Operators ☐ Other
Comments:	

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Chris

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

THE HOUSTON-GALVESTON-BRAZORIA AREA

Minor Source Rule

An Air Quality Rule for Equipment at Your Business

What are the Operating, Monitoring, Testing, and Emission-Calculation Requirements of the Minor Source NO_x Rule?

RG-440B (9/08)

EPAHO119001264

Buddy Garcia, Chairman
Larry R. Soward, Commissioner
Bryan W. Shaw, Ph.D., Commissioner
Mark R. Vickery, P.G., Executive Director

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What are the Operating, Monitoring, Testing, and Emission-Calculation Requirements of the Minor Source NO_x Rule?

How can this guide help me?

This publication will help you determine the emissions of nitrogen oxides (NO_x) from combustion devices, such as boilers, process heaters, stationary engines, and turbines. Determining NO_x emissions is required by the TCEQ's air quality rules for area minor-source combustion devices in the Houston-Galveston-Brazoria area. The HGB Minor Source Rule is designed to protect air quality and human health.

This publication will lead you through the calculation process necessary to determine compliance with Title 30, Texas Administrative Code (30 TAC), Sections 117.2000–2045. **Use this publication to determine the emissions associated with the applicable combustion devices.**

What if I'm in violation of TCEQ rules?

It is always better to report your own violations than to be the subject of a complaint or to have the TCEQ discover violations during an investigation. If you find you are in violation of TCEQ rules, you are encouraged to make good-faith efforts to report problems as soon as you become aware of them and to develop a TCEQ-approved plan to correct those problems.

Keep in mind that this guide does not contain the complete rules or all of the information you may need to be in compliance.

See Note One on page 9 for instructions on finding the text of this rule and other state environmental rules at the Secretary of State's Web site. You may keep up to date with efforts to improve air quality in the Houston-Galveston-Brazoria area by signing up for the automated mailing list for Texas' State Implementation Plan (SIP), or subscribe to the TCEQ's e-mail update service at <www.tceq.state.tx.us> and click on the "sign up for e-mail updates" icon. To join the mailing list, send a blank e-mail with no subject or message to <join-sip@listserv.tceq.state.tx.us>. You will be notified of stakeholder meetings, public hearings, and comment periods for draft rules and air quality plans.

See Note Two on page 9 for instructions on how to locate information about calculating your emissions, and to determine emission factors, along with information on resources that can be used for record keeping and reporting.

See Note Three on page 10 for assistance with calculating your potential to emit, or visit <www.tceq.state.tx.us/goto/nox>. That Web page will allow you to download calculation spreadsheets that will assist with determining your potential to emit—commonly referred to as *PTE*—along with information to determine whether your facility is included in the Mass Emission Cap and Trade program, or considered a major source, as described in Note Four on page 11.

Note Five on page 12 explains how to calculate annual heat input, and Note Six on page 12 will help you determine whether additional rules might apply to your facility.

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Determine your emissions specifications.

Step A1. Determine the maximum capacity of your equipment.

Maximum rated capacity is the maximum amount of work that your equipment can perform. This value can be found on the faceplate of your equipment or in the owner's manual.

1. Enter the maximum rated capacity of your equipment on Dec. 31, 2000. _____

2. Enter the maximum rated capacity after Dec. 31, 2000. _____

3. Enter the greater of the numbers in row 1 or row 2. _____

4. If you have a permit that was **administratively complete** before Jan. 2, 2001 and **issued on or after Jan. 2, 2001:**

   A. Enter the maximum rated capacity from your **permit application** here. _____

   B. Enter the maximum rated capacity from your **permit** here. _____

   C. If the number in row 4B is equal to or greater than the number in row 4A, enter it here. If not, leave this row blank. _____

5. You may choose either the number in row 3 or 4C.
   - ☛ This is your maximum rated capacity. Enter it here and on line 11 of your Equipment Profile Worksheet found in TCEQ Publication RG-440a or online at <www.tceq.state.tx.us/goto/nox>.
   - ☛ Use this number in your Emission Specification Tables, Tables EST 1–5 (below). _____

Step A2. Determine your unit classification (boiler, process heater, etc.).

How was your unit classified on Dec. 31, 2000? _____

- ☛ Use the unit classification below in the Emission Specification Tables. Enter it on line 11 of your Equipment Profile Worksheet.

Step A3. Determine your applicable averaging time.

Question 1

Are you subject to the Cap and Trade Program? (For assistance with making this determination, see Notes Three and Four on pages 10 and 11, or visit <www.tceq.state.tx.us/goto/nox>.)

YES ---- Your averaging time is specified in the TCEQ Cap and Trade rule.
NO------ Go to Question 2.

Question 2

Does your equipment have a continuous emissions monitoring system (CEMS) or a predictive emissions monitoring system (PEMS)?

YES ---- Your averaging time is specified in Table EST 3.
NO------ Your averaging time is a block one-hour average, in the units of the applicable emission standard.

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Table A3.1: Averaging time for units with a CEMS or PEMS, not subject to the Cap and Trade program

To determine averaging time, use **any** of the following procedures:
1. 30-day average period (in units of the applicable standard) 2. Block one-hour averaging period (in units of the applicable standard) 3. Block one-hour averaging period in pounds per hour (for boilers and process heaters, pounds per hour = maximum rated capacity × applicable limit of NO_x in lb/MMBtu)

Enter the appropriate averaging time on line 8 of the Equipment Profile Worksheet, which can be downloaded at <www.tceq.state.tx.us/goto/nox>.

Step A4. Review the Emission Specification Table that applies to your equipment.

Table A4.1: What emission specification applies to your equipment?

Type of Equipment	Review the following
Boilers, process heaters	Go to EST 1
Gas Turbines including Duct Burners	Go to EST 2
Gas-fired, Reciprocating Internal Combustion Engines	Go to EST 3
Dual-fuel, Reciprocating Internal Combustion Engines	Go to EST 4
Diesel, Reciprocating Internal Combustion Engines	Go to EST 5

EST 1: Boilers and Process Heaters

Type of Unit	Emission Specification
Gas fired	0.036 lb/MMBtu of heat input or 30 ppm by volume at 3% oxygen, dry basis
Liquid fired	0.072 lb/MMBtu of heat input or 60 ppm by volume at 3% oxygen, dry basis

EST 2: Gas Turbines, including Duct Burners

Type of Unit	Emission Specification
All	0.15 lb/MMBtu

EST 3: Gas-Fired, Reciprocating Internal Combustion Engines

Type of Unit	Emission Specification
Fired on landfill gas	0.60 gram per horsepower-hour (g/hp-hr)
Other	0.50 g/hp-hr

EST 4: Dual-Fuel, Reciprocating Internal Combustion Engines

Type of Unit	Emission Specification
All	5.83 g/hp-hr

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EST 5: Diesel, Reciprocating Internal Combustion Engines

Emission specifications depend on the **combination of horsepower and the date installed**, so be sure you have checked both.

Horsepower	Date Installed, Modified, Reconstructed, or Relocated	Emission Specification *In grams per horsepower-hour (g/hp-hr)*
Greater than 50	Before Oct. 1, 2001, **and** not modified, reconstructed, or relocated on or after Oct. 1, 2001	The lower of 11.0 g/hp-hr **or** the emission rate established by testing, monitoring, manufacturer guarantee, or other data from manufacturers
Greater than or equal to 50 and less than 100	On or after Oct. 1, 2001, but before Oct. 1, 2003	6.9 g/hp-hr
	On or after Oct. 1, 2003, but before Oct. 1, 2007	5.0 g/hp-hr
	On or after Oct. 1, 2007	3.3 g/hp-hr
Greater than or equal to 100 and less than 175	On or after Oct. 1, 2001, but before Oct. 1, 2002	6.9 g/hp-hr
	On or after Oct. 1, 2002, but before Oct. 1, 2006	4.5 g/hp-hr
	On or after Oct. 1, 2006	2.8 g/hp-hr
Greater than or equal to 175 and less than 300	On or after Oct. 1, 2001, but before Oct. 1, 2002	6.9 g/hp-hr
	On or after Oct. 1, 2002, but before Oct. 1, 2005	4.5 g/hp-hr
	On or after Oct. 1, 2005	2.8 g/hp-hr
Greater than or equal to 300 and less than 600	On or after Oct. 1, 2001, but before Oct. 1, 2005	4.5 g/hp-hr
	On or after Oct. 1, 2005	2.8 g/hp-hr
Greater than or equal to 600 and less than 750	On or after Oct. 1, 2001, but before Oct. 1, 2005	4.5 g/hp-hr
	On or after Oct. 1, 2005	2.8 g/hp-hr
Greater than or equal to 750	On or after Oct. 1, 2001, but before Oct. 1, 2005	6.9 g/hp-hr
	On or after Oct. 1, 2005	4.5 g/hp-hr

Step A5. Compare the emission specification from the tables in Step A4 to the specification in any applicable permit.

1. Enter your emission specification from the tables in step 4. _____
2. Enter NO_x permit limit from any permit issued before Jan. 2, 2001. _____
3. Enter NO_x permit limit from any permit issued on or after Jan. 2, 2001, **if** the application for the permit was **administratively complete** before Jan. 2, 2001. _____
4. Enter NO_x permit limit from any permit by rule **if construction** under the permit **began before Jan. 2, 2001**. _____
5. Enter the lowest of the numbers in rows 1, 2, 3, or 4. _____
   ☛ This value is the NO_x limit for your equipment. Enter it on line 12 A of your Equipment Profile Worksheet.

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Step A6. If your equipment has an annual capacity factor of 0.0383 or less, see 30 TAC 117.2010(c)(6) and 117.2010(h) under "Additional Emission Specifications" in Note Six.

If you make changes after Dec. 31, 2000, to equipment not subject to any of the emission specifications in these rules and the changes increase the equipment's NO_x emissions, see 30 TAC 117.2010(f) under "Additional Emission Specifications" in Note Six.

Step A7. If your unit is subject to any of the emission specifications in the tables in step A4, there are additional emission specifications for gases other than NO_x. These standards are described in Table 7.1.

Enter any CO emission standards on line 12 B of your Equipment Profile Worksheet.
Enter any emission standards for ammonia on line 12 C of your Equipment Profile Worksheet.

Table 7.1: Additional Emission Standards

Applicable Compound	Equipment	Emission Standard	Averaging Period	
			With CEMS or PEMS for the applicable compound	Without CEMS or PEMS
Carbon monoxide (CO)	Boilers, process heaters, gas turbines	400 ppmv at 3.0% O_2 (dry basis)	On a rolling 24-hour averaging period	On a one-hour averaging period
	Stationary internal combustion engines	3.0 g/hp-hr		
Ammonia (NH_3)	Boilers and process heaters that inject urea or ammonia into the exhaust stream	10 ppmv at 3.0% O_2 (dry basis)	On a rolling 24-hour averaging period	Block one-hour averaging period
	Gas turbines (including duct burners) and gas-fired, lean-burn engines	10 ppmv at 15.0% O_2 (dry basis)		
	All other equipment	10 ppmv at 3.0% O_2 (dry basis)		

Note: If your equipment cannot meet the limits for carbon monoxide or ammonia in Table 7.1, a different emission specification may be approved by the TCEQ. See 30 TAC 117.2025 for details.

- To obtain assistance with these environmental requirements, please contact your local equipment technician, equipment operator, or stack-testing specialist.
- A stack-testing company will be able to perform an emissions test to determine whether your equipment meets the emissions limits.

  Important: If your equipment **does not** meet the emissions limits, you **must** repair, retrofit, or replace it.
- Once your equipment has been repaired, retrofitted, or replaced, you must perform another stack test within 180 days of the equipment-startup date in order to determine emission requirements. Send the results of the second test to the TCEQ Region 12 office within 60 days.

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Determine operating requirements for your equipment.

Step B1. Determine equipment operating requirements.

Review Table B1.1 to determine operating requirements in these rules that apply to your equipment. There may be several operating requirements that apply, so review every line in the table.

Table B1.1: Equipment Operating Requirements

Equipment	Operating Requirement
Boilers **except** wood-fired boilers	Must be operated with oxygen (O_2), carbon monoxide (CO), or fuel trim.
Boiler or process heater with forced flue gas recirculation (FGR) to reduce NO_x emissions	Proportional design rate of FGR must be maintained, consistent with combustion stability, over the operating range.
Equipment with post-combustion control techniques	Reducing agent injection must limit NO_x concentrations to no more than the NO_x concentrations at maximum rated capacity.
Stationary internal combustion engine controlled with nonselective catalytic reduction (NSCR)	Must be equipped with an automatic air-fuel-ratio controller operating on exhaust O_2 or CO and meet applicable emission standards.
Stationary internal combustion engine monthly run time **exceeds** 10 hours	Check for proper operation by recording NO_x and CO emissions: ■ Quarterly and ■ Within two weeks of— ✦ any engine maintenance which might increase emissions; **or** ✦ O_2-sensor replacement **or** ✦ catalyst cleaning or replacement ■ After installing any controls ■ After major repair work ■ Any time you believe emissions may have changed
Stationary internal combustion engine monthly run time **does not exceed** 10 hours	Check for proper operation by recording NO_x and CO emissions: ■ Within two weeks of— ✦ any engine maintenance which might increase emissions; **or** ✦ O_2-sensor replacement; **or** ✦ catalyst cleaning or replacement ■ After installing any controls ■ After major repair work ■ Any time you believe emissions may have changed

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Determine monitoring, testing, record-keeping, and reporting requirements for your equipment.

Step C1. Determine monitoring requirements.

Question 1

Are you subject to the Cap and Trade program? (For assistance with making this determination, see "Calculating Potential Emissions" in Note Three.)

YES ---- Review Table C1.1.
NO------ Go to Question 2.

Question 2

Are you an exempt boiler located on independent school district property?

YES ---- Review Table C1.1 **OR**
Keep written or electronic records of the following:
a. annual fuel usage for the equipment
b. total monthly fuel usage for the entire site
c. estimated monthly hours of operation for each unit
d. estimated monthly average operating rate (a percentage of the maximum rated capacity) for each unit
e. estimated monthly fuel usage for each unit

Records are to be available upon request for five years. Within 60 days of a records request, submit all methods, engineering calculations, and process information used to estimate hours of operation, operating rates, and fuel usage of each unit. (For guidance on keeping records, visit <www.tceq.state.tx.us/goto/nox>.)

NO------ Review Table C1.1.

Table C1.1: Totalizing Fuel-Flow Meters and Other Monitoring Requirements

Totalizing Fuel-Flow Meters

Totalizing Fuel Flow Meters Must:
- Be accurate within ± 5 percent.
- Collect, sum, and store data from a continuous-fuel-flow meter. A computer may perform these functions.
- Meet accuracy requirements or have been recertified or replaced by March 31, 2007.
- Be installed according to the schedule in 30 TAC 117.9200.

Note: If your equipment has a pilot, see "Units with Pilots" in Note Six.

Alternatives to Totalizing Fuel-Flow Meters

1. Equipment operating with an NO_x **and** diluent CEMS may monitor stack-exhaust flow using specifications found in 40 CFR Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.
2. Units that vent to a common stack with a NO_x **and** diluent CEMS may use a single, totalizing flow meter. [See 30 TAC 117.2035(a)(2)(B) for details.]
3. Diesel engines operating with run-time meters may meet the fuel-flow monitoring requirements through monthly fuel-use records.
4. Units of the same category and subject to Cap and Trade may share a single, totalizing fuel-flow meter. [See 30 TAC 117.2035(a)(2)(D) for details.]
5. Exempt boilers may share a single, totalizing fuel-flow meter. [See 30 TAC 117.2035(a)(2)(F) for details.]

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Table C1.1: Totalizing Fuel-Flow Meters and Other Monitoring Requirements (cont.)

Oxygen (O_2) Monitors
■ If oxygen monitors are installed, the requirements of 30 TAC 117.8100 regarding location and calibration should be considered appropriate guidance. ■ Installation must be performed according to the schedule in 30 TAC 117.9200. ■ The installation of O_2 monitors is optional.
NO_x Monitors
■ If a CEMS or PEMS is installed, it must meet the requirements of 30 TAC 117.8100. ■ Installation must be performed according to the schedule in 30 TAC 117.9200. ■ The installation of NO_x monitors is optional.

Step C2. Determine testing requirements for your equipment.

Are you subject to the TCEQ Cap and Trade program?

YES ---- Review testing requirements in Table C2.1 and Emission Allowances in Table C2.2.
NO------ Review testing requirements in Table C2.1.

Table C2.1: Testing Requirements

- Testing must be performed in accordance with the schedule in 30 TAC 117.9200.
- Submit test reports to the TCEQ within 60 days of completing the test.
- Each unit must be tested for emissions of nitrogen oxides, carbon monoxide, and oxygen.
- If urea or ammonia is injected into the exhaust stream for NO_x control, use one of the ammonia-monitoring procedures in 30 TAC 117.8130 to demonstrate compliance with the emission specification in 30 TAC 117.2010(i)(2).
- All testing must be done with the equipment running as close as possible to maximum capacity.
- Compliance is determined by averaging three 1-hour emission-test runs using any one of several different testing methods. Your testing service can help you determine which method is best for you. [See 30 TAC 117.2035(e)(3) for a list of the applicable methods.]
- Test results must be in the units of the appropriate emission limit and averaging period. (If you use a test method from 40 CFR Part 60, Appendix A, the testing report must contain the information specified in 30 TAC 117.8010.)

Units with CEMS or PEMS	Units without CEMS or PEMS
■ CEMS or PEMS must be operational before testing. Verification that CEMS or PEMS is operational must include: a. completion of the initial monitor certification and b. manufacturer's written requirements or recommendations for installation, operation, and calibration. ■ Initial compliance with emission specifications must be demonstrated **after monitor-certification testing** using the NO_x CEMS or PEMS.	■ Retesting is **required** within 60 days of any modification that could increase the NO_x emissions. ■ Retesting **may be performed** after any modification that could decrease the NO_x emissions. ■ Retesting establishes a new NO_x emission factor, which is used to calculate actual emissions from the date of the retest forward.

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Table C2.2: Emission Allowances

- NO_x testing and monitoring data and equipment activity data are used to establish the emission factor. The emission factor is used to calculate actual emissions for compliance with the Cap and Trade program.
- If a unit requires retesting, the retesting is used to establish a new NO_x emission factor for calculations under the TCEQ Cap and Trade program.

See 30 TAC 117.2035(e)(7)(C) and 117.2035(f) for details.

Step C3. Determine record-keeping requirements for your equipment.

For assistance with record-keeping requirements, visit <www.tceq.state.tx.us/goto/nox>.

Note One: How to Locate TCEQ and EPA Rules

This regulatory guide explains some sections of Texas' Minor Source Rule (30 TAC 117.2000–2045).

To find the text of this rule, follow these steps:

1. Go to <www.sos.state.tx.us/tac/index.shtml>.
2. Click <info.sos.state.tx.us/pls/pub/readtac$ext.viewtac> at the bottom of the page.
3. Click *Title 30 Environmental Quality.*
4. Click *Part 1 Texas Commission on Environmental Quality.*
5. Click Chapter *117 Control of Air Pollution from Nitrogen Compounds.*
6. Click *Subchapter D Combustion Control at Minor Sources in Ozone Nonattainment Areas.*
7. Click *Division 1 Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources.*

You can find the text of other state environmental rules by following steps 1–4 and then clicking on the appropriate chapter and subsequent links.

Federal environmental rules from the EPA are in Title 40 of the Code of Federal Regulations. The CFR can be found at <www.gpoaccess.gov/cfr/index.html>. There are multiple versions reflecting various amendments over the years. You should check the 2005 version unless otherwise specified in this document.

Note Two: How to Locate Compliance-Assistance Information for the NO_x Minor Source Rule

For information that will assist with emission calculations and specifications, along with operating requirements, record keeping and reporting, visit <www.tceq.state.tx.us/goto/nox>.

Also, TCEQ publication RG-440c contains information to assist with Minor Source NO_x compliance, such as operating requirements, record keeping, and reporting. If you are unable to visit the Web site, call TCEQ Publications at 512-239-0028 to request copies, or you can view or print publications online at <www.tceq.state.tx.us/publications>.

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Note Three: Calculating Potential Emissions

To determine whether the Cap and Trade program applies to your site or whether you are a major source, you must review all the equipment on your site that can emit NO_x. Then use the calculations listed below to estimate your potential emissions. The calculations are **only estimates,** not the final and most accurate determination of your emissions.

Step N3.1. List each unit at your site that can emit NO_x.

Step N3.2. Cross any of the following off your list.

- Flares
- General Engines:
  - Engines with a horsepower rating of less than 50 hp.
  - Engines used in research and testing only.
  - Engines used for performance verification and testing only.
  - Engines used solely to power other engines or gas turbines during startups.
  - Engines used exclusively by agricultural operations for growing crops or raising animals, including fowl.
- Emergency Engines:
  - Engines operated only in emergency situations for which testing or maintenance operation is 52 hours or less per year, based on a rolling 12-month average. (If the engine is diesel it must have been placed into service before Oct. 1, 2001, and must not have been modified after Oct. 1, 2001.)
  - Engines used in response to any officially declared disaster or state of emergency.
- Diesel Engines:
  - Placed into service **before** Oct. 1, 2001, that
    - operate less than 100 hours per year (based on a rolling 12-month average) and
    - have not been modified, reconstructed, or relocated on or after Oct. 1, 2001.
  - Placed into service **after** Oct. 1, 2001, that
    - operate less than 100 hours per year in non-emergency situations (based on a rolling 12-month average) and
    - meet emission standards for non-road engines in effect at the time of installation, modification, reconstruction, or relocation.
- Boilers:
  - Maximum rated capacity of 2.0 MMBtu/hour or less.

Step N3.3. For all units remaining on the list, calculate the design capacity emission rate. (For assistance with boiler and heater calculations, visit <www.tceq.state.tx.us/goto/nox>. You may also download calculation spreadsheets to assist with these calculations.)

Calculation notes:

- The emission factor can be determined by stack testing or the vendor's guarantee. The emission factor is the amount of NO_x emitted **before** any pollution controls are applied.
- Design capacity is from information supplied by the manufacturer. It may be on the nameplate on the equipment.
- The number of operating hours in a year is 8,760 (for these calculations).
- The number of pounds in a ton is 2,000.
- The number of grams in a ton is 907,184.74.

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A. For boilers, heaters, furnaces, duct burners, and turbines, use the following formula:

a = Emission factor in lbs of NO_x/MMBtu
b = Design capacity in MMBtu/hr

$$(a \times b) \times \frac{8{,}760 \text{ hrs}}{\text{yr}} \times \frac{\text{ton}}{2{,}000 \text{ lbs}} = \text{tons } NO_x \text{ per year}$$

B. For *oil-fired* boilers, heaters, and furnaces, use the following formula:

a = Emission factor in lbs of NO_x/Mgal
b = Design capacity in Mgal/hr

$$(a \times b) \times \frac{8{,}760 \text{ hrs}}{\text{yr}} \times \frac{\text{ton}}{2{,}000 \text{ lbs}} = \text{tons } NO_x \text{ per year}$$

C. For engines, use the following formula:

a = Emission factor in grams of NO_x/horsepower-hour (g/hp-hr)
b = Design capacity in hp

$$(a \times b) \times \frac{8{,}760 \text{ hrs}}{\text{yr}} \times \frac{\text{ton}}{907{,}184.74} = \text{tons } NO_x \text{ per year}$$

Step N3.4. Add together the amounts from the calculations for each piece of equipment, which will equal your total tons per year (tpy) for the site.

Note Four: Is my site subject to other air quality rules?

1. Cap and Trade Program
   - If tpy = 9 or more, **you may be subject to the Cap and Trade program.** The Cap and Trade threshold is 10 tpy or more. Because this calculation is only an estimate, it is recommended that, if your total is 9 tpy or more, you contact the TCEQ Air Quality Planning section at 512-239-4900 to determine if your site must participate in this program.

2. Major Source Rules
   - If Total tpy = 23 or more, **you may be a major source of air contaminants.** The Major Source threshold is 25 tpy or more. The calculation above is only an estimate; therefore, it is recommended that, if your total is 23 tons or more, you contact the Air Quality Planning section at 512-239-4900 to determine if any air authorizations are required.

A major source in the HGB ozone nonattainment area, for the purposes of Chapter 117, is any stationary source or group of sources within a contiguous area and under common control that emits or has the potential to emit at least 25 tons per year of NO_x.

If your site was a major source as of Dec. 31, 2000, it will always be a major source. If your site was a minor source or did not exist on Dec. 31, 2000, but became a major source after Dec. 31, 2000, it is a major source from that time forward.

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Note Five: Calculating Annual Heat Input in MMBtu

Step N5.1. Gather your monthly gas bills for January through December.

Step N5.2. Fill in the spreadsheet available at <www.tceq.state.tx.us/goto/nox>. This spreadsheet will help you calculate your annual heat input using either AP-42 factors or vendor specifications.

Step N5.3. Multiply the total from Step N5.2 by the appropriate factor, if necessary:

Gas unit on bill	Multiplier
Cubic feet (scf)	1
Hundreds of cubic feet (Cscf)	100
Thousands of cubic feet (Mscf)	1,000
Millions of cubic feet (MMscf)	1,000,000

If you are not sure which multiplier to use, call your gas company and ask what the unit is on your bill.

Step N5.4. Multiply the answer from Step N5.3 by 1,000 to get the number of Btu.

Step N5.5. Divide the number from Step N5.4 by 1,000,000 to get the number of MMBtu.

Note Six: Additional Rule Requirements

Units with Pilots

Fuel flow to pilots for units with pilot fuel supplied by a separate fuel system or from an unmonitored portion of the same fuel system may be calculated using the manufacturer's design flow rates rather than measured with a fuel-flow meter. The calculated pilot fuel-flow rate must be added to the monitored fuel flow when fuel flow is totaled. [30 TAC 117.2035(a)]

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Additional Emission Specifications

These specifications apply only in specific situations. Please review them to determine if they apply to your site.

■ **For equipment changes that cause NO_x emissions in other equipment to increase**

30 TAC 117.2010(f) Changes after Dec. 31, 2000, to a unit subject to an emission specification in subsection (c) of this section (ESAD [emission specification and attainment demonstration] unit) which result in increased NO_x emissions from a unit not subject to an emission specification in subsection (c) of this section [i.e. 30 TAC 117.2010(c)] (non-ESAD unit), such as redirecting one or more fuel or waste streams containing chemical-bound nitrogen to an incinerator with a maximum rated capacity of less than 40 MMBtu/hr or a flare, is only allowed if:

1. the increase in NO_x emissions at the non-ESAD unit is determined using a CEMS or PEMS which meets the requirements of 30 TAC 117.2035(c), or through stack testing which meets the requirements of 30 TAC 117.2035(e); and
2. either of the following conditions is met:
   (A) for sources which are subject to 30 TAC Chapter 101, Subchapter H, Division 3, a deduction in allowances equal to the increase in NO_x emissions at the non-ESAD unit is made as specified in section 101.354 (relating to Allowance Deductions); or
   (B) for sources which are not subject to 30 TAC Chapter 101, Subchapter H, Division 3, emission credits equal to the increase in NO_x emissions at the non-ESAD unit are obtained and used in accordance with section 117.9800 (relating to Use of Emissions Credits for Compliance).

■ **For equipment with an annual capacity factor of 0.0383 or less**

30 TAC 117.2010(c)(6) As an alternative to the emission specifications in 30 TAC 117.2010(c)(1–5) for units with an annual capacity factor of 0.0383 or less, 0.060 lb/MMBtu heat input. For units placed into service on or before Jan. 1, 1997, the 1997–99 factor for average annual capacity is to be used to determine whether the unit is eligible for the emission specification of this paragraph. For units placed into service after Jan. 1, 1997, calculate the annual capacity factor from two consecutive years in the first five years of operation to determine whether the unit is eligible for the emission specification of this paragraph, using the same two consecutive years chosen for the activity-level baseline. The five-year period begins at the end of the adjustment period as defined in 30 TAC 101.350 (Definitions).

30 TAC 117.2010(h) The availability under the preceding paragraph of an emission specification for units with an annual capacity factor of 0.0383 or less is based on the unit's status on Dec. 31, 2000. Reduced operation after Dec. 31, 2000, cannot be used to qualify for a more lenient emission specification under the preceding paragraph than would otherwise apply to the unit.

EPAHO119001278

DOCUMENT REQUEST LIST
RCRA Compliance Evaluation Investigation

General Procedure

The Compliance Evaluation Investigation (CEI) will consist of a **record review** and a **site investigation**. The records evaluation generally will proceed in two stages. First, the TCEQ Investigator will identify various records to be reviewed. Generally these records will date back three years from the present, but some of the records will be for specific time periods. Second, according to a schedule to be developed on-site, the investigator will review the records and request copies, as needed. Additionally, document copies may be requested at a later date for review at the TCEQ regional office. The investigator will have a camera onsite to document areas of concern during the field portion of the investigation. So that we may utilize the inspection time most efficiently, it is requested that you assemble and have available the following information, **if applicable**, on the date of the investigation:

1. Facility map or sketch showing location of all waste management units, including satellite accumulation areas.

2. Brief description of facility operations and process areas, including simplified process flow diagrams.

3. Current copy of Notice of Registration (NOR).

4. List of tanks that manage wastes. Include the following for hazardous waste tanks: tank identity, NOR #, location, date/year put into service, whether or not tank has secondary containment, wastes handled; tank system assessment records.

5. List of all container storage areas and satellite accumulation areas with their locations. Include the number and types of containers and their contents present at each location (at time of investigation).

6. List of all closed or abandoned solid waste management units. Include date and closure documentation.

7. List of primary off-site disposal/treatment/recycling facilities utilized.

8. Waste classification documentation.

9. All supporting data for land disposal restriction (LDR) determinations made using knowledge of waste, or waste analyses.

10. Annual waste summaries (at least 3 years) and last Biennial Report.

11. Waste shipment summaries (out-of-state only) for at least 3 years.

12. "Used oil and used oil filter" management records.

13. Monthly waste receipt summaries.

14. Waste Analysis Plan.

15. Notifications for any hazardous waste intended to be exported.

16. Waste shipping manifests, and LDR notices and certifications (past 3 years).

17. Exception reports for any manifests not received back from designated TSD facilities.

18. Inspection schedule, inspection logs for all monitoring equipment, safety and emergency equipment, security devices, operating and structural equipment.

19. Container storage area and tank inspection logs.

20. Employee training plan, training records for Hazardous Waste handlers, including job titles and descriptions, name of each employee, documentation of the type and amount of training each employee has received.

21. Current contingency plan and evidence it has been submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

22. Summary reports and documentation of all incidents that required implementation of the contingency plan (past 3 years).

23. List and description of all emergency response equipment onsite with their locations.

24. Arrangements with police, fire departments, hospitals, and emergency response agencies.

25. Unmanifested waste reports for any hazardous waste received from off-site without accompanying manifests.

26. Reports for any releases to the environment (reportable and nonreportable).

27 Source Reduction and Waste Minimization Plan (Pollution Prevention Plan) and annual progress reports.

28. Deed recordation documents for closed solid waste land disposal units.

29. Notification forms for recycled hazardous or industrial wastes.

30. Air and wastewater permit numbers, if any.

31. Financial Assurance documentation.

32. Information on RCRA groundwater monitoring status.
- Site map locating each monitoring well and associated waste management unit
- Changes to the RCRA Monitor Well System since the last Groundwater Monitoring Inspection or facility RCRA Compliance Evaluation Inspection
- Sampling and Analysis Plan

RAMA – Manager

Barbara – Waste Regulation

Gary – Pre-Treatment

Sharareh – Air Regulation

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.				**TCEQ Add. ID No.** **RN No (optional)**	HG-1270-B RN 100-693-282	
Investigation Type	ARSV	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	Compliance with Air Quality Regulations		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-676-1460	**Date Contacted**	11/21/2008
Title	HSE Manager			**E-mail:**	Pthangudu@cesenvironental.com	**Date E-mailed:**	11/21/2008

NOTICE: The information provided in this Note is intended to provide clarity to issues that have arisen to the date of this Note during the investigation process between the agency and the company and *does not represent agency findings related to violations*. Any potential or alleged violations discovered after the date of this Note will be communicated by telephone to the regulated entity representative prior to the issuance of a notice of violation or enforcement. Conclusions drawn from this investigation, including additional violations or potential violations discovered (if any) during the course of this investigation, will be documented in this investigation's final report.

Issue		**For Records Request, identify the necessary records, the company contact and date due to the agency. For Alleged and Potential Violation issues, include the rule in question with the clearly described potential problem. Other type of issues: fully describe.**	
No.	**Type**[1]	**Rule Citation (if known)**	**Description of Issue**
6	RR		Provide a copy of all applicable SOPs including but not limited to Wastewater Treatment and Truck Washing
7	RR		Provide a copy of the application for Truck Washing exemption X -15980.
8	RR		Provide the list of trucks allowed to be washed from CES Access Database.
9	RR		Provide the list of trucks cleaned from 1/1/08 to present cross referenced to their contents.
10	RR		Provide emissions data for Truck Washing activities from 1/1/08 to present.
11	RR		Provide copies of manifests for wastewater shipped off-site for treatment from 1/1/08 to present.
12	RR		Provide the diagram for the centrifuge.

Note 1: Issue Type Can Be One or More of: AV (Alleged Violation), PV (Potential Violation), O (Other), or RR (Records Request)

Did the TCEQ document the regulated entity named above operating without proper authorization?	☒ Yes ☐ No
Did the investigator advise the regulated entity representative that continued operation is not authorized?	☒ Yes ☐ No

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity; therefore, signature not required.

Sharareh Rafati	11/21/2008	Prabhakar Thangudu	11/21/2008
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

If you have questions about any information on this form, please contact your local TCEQ Regional Office.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, call 512/239-3282.

Copies of 1st page of documents submitted to TCEQ

EPAHO119001282

SCP#

Policy #

07-033
08-044
08-045
08-046
08-047
08-048
08-049
08-050
08-051
08-052
07-053
07-054
07-055
08-060
08-063
07-056

RR Issue 6

7

TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST, AUSTIN, TEXAS 78723, 512/451-5711

DICK WHITTINGTON, P.E.
CHAIRMAN

BOB G. BAILEY
VICE CHAIRMAN

STEVEN N. SPAW, P.E.
EXECUTIVE DIRECTOR

JOHN L. BLAIR
MARCUS M. KEY, M.D.
CALVIN B. PARNELL, JR., Ph.D., P.E.
WILLIAM H. QUORTRUP
C. H. RIVERS
WARREN H. ROBERTS
MARY ANNE WYATT

May 8, 1990

RR Issue 7

Mr. Sam Tate
President
YOUNGER BROTHERS, INC.
Post Office Box 14048
Houston, Texas 77021

Re: Exemption Amendment
Exemption No. X-15980
Truck Cleaning Facilities
Houston, Harris County

Dear Mr. Tate:

I expect to recommend approval of the referenced exemption amendment in the near future. When approved, the exemption will contain revised special conditions. A draft copy of the proposed conditions is enclosed for your review.

If you have comments or questions concerning the conditions, please let me know as soon as practicable to avoid delay. If I do not receive comments from you within 15 days ~~from the date~~ of this letter, the exemption will be issued with the proposed conditions.

If I can be of assistance to you, please call me at Ext. 450.

Sincerely,

Stephen E. Anderson

Stephen E. Anderson
Chemical Division

Enclosures

cc: Mr. Herbert W. Williams, Jr., Regional Director, Houston
Mr. Allison R. Peirce, Director, Harris County Pollution Control Department, Pasadena
Mr. Henry H. Branham, Acting Chief, Bureau of Air Quality Control, Department of Health and Human Services, Houston

7

212 Issue 7

YOUNGER BROTHERS, INC.
TEXAS AIR CONTROL BOARD
SPECIAL EXEMPTION FROM
PERMIT PROCEDURES

PREPARED BY:

WCM: WASTE CONTROL MANAGEMENT, INC.

10-02-84

EPAHO119001285

WashTicketNumF	PlantF	AfriveDateF	StatusF	CustPONumF	Text108	TractorNumF	TankTypeF	Insp	Equip	Maint	CreateDateF	NotifyDateCompF
25837	Lee's Trucking	12/04/08	Comp		995		Polymer Trailer	#	#	#	12/05/08	12/04/08
25834	CES Environmental Services, Inc. (Tankwash)	12/03/08	Comp	77148	276370	281	Vacuum Box	#	#	#	12/05/08	12/04/08
25836	Baker Tanks (Houston)	12/02/08	Comp		MX87SDC	718	Frac Tank	#	#	#	12/05/08	12/04/08
25838	Mission Petroleum Carriers, Inc	12/03/08	Comp		6051	2621	Tank Trailer	#	#	#	12/05/08	12/04/08
25839	Chempak	12/04/08	Comp		2799	70	Tank Trailer	#	#	#	12/05/08	12/04/08
25840	Tideport Distributing Inc.	12/03/08	Comp		1056	928	Tank Trailer	#	#	#	12/05/08	12/04/08
25843	McKenzie Tank Lines	12/04/08	Comp		A463732	5706		#	#	#	12/05/08	12/05/08
25844	Tideport Distributing Inc.	12/05/08	Comp		1024	894	Tank Trailer	#	#	#	12/05/08	12/05/08
25842	CES Environmental Services, Inc. (Tankwash)	12/03/08	Comp	77300	226	298	Tank Trailer	#	#	#	12/05/08	12/05/08
25845	Tideport Distributing Inc.	12/05/08	Comp		T-448		Tank Trailer	#	#	#	12/05/08	12/05/08
25835	Firebird Bulk Carriers	12/03/08	Comp		374	239	Tank Trailer	#	#	#	12/05/08	12/04/08
25827	Tideport Distributing Inc.	12/03/08	Comp		1072	896	Tank Trailer	#	#	#	12/04/08	12/03/08
25824	CES Environmental Services, Inc. (Tankwash)	12/03/08	Comp	inhouse	249		Tank Trailer	#	#	#	12/04/08	12/03/08
25832	Inner-Plant Trailer Leasing	12/03/08	Comp		5526	9	Tank Trailer	#	#	#	12/04/08	12/03/08
25831	Inner-Plant Trailer Leasing	12/03/08	Comp		LT-265	9	Tank Trailer	#	#	#	12/04/08	12/03/08
25830	Inner-Plant Trailer Leasing	12/03/08	Comp		5614	9	Tank Trailer	#	#	#	12/04/08	12/03/08
25828	Tideport Distributing Inc.	12/03/08	Comp		T-448	894	Tank Trailer	#	#	#	12/04/08	12/03/08
25826	Lee's Trucking	12/03/08	Comp		2325	2930	Tank Trailer	#	#	#	12/04/08	12/03/08
25825	CES Environmental Services, Inc. (Tankwash)	12/03/08	Comp	77248	254		Tank Trailer	#	#	#	12/04/08	12/03/08
25829	Milstead Environmental	12/03/08	Comp			033	Vacuum Truck	#	#	#	12/04/08	12/03/08
25811	Tideport Distributing Inc.	12/01/08	Comp		1073	918	Tank Trailer	#	#	#	12/03/08	12/02/08
25805	CES Environmental Services, Inc. (Tankwash)	12/02/08	Comp	76396	226		Tank Trailer	#	#	#	12/03/08	12/02/08
25806	CES Environmental Services, Inc. (Tankwash)	12/01/08	Comp	76783	276152	281	Vacuum Box	#	#	#	12/03/08	12/02/08
25807	Tideport Distributing Inc.	12/02/08	Comp		3007	734	Tank Trailer	#	#	#	12/03/08	12/02/08
25810	Tideport Distributing Inc.	12/01/08	Comp		1045	894	Tank Trailer	#	#	#	12/03/08	12/02/08
25822	CES Environmental Services, Inc. (Tankwash)	12/03/08	Comp	74763	259	287	Tank Trailer	#	#	#	12/03/08	12/03/08
25812	Tideport Distributing Inc.	12/01/08	Comp		1056		Tank Trailer	#	#	#	12/03/08	12/02/08
25813	Tideport Distributing Inc.	12/01/08	Comp		1077	937	Tank Trailer	#	#	#	12/03/08	12/02/08
25814	Tideport Distributing Inc.	12/01/08	Comp		1084	915	Tank Trailer	#	#	#	12/03/08	12/02/08
25821	Team Transport LLC	12/02/08	Comp		402	66	Tank Trailer	#	#	#	12/03/08	12/02/08

8 5 9

RR Issues

Tank Wash Emissions Summary - REPORT HEADER

10

TANK WASH REPORT CRITERIA	
Arrive	ALL
Complete	Between 1/1/2008 and 11/19/2008
Create	ALL
Customer	ALL
Equip Type	ALL
Mix Name	ALL
Mix Type	ALL
Status	ALL

RR Issue 10

EPAHO119001287

type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

RM HAZARDOUS ASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD008950461 / 30900	1	(713) 676-1460	004011887 JJK

GENERATOR

Generator's Name and Mailing Address
CES Environmental Services, Inc. (Tankwash)
4904 Griggs Road
Houston, TX 77021
Generator's Phone: (713) 676-1460

Generator's Site Address (if different than mailing address)
CES Environmental Services, Inc. (Tankwash)
4904 Griggs Road
Houston, TX 77021
(713) 676-1460

6. Transporter 1 Company Name: CES Environmental Services, Inc. — U.S. EPA ID Number: TXD008950461

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Republic Waste Services of Texas, LTD
10310 FM 523
Angleton TX, 77515
Facility's Phone: (866) 669-7834
U.S. EPA ID Number: N/A

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	Non-RCRA/Non DOT regulated waste sludge (First Flush wastewater)	1	TT	17	Y	90011191
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile ID: Non-Haz Wastewater Sludge (First Flush) (Grit trap #'s: 84886 & 84887)
Republic # CES Job # - 56061

11a) 05-0001 11b) 11c) 11d)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: MARLIN MOSER — Signature — Month 1 Day 7 Year 08

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Luis E. Resendez — Signature — Month 1 Day 7 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Aurelia Juarez — Signature — Month 01 Day 07 Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED

Records Release Issue 11

EPAHQ11900128

RR Issue 12 Sharareh: I am still trying to locate centrifuge diagram. The model in place is Flottweg Tricanters model 550. Here is a copy downloaded from the net.

EXIT INTERVIEW FORM: Potential Violations and/or Records Requested

Regulated Entity/Site Name	CES Environmental Services, Inc.				**TCEQ Add. ID No. RN No (optional)**	HG-1270-B RN 100-693-282	
Investigation Type	ARSV	**Contact Made In-House (Y/N)**	Y	**Purpose of Investigation**	Compliance with Air Quality Regulations		
Regulated Entity Contact	Prabhakar Thangudu			**Telephone No.**	713-676-1460	**Date Contacted**	11/21/2008
Title	HSE Manager			**E-mail:**	Pthangudu@cesenvironental.com	**Date E-mailed:**	11/21/2008

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Issue		**For Records Request, identify the necessary records, the company contact and date due to the agency. For Alleged and Potential Violation issues, include the rule in question with the clearly described potential problem. Other type of issues: fully describe.**	
No.	**Type[1]**	**Rule Citation (if known)**	**Description of Issue**
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8	RR		Provide the list of trucks allowed to be washed from CES Access Database.
9	RR		Provide the list of trucks cleaned from 1/1/08 to present cross referenced to their contents.
10	RR		Provide emissions data for Truck Washing activities from 1/1/08 to present.
11	RR		Provide copies of manifests for wastewater shipped off-site for treatment from 1/1/08 to present.
12	RR		Provide the diagram for the centrifuge.

Note 1: Issue Type Can Be One or More of: AV (Alleged Violation), PV (Potential Violation), O (Other), or RR (Records Request)

Did the TCEQ document the regulated entity named above operating without proper authorization?	☒ Yes ☐ No
Did the investigator advise the regulated entity representative that continued operation is not authorized?	☒ Yes ☐ No

Document Acknowledgment. Signature on this document establishes only that the regulated entity (company) representative received a copy of this document and associated continuation pages on the date noted. If contact was made by telephone, document will be faxed to regulated entity; therefore, signature not required.

Sharareh Rafati	11/21/2008	Prabhakar Thangudu	11/21/2008
Investigator Name (Signed &Printed)	**Date**	**Regulated Entity Representative Name (Signed & Printed)**	**Date**

If you have questions about any information on this form, please contact your local TCEQ Regional Office.

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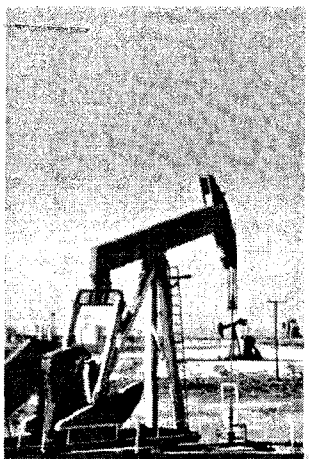
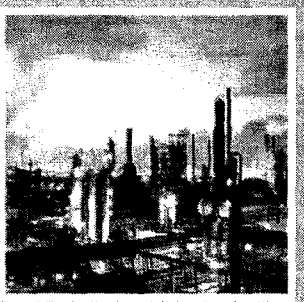
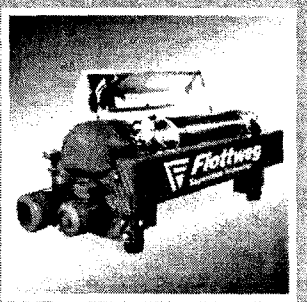
EPAHO119001289

Flottweg
Separation Technology







Tap a new oil well!

FLOTTWEG DECANTERS and TRICANTERS®

for oil sludge treatment

EPAHO119001290

Report scanned and submitted to Barbara Johnston at TCEQ on 3-6-2009.

CES Environmental Services, Inc.

INCIDENT REPORT

Near Miss XXX **Accident**

Date of Incident 12-6-08 Time ~ 12:45 p.m.

Result of Incident: Equipment/Property Damage

1) □Fire 2) Explosion 3) Equipment Damage XXX 4) Property Damage
5) □ Product Loss 6) Production Loss 7) Employee Endangerment
8) □ Other _____

Person(s) Directly Involved

Name: Joe Camp, CES Director of Processing, Jay Matlock, Hydrocarbon Facility Supervisor

Exact Location Where Incident Occurred: Hydrocarbon Processing Area @ the RTO (Thermal Oxidizer) located at the south end of the facility.

Describe Fully How Incident Occurred:

The facility experienced a pressure release associated with the thermal oxidizer. This unit burns/oxidizes organics in the air streams vacuumed off the hydrocarbon storage tanks and processing operations. It appears the Thermal Oxidizer unit overheated, resulting a programmed safety system shutdown of the unit. After a period of cool down phase, the unit restart permissive was released in the logic. The CES Environmental Services, Inc Processing Director was in the process of restarting the unit when the pressure release happened. The pipe rupture was accompanied by a loud noise and vibration. The vent piping was blown into the air with some of the vent piping landing in the yard(s) of our neighbors.

911 were contacted immediately as a safety precaution. There was no fire. A piece of the vent piping may have hit one of the neighbor's houses. There were no injuries (either CES or neighbors). The Houston Fire Department interviewed neighbors and CES Environmental Services, Inc personnel for a headcount and confirmed no injuries. The fire department was on-site within ~ ten minutes. HFD investigated the situation for about 45 minutes and left after insuring there was no fire, no present danger, and nobody was injured.

Preliminary investigation leads us to believe that the air mixture going into the Thermal Oxidizer unit may have been oversaturated after the unit cool down phase. It appears the saturated air entered the Thermal Oxidizer chamber and appears to have flashed causing a rapid expansion of air that ruptured the vent piping.

There were ~ 239 pounds of MEK emissions released into the atmosphere related to this incident. The emissions Reportable Quantity (RQ) for MEK are 5,000 pounds. A Record of Upset or Emission Event § 101.201 form was completed and was e-mailed to Texas Commission on Environmental Quality. A hard copy of the report is attached and is part of this incident report.

Prabhaker Thangudu

From: Matt Bowman
Sent: Friday, December 19, 2008 10:00 AM
To: Prabhaker Thangudu
Cc: Greg Bowman; Karl Guidry
Subject: FW: Scrubber incident

Thanks Marlin,

Prabhakar,
We are having a forensics person out today to look at the scrubber incident today. Since we cannot be 100% sure what chemical exactly that had been in the middle scrubber chamber, we can only assume that it was latent MEK vapor from the wastewater incident with the RTO. This email documents the incident and will serve as record that since this vessel was only 200 gallons in size and that the previous incident with the RTO involved a much larger vessel and quantity (for which we have already run the calculations and determined it not to be a reportable quantity release) then this incident cannot represent a reportable quantity. A copy of this email should simply be printed and place in the air file.
Thanks,
Matt

From: Marlin Moser
Sent: Friday, December 19, 2008 9:37 AM
To: Matt Bowman; Greg Bowman; Prabhaker Thangudu; Karl Guidry
Subject: Scrubber incident

No documentation has been made to verify the scrubber incident was not an RQ emissions event. I would highly doubt that it is but I highly recommend documenting that it was not based on news coverage.

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
713-676-1460 Tel
713-676-1676 Fax

January 19, 2009

Mrs. Barbara E. Johnston
Investigator
Texas Commission on Environmental Quality
Region 12
5425 Polk Avenue, Suite H
Houston, TX 77023-1423

RE: 12-12-2008 Exit Interview Form: Potential Violations and/or Records Request
CES Environmental Services, Inc
TCEQ ID No: RN100693282, TCEQ SWR No. 30900, ISW Permit No. 39048

Barbara:

CES Environmental Services, Inc. (CES) is hereby responding to the records request referred in the Exit Interview Form dated 12/12/2008.

Provide an explanation of how the "frac tanks" are used for wastewater destined for on-site treatment and discharge to the city of Houston POTW.

Per Waste Receipt Classification under 40 CFR 437, the incoming wastewater is classified under one of the three subcategories (Metals Subcategory: Subpart A; Oils Subcategory: Subpart B; Organics Subcategory: Subpart C).

Please refer to Attachment 1.

Provide clarification of which tank(s) discharge to the City of Houston POTW, and how CES is in compliance with this permit provision.

Tanks 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122 and 129 discharge to the City of Houston POTW. CES has submitted Class 1 Permit Modification to TCEQ. A copy of approval letter dated April 28, 2008 is attached. Copies of Industrial Waste Permits 6806 and 9558 issued by City of Houston to CES are also attached.

Please refer to attachment 2.

Submit standard operating procedures used to determining whether incoming tankers/containers destined for cleaning are empty, and the steps that follow if it is determined that the container does not meet the regulatory definition of empty. Also, provide information regarding waste determinations for the materials removed from the containers.

Please refer to the attached document that details procedures followed for Tankwash.

Please refer to Attachment 3.

Provide detailed information regarding the glycol, methylene chloride, and mixed alcohols recycling processes, including information concerning the final use of the recycled materials.

Glycols, which are typically ethylene glycol, are tested for % purity and resold "as is" without further processing. Glycols are sold to Sabre Processing, Hutchinson & Hayes, KMCO, Skyhauk Chemicals and Gulf Stream Tanker.

Methylene chloride typically is received as a mixture with methanol. These two are distilled and recovered to be sold as products. Please refer to the attached document for details on process description. Methylene chloride is sold to PAR Technology, Anchor Color, Chem-Orph, SoChem and Hydrocarbon Resources.

Mixed alcohol streams are not processed but rather segregated and sold "as is". Mixed alcohol is sold to Chem-Orph.

Please refer to Attachment 4.

Provide a list of all materials that CES claims to be recycling, and provide a detailed explanation of how CES has determined that these materials are not solid waste.

CES follows TCEQ Regulatory Guidance (RG-240). According to RCRA regulations, a material must be defined as a solid waste before it can be considered a hazardous waste. The regulatory definition of solid waste, found in 261.2(a), encompasses the following materials: (1) materials that are abandoned; (2) materials that are recycled; (3) materials that are inherently waste-like; and (4) waste military munitions.

Materials that are recycled are a special subset of the solid waste universe. When recycled, some materials may qualify for an exclusion from the definition of solid waste and fall out of RCRA regulation or be subject to less-stringent regulatory controls.

A material is recycled if it is used, reused, or reclaimed ((261.1(c)(7)). A material is reclaimed if it is processed to recover a usable product or if it is generated. A material is

used or reused if it is either employed as an ingredient in an industrial process to make a product or if it is employed as an effective substitute for a commercial product.

CES follows TCEQ notification requirements by submitting the Form TCEQ-0524 (Notification Form for Receiving and Recycling Hazardous or Industrial Waste). Copies of such notifications are attached.

Please refer to Attachment 5.

I want to apologize for the delay in responding to your records request. We have been extremely busy with the year end closing of books and records. Please let me know if you need additional information.

Warms regards,

Sincerely,

Prabhakar R. Thangudu

Attachment 1

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO119001298

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO119001299

Attachment 2

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 28, 2008

Mr. Matt Bowman, President
CES Environmental Services, Inc.
4904 Griggs Road
Houston, Texas 77021

Re: Transmittal of Class 1 Permit Modification
CES Environmental Services, Inc - Houston
Industrial Solid Waste Registration No. 30900
Industrial Solid Waste Permit No. 39048
WWC Nos. 12143047, 12149729, 12224342-1, 12234282-1
RN100693282/CN600618946

Dear Mr. Bowman:

The Texas Commission on Environmental Quality has reviewed your application for a Class 1 permit modification dated November 6, 2007, received November 7, 2007, and revised April 17, 2008. The modification requests to list in Table IV.B. of the permit, a hazardous waste stream which CES is currently authorized to manage under the waste water treatment unit exemption in 40 CFR 264.1 (g)(6), without a RCRA hazardous waste permit. This waste stream will only be managed in a tank which is part of the waste water treatment system that discharges to a Publicly Owned Treatment Works.

Our evaluation indicates that the information presented is sufficient for a Class 1 permit modification. Transmitted herewith is the modification which is now part of your permit and should be attached thereto. Please note that notice of this modification request must be made as per the requirements of Title 30 Texas Administrative Code Sections 39.403 and 305.69(b)(1)(B) within 90 days after the change is put into effect.

Questions regarding this modification should be directed to me at 512/239-5747. If responding by letter, please include Mail Code MC 130 in the mailing address.

Sincerely,

Vaishali Tendolkar, Project Manager
Industrial & Hazardous Waste Permits Section
Waste Permits Division

VT/fp

Enclosure(s)

EPAHO119001301

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CLASS 1 PERMIT MODIFICATION
TO
INDUSTRIAL SOLID WASTE PERMIT NO. 39048
CES ENVIRONMENTAL SERVICES, INC - HOUSTON, TEXAS

Permit No. 39048 is hereby modified as follows:

Sheet 5 of 20

Provision I.B. INCORPORATED APPLICATION MATERIALS

This permit is based on, and the permittee shall follow the Industrial Solid Waste application submittals dated November 14, 2002, June 6, 2003, October 15, 2003, March 27, 2006 (Class 1 permit modification requesting a change in the description of the 6,500 gallon poly tank contained in the permit from "poly tank" to a "storage tank"), March 27, 2006 (Class 1 permit modification requesting to update the Waste Profile Sheet in the Waste Analysis Plan (WAP)) and November 6, 2007 (Class 1 Modification to list in Table IV.B. of the permit, a hazardous waste stream which CES is currently authorized to manage under the waste water treatment unit exemption in 40 CFR 264.1(g)(6) without a RCRA hazardous waste permit), and the Application Elements listed in "Attachment C", which are hereby approved subject to the terms of this permit and any other orders of the Texas Commission on Environmental Quality. These materials are incorporated into this permit by reference as if fully set out herein. Any and all revisions to these elements shall become conditions of this permit upon the date of approval by the Commission.

Sheet 12 of 20

Provision III.E.3. CONTINGENCY PLAN

Revise Provision III.E.3 to read as follows:

"Collected industrial hazardous wastes, industrial non-hazardous wastes, spills, leaks, clean-up residues,..."

Sheet 14 of 20

Provision IV.B.2. HAZARDOUS WASTE RECEIVED FROM OFF-SITE SOURCES

Revise Provision IV.B.2. to read as follows:

"The permittee may receive hazardous waste from off-site sources. All hazardous waste at the facility shall be managed only in the tank that is a part of the wastewater treatment system which discharges to a Publicly Owned Treatment Works (POTW) under the waste water treatment unit exemption in 40 CFR 264.1(g)(6)".

Sheet 17 of 20

Provision VII.A.8.

Revise Provision VII.A.8. to read as follows:

"All units, sumps, pumps, piping and any other equipment or ancillary components which have come in contact with hazardous or non-hazardous industrial wastes shall either be decontaminated by removing all waste, waste residues, and sludges or be disposed of at an authorized off-site facility."

Sheet 18 of 20

Provision VII.B.1. FINANCIAL ASSURANCE FOR CLOSURE

Revise Provision VII.B.1. to read as follows:

"The permittee shall provide financial assurance for closure of all permitted units covered by this permit in an amount not less than $135,335 (2007 dollars) as shown in Table VII.E.1. – Permitted Unit Closure Cost Summary..."

Table IV.B. WASTES MANAGED IN PERMITTED UNITS

Replace Table IV.B with the revised Table IV.B. (April 2008)

Add a supplement to Table IV.B. to list all the EPA hazardous waste numbers as part of Table IV.B.

Table V.C. TANKS AND TANK SYSTEMS

Replace Table V.C. with the revised Table V.C. (April 2008)

Table VII.E.1. PERMITTED UNIT CLOSURE COST SUMMARY

Replace Table VII.E.1. with the revised Table VII.E.1. to reflect the new Total Closure Cost Estimate for existing units.

This Class 1 Permit Modification is part of Permit 39048 and should be attached thereto.

TABLE VII.E.1. PERMITTED UNIT CLOSURE COST SUMMARY

Existing Unit Closure Cost Estimate (Not Applicable)	
Unit	Cost
Permitted Unit Nos. 1, 2, & 3 (Waste Management Unit Nos. 106, 107, & 108)	$135,335 (2007 dollars)
TOTAL EXISTING UNIT CLOSURE COST ESTIMATE	$135,335 (2007 dollars)

Proposed Unit Closure Cost Estimate	
Unit	Cost

TABLE IV.B. - WASTES MANAGED IN PERMITTED UNITS

WASTE MATERIAL	TYPE MATERIAL
Class 1, 2, and H* Industrial Waste	Inorganic Liquids
Class 1, 2, and H* Industrial Waste	Inorganic Solids
Class 1, 2, and H* Industrial Waste	Inorganic Sludges
Class 1, 2, and H* Industrial Waste	Organic Liquids
Class 1, 2, and H* Industrial Waste	Organic Solids
Class 1, 2, and H* Industrial Waste	Organic Sludges

* Hazardous Industrial Waste stream which CES is currently authorized to manage under the waste water treatment unit exemption in 40 CFR 264.1(g)(6) without a RCRA hazardous waste permit. All authorized hazardous industrial waste listed in Table IV.B. must only be managed in Tank 108.

TABLE IV.B. SUPPLEMENT
EPA HAZARDOUS WASTE NUMBERS

Characteristically Hazardous Wastes

D001	D002	D003	D004	D005	D006	D007	D008	D009	D010	D011	D012	D013
D014	D015	D016	D017	D018	D019	D020	D021	D022	D023	D024	D025	D026
D027	D028	D029	D030	D031	D032	D033	D034	D035	D036	D037	D038	D039
D040	D041	D042	D043									

Hazardous Wastes From Non-specific Sources

F001	F002	F003	F004	F005	F034	F035	F037	F038	F039

Hazardous Wastes From Specific Sources

K011	K020	K022	K023	K024	K025	K026	K027	K035	K048	K049	K050	K051
K052	K060	K083	K085	K086	K087	K093	K094	K095	K096	K103	K104	K105
K112	K113	K114	K115	K116	K141	K142	K143	K144	K145	K147	K148	K149
K150	K151	K156	K157	K169	K170	K171	K172	K178				

Acute Hazardous Wastes

P003	P005	P028	P048	P110

Toxic Wastes

U001	U002	U003	U004	U007	U008	U009	U012	U017	U019	U031	U037	U039
U041	U043	U044	U045	U048	U051	U052	U053	U055	U056	U057	U067	U070
U071	U072	U076	U077	U078	U079	U080	U081	U082	U084	U092	U101	U102
U103	U105	U106	U108	U110	U112	U113	U117	U118	U122	U123	U127	U130
U140	U147	U151	U152	U154	U159	U161	U162	U165	U167	U168	U169	U170
U183	U184	U188	U191	U194	U196	U207	U210	U213	U219	U220	U221	U223
U228	U239	U328	U353	U359								

EPAHO119001306

TABLE V.C. – TANKS AND TANK SYSTEMS

Unit No.	Tank *	N, O, R #	Storage and/or Processing	Waste Materials	Rated Capacity	Dimensions	Containment Volume	Unit will manage ** Ignitable, Reactive, or Incompatible Waste (state all that apply)
3	Waste Management Area #108	108	Processing and/or Storage	All wastes identified in Table IV.B	Volume equivalent of up to 6500 gallons	38' x 70' area within a 210' x 70' metal building	Not applicable	* Ignitable, Reactive and Incompatible Liquid, sludge, and solid Class 1 and 2 industrial waste

* Hazardous waste stream which CES is currently authorized to manage under the waste water treatment unit exemption in 40 CFR 264.1(g)(6) without a RCRA hazardous waste permit.

** The facility is designed and operated to provide segregation of incompatible wastes and isolation of ignitable or reactive wastes. Wastes which could create an uncontrolled reaction are segregated, and adequate buffer zones are maintained around facility units that manage ignitable or reactive wastes. Wastes are segregated to prevent commingling of incompatible wastes by placement of wastes into tanks designated for storage of compatible materials only or, in certain cases, by thoroughly purging a tank which previously held a material that would be incompatible with the waste before addition of the waste.

EPAHO119001307

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

RECEIVED
MAR 2 9 2006
BY:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 27, 2006

Mr. Matt Bowman, President
CES Environmental Services, Inc.
4904 Griggs Road
Houston, Texas 77021

7004 1350 0000 4763 5573
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: Transmittal of Class 1 Permit Modification
CES Environmental Services, Inc. - Houston
Industrial Solid Waste Registration No. 30900
Industrial Solid Waste Permit No. 39048
WWC No. 11241810-2; RN100693282; CN600618946

Dear Mr. Bowman:

The Texas Commission on Environmental Quality has reviewed your application for a Class 1 permit modification dated January 25, 2006, and received on January 31, 2006, requesting a change in the description of the 6,500 gallon poly tank contained in the permit application from a "poly tank" to a "storage tank".

Our evaluation indicates that the information presented is sufficient for a Class 1permit modification. Transmitted herewith is the modification which is now part of your permit and should be attached thereto. Please note that notice of this modification request must be made as per the requirements of Title 30 Texas Administrative Code (TAC) Sections 39.403 and 305.69(b)(1)(B) within 90 days after the change is put into effect.

Questions regarding this modification should be directed to me at (512) 239-4788. If responding by letter, please include mail code MC-130 in the mailing address.

Sincerely,

Michael D. Graeber, P.E., Project Manager
Industrial and Hazardous Waste Permits Section
Waste Permits Division

MDG/fp

Enclosure

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CLASS 1 PERMIT MODIFICATION
TO
INDUSTRIAL SOLID WASTE PERMIT NO. 39048

CES Environmental Services, Inc.

Industrial Solid Waste Permit No. 39048 is hereby modified as follows:

Sheet 5 of 20

Provision I.B. Facility Description: Incorporated Application Materials

Add the following to the list application submittals:

"January 25, 2006 (Class 1 modification to change description of the 6,500 gallon poly tank, located within Permitted Unit #3, from a "poly tank" to a "storage tank".

This Class 1 Permit Modification is part of Permit No. 39048 and should be attached thereto.

RECEIVED
MAR 2 9 2006
BY:

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 27, 2006

Mr. Matt Bowman, President
CES Environmental Services, Inc.
4904 Griggs Road
Houston, Texas 77021

7004 1350 0000 4763 5566
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: Transmittal of Class 1 Permit Modification
CES Environmental Services, Inc. - Houston
Industrial Solid Waste Registration No. 30900
Industrial Solid Waste Permit No. 39048
WWC No. 11241810-2; RN100693282; CN600618946

Dear Mr. Bowman:

The Texas Commission on Environmental Quality has reviewed your application for a Class 1 permit modification dated January 25, 2006, and received on January 31, 2006, requesting to update the Waste Profile Sheet in the Waste Analysis Plan (WAP).

Our evaluation indicates that the information presented is sufficient for a Class 1permit modification. Transmitted herewith is the modification which is now part of your permit and should be attached thereto. Please note that notice of this modification request must be made as per the requirements of Title 30 Texas Administrative Code (TAC) Sections 39.403 and 305.69(b)(1)(B) within 90 days after the change is put into effect.

Questions regarding this modification should be directed to me at (512) 239-4788. If responding by letter, please include mail code MC-130 in the mailing address.

Sincerely,

Michael D. Graeber, P.E., Project Manager
Industrial and Hazardous Waste Permits Section
Waste Permits Division

MDG/fp

Enclosure

EPAHO119001310

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CLASS 1 PERMIT MODIFICATION
TO
INDUSTRIAL SOLID WASTE PERMIT NO. 39048

CES Environmental Services, Inc.

Industrial Solid Waste Permit No. 39048 is hereby modified as follows:

Sheet 5 of 20

Provision I.B. Facility Description: Incorporated Application Materials

Add the following to the list of application submittals:

"January 25, 2006 (Class 1 modification to update the Waste Profile Sheet in the Waste Analysis Plan)."

This Class 1 Permit Modification is part of Permit No. 39048 and should be attached thereto.

INDUSTRIAL SOLID WASTE PERMIT NO. 39048
ISWR NO. 30900

Texas Commission on Environmental Quality
Austin, Texas

PERMIT FOR INDUSTRIAL SOLID WASTE MANAGEMENT SITE issued under provisions of TEXAS HEALTH AND SAFETY CODE ANN. Chapter 361 (Vernon)

Name of Permittee:	CES Environmental Services, Inc. 4904 Griggs Road Houston, Texas 77021
Site Owner:	CES Environmental Services, Inc. 4904 Griggs Road Houston, Texas 77021
Classification of Site:	Industrial Nonhazardous Solid Waste Processing and Storage, Off-site, Commercial

The permittee is authorized to manage wastes in accordance with the limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules of the Commission and other Orders of the Commission, and laws of the State of Texas. This permit does not exempt the permittee from compliance with the Texas Clean Air Act. This permit will be valid until canceled, amended, modified or revoked by the Commission, except that the authorization to manage wastes shall expire midnight, 10 years after the date of permit approval.

ISSUED: JUL 27 2004

For The Commission

TCEQ-0080 (Rev. 10-09-03)

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ATTACHMENT A - Legal Description of Facility
ATTACHMENT B - Facility Map
ATTACHMENT C - List of Incorporated Application Materials
ATTACHMENT D - List of Permitted Facility Units

PERMIT SECTION I. - FACILITY DESCRIPTION

A. SIZE AND LOCATION OF SITE

A permit is issued to CES Environmental Services, Inc. (hereinafter called the Permittee) to operate a nonhazardous industrial solid waste processing and storage facility located at 4904 Griggs Road on a 6.5 acre tract of land in Houston, Harris County, Texas, within the drainage area of Kuhlman Gully, Brays Bayou, and Buffalo Bayou in the San Jacinto-Brazos Basin (North Latitude 29° 41' 58.412", West Longitude 95° 20' 31.654"). The legal description of the facility submitted in the revised application for industrial solid waste permit No. 39048 (ISWP No. 39048), dated June 6, 2003, is hereby incorporated into this permit by reference as noted in "Attachment A". The industrial nonhazardous waste management facility as delineated by the permittee's application map is hereby made a part of this permit as "Attachment B".

B. INCORPORATED APPLICATION MATERIALS

This permit is based on, and the permittee shall follow the Nonhazardous Industrial Solid Waste application submittals dated November 14, 2002 and June 6 and October 15, 2003 and the Application Elements listed in "Attachment C", which are hereby approved subject to the terms of this permit and any other orders of the TCEQ. These materials are incorporated into this permit by reference as if fully set out herein. Any and all revisions to these elements shall become conditions of this permit upon the date of approval by the Commission.

PERMIT SECTION II. - GENERAL FACILITY STANDARDS

A. STANDARD PERMIT CONDITIONS

The permittee has a duty to comply with the Standard Permit Conditions under 30 TAC Section 305.125. Moreover, the permittee has a duty to comply with the following permit conditions:

1. Modification of Permitted Facilities

The facility units and operational methods authorized are limited to those described herein and by the application submittals identified in Provision I.B. (Incorporated Application Materials). All facility units and operational methods are subject to the terms and conditions of this permit and TCEQ rules. Prior to constructing or operating any facility units in a manner which differs from either the related plans and specifications contained in the permit application or the limitations, terms or conditions of this permit, the permittee must comply with the TCEQ permit amendment/modification rules as provided in 30 TAC Sections 305.62 and 305.69.

2. Duty to Comply

[30 TAC Section 305.142] The permittee must comply with all the conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency order issued by the Commission. Any permit noncompliance other than noncompliance authorized by

[II.A.2.]

an emergency order is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

4. Definitions

For purposes of this permit, terms used herein shall have the same meaning as those in 30 TAC Chapters 305, 335, and 350 unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

Application data - data used to complete the final application and any supplemental information.

5. Permit Expiration

In order to continue a permitted activity after the expiration date of the permit the permittee shall submit a new permit application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Executive Director. Authorization to continue such activity will terminate upon the effective denial of said application.

6. Certification Requirements

[30 TAC Section 305.144] For a new facility, the permittee may not commence storage, processing, or disposal of solid waste; and for a facility being modified, the permittee may not process, store or dispose of solid waste in the modified portion of the facility, except as provided in 30 TAC Section 305.69 (relating to Solid Waste Permit Modification at the Request of the Permittee) until the following has been accomplished:

a. The permittee has submitted to the Executive Director and the local Regional Office of the TCEQ, by certified mail or hand delivery, a letter signed by the permittee, and signed and sealed by a Texas Licensed Professional Engineer stating that the facility has been constructed or modified in compliance with the permit. If the certification is being provided to document proper closure of a permitted unit, or to certify installation or repair of a tank system, then the certification must be signed and sealed by an independent Texas Licensed Professional Engineer. Required certification shall be in the following form:

[II.A.6.a.]

"This is to certify that the following activity (Specify activity, e.g., construction, installation, closure, etc., of an item) relating to the following item (Specify the item, e.g., the particular facility, facility unit, unit component, subcomponent part, or ancillary component), authorized or required by TCEQ ISWP No. 39048, has been completed, and that construction of said facility component has been performed in accordance with and in compliance with good engineering practices and the design and construction specifications of ISWP No. 39048".

b. A certification report has been submitted, with the certification described in Provision II.A.6., which is logically organized and describes in detail the tests, inspections, and measurements performed, their results, and all other bases for the conclusion that the facility unit, unit component, and/or closure have been constructed, installed and/or performed in conformance with the design and construction specifications of this permit and in compliance with this permit. The report shall describe each activity as it relates to each facility unit or component being certified including reference to all applicable permit provisions. The report shall contain the following items, at a minimum:

(1) Scaled, as-built plan-view and cross-sectional drawings which accurately depict the facility unit and all unit components and subcomponents and which demonstrate compliance with the design and construction specifications approved and detailed in the terms of this permit;

(2) All necessary references to dimensions, elevations, slopes, construction materials, thickness and equipment; and

(3) For all drawings and specifications, the date, signature, and seal of a Professional Engineer who is licensed in the State of Texas.

c. The Executive Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or if within 15 days of submission of the letter required by paragraph (a) of this section, the permittee has not received notice from the Executive Director of the intent to inspect, prior inspection is waived and the permittee may commence processing, storage, or disposal of solid waste.

7. Land Disposal Restrictions (Not applicable)

8. Dust Suppression

Pursuant to 30 TAC Section 335.214(b), the permittee shall not use waste, used oil, or any other material which is contaminated with dioxin, polychlorinated biphenyls (PCBs), or any other hazardous waste (other than a waste identified solely on the basis of ignitability) for dust suppression or road treatment.

9. Texas Coastal Management Program (Not applicable)

[II.]

B. RECORDKEEPING AND REPORTING REQUIREMENTS

1. Monitoring and Records

a. All data submitted to the TCEQ shall be in a manner consistent with the latest version of the Quality Assurance Project Plan for the Texas Commission on Environmental Quality for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act (TCEQ QAPP).

b. [30 TAC Section 305.125(11)(A)] Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be an appropriate method similar to those found in the Waste Analysis Plan in Provision I.B. (Incorporated Application Materials), or an equivalent method approved in writing prior to use by the Executive Director of the TCEQ. Laboratory methods shall be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, SWR-846, 1987, as revised; *Standard Methods for the Examination of Water and Wastewater*, Fifteenth Edition, 1908 and 1981 supplement, or current adopted edition; or an equivalent method approved in writing prior to use by the Executive Director of the TCEQ.

c. [30 TAC Section 305.125(11)(B)] The permittee shall retain all records in an organized manner and furnish to the Executive Director, upon request, records of all monitoring information, copies of all reports and records required by this permit, for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application.

2. Operating Record

In addition to recordkeeping and reporting requirements specified elsewhere in this permit, the permittee shall maintain a written operating record at the facility. These records will be made available to representatives of the TCEQ upon request.

3. Retention of Application Data

[30 TAC Section 305.47] A permittee shall keep records throughout the term of the permit of data used to complete the final application and any supplemental information. All copies of renewals, amendments, revisions and modifications must also be kept at the facility such that the most current documents are available for inspection at all times. All materials, including any related information, submitted to complete the application shall be retained, not just those materials which have been incorporated into the permit.

[II.]

B. RECORDKEEPING AND REPORTING REQUIREMENTS

1. Monitoring and Records

a. All data submitted to the TCEQ shall be in a manner consistent with the latest version of the Quality Assurance Project Plan for the Texas Commission on Environmental Quality for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act (TCEQ QAPP).

b. [30 TAC Section 305.125(11)(A)] Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be an appropriate method similar to those found in the Waste Analysis Plan in Provision I.B. (Incorporated Application Materials), or an equivalent method approved in writing prior to use by the Executive Director of the TCEQ. Laboratory methods shall be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, SWR-846, 1987, as revised; *Standard Methods for the Examination of Water and Wastewater*, Fifteenth Edition, 1908 and 1981 supplement, or current adopted edition; or an equivalent method approved in writing prior to use by the Executive Director of the TCEQ.

c. [30 TAC Section 305.125(11)(B)] The permittee shall retain all records in an organized manner and furnish to the Executive Director, upon request, records of all monitoring information, copies of all reports and records required by this permit, for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application.

2. Operating Record

In addition to recordkeeping and reporting requirements specified elsewhere in this permit, the permittee shall maintain a written operating record at the facility. These records will be made available to representatives of the TCEQ upon request.

3. Retention of Application Data

[30 TAC Section 305.47] A permittee shall keep records throughout the term of the permit of data used to complete the final application and any supplemental information. All copies of renewals, amendments, revisions and modifications must also be kept at the facility such that the most current documents are available for inspection at all times. All materials, including any related information, submitted to complete the application shall be retained, not just those materials which have been incorporated into the permit.

[II.B.]

4. Reporting of Noncompliance

The permittee shall report to the Executive Director of the TCEQ information regarding any noncompliance which may endanger human health or the environment. [30 TAC Section 305.125(9)]

a. Report of such information shall be provided orally within 24 hours from the time the permittee becomes aware of the noncompliance.

b. A written submission of such information shall also be provided within five days of the time the permittee becomes aware of the noncompliance. The written submission shall contain the following:

(1) a description of the noncompliance and its cause;

(2) the potential danger to human health or safety, or the environment;

(3) the period of noncompliance, including exact dates and times;

(4) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

(5) steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance, and to mitigate its adverse effects.

5. Twenty-Four Hour Reporting

The following shall be included as information which must be reported orally within 24 hours pursuant to Title 30 TAC Section 305.125(9): [30 TAC Section 305.145]

a. Information concerning release of any solid waste that may cause an endangerment to public drinking water supplies;

b. Any information of a release or discharge of solid waste, or of a fire or explosion which could threaten the environment or human health or safety, outside the facility. The description of the occurrence and its cause shall include:

(1) name, address, and telephone number of the owner or operator;

(2) name, address, and telephone number of the facility;

(3) date, time, and type of incident;

(4) name and quantity of material(s) involved;

[II.B.5.]

(5) the extent of injuries, if any;

(6) an assessment of actual or potential hazards to the environment and human health or safety outside the facility, where this is applicable; and

(7) estimated quantity and disposition of recovered material that resulted from the incident.

6. Notice Waiver

[30 TAC Section 305.145(b)] The Executive Director may waive the five-day written notice requirement specified in Provision II.B.4.b. (Reporting of Noncompliance) in favor of a written report submitted to the Commission within 15 days of the time the permittee becomes aware of the noncompliance or condition.

7. Biennial Report (Not Applicable)

8. Pollution Prevention (Not Applicable)

9. Waste Minimization (Not Applicable)

10. Annual Detection Monitoring Report (Not Applicable)

11. Manifest Discrepancy Report

If a significant discrepancy in a manifest is discovered, the permittee numust attempt to reconcile the discrepancy. If not resolved in fifteen days, the permittee must submit a report, describing the incident, to the Executive Director, as per the requirements of 30 TAC Section 335.12(c)(2). A copy of the manifest must be included in the report.

12. Unmanifested Waste Report

A report must be submitted to the Executive Director within 15 days of receipt of unmanifested waste, as per the requirements of 30 TAC Section 335.15(3).

13. Monthly Summary

[30 TAC Section 335.15(2)] The permittee shall prepare a monthly report, of all manifests received during the month, summarizing the quantity, character, transporter identity, and the method of storage, processing, and disposal of each hazardous waste or Class 1 waste shipment received, itemized by manifest document number. This monthly summary report shall be submitted to the TCEQ Registration, Review, and Reporting Division on or before the 25th day of each month for waste received during the previous month.

[II.]

C. INCORPORATED REGULATORY REQUIREMENTS

1. State Regulations

The following TCEQ regulations are hereby made provisions and conditions of this permit. Issuance of this permit with incorporated rules in no way exempts the permittee from compliance with any other applicable state statute and/or Commission Rule.

a. 30 TAC Chapter 37, Subchapter P: Financial Assurance for Hazardous and Nonhazardous Industrial Solid Waste Facilities;

b. 30 TAC Chapter 305, Subchapter A: General Provisions;

c. 30 TAC Chapter 305, Subchapter C: Application for Permit;

d. 30 TAC Sections 305.61 - 305.69 (regarding amendments, renewals, transfers, corrections, revocation and suspension of permits);

e. 30 TAC Sections 305.121 - 305.125 (regarding permit characteristics and conditions);

f. 30 TAC Sections 305.127 - 305.129 (regarding permit conditions, signatories and variance procedures);

g. 30 TAC Chapter 305, Subchapter G: Additional Conditions for Hazardous and Industrial Solid Waste Storage, Processing and Disposal Permits;

h. 30 TAC Chapter 335, Subchapter A: Industrial Solid Waste and Municipal Hazardous Waste;

i. 30 TAC Sections 335.153 - 335.155: (regarding reporting of emergency situations and additional reports required);

j. 30 TAC Chapter 350: Texas Risk Reduction Program (TRRP).

2. Federal Regulations (Not Applicable)

PERMIT SECTION III. - FACILITY MANAGEMENT

A. OPERATION OF FACILITY

The permittee shall construct, maintain, and operate the facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of industrial waste constituents to air, soil, or surface water which could threaten human health or the environment. All equipment and structures used to manage industrial waste at the facility shall be maintained in proper operating condition.

[III.]

B. PERSONNEL TRAINING

The permittee shall ensure that all facility personnel involved with nonhazardous industrial waste management successfully complete a training program commensurate with the level of expertise required for the classification of the employee. The permittee shall maintain training documents and records, as required by Provision II.B.b. (Monitoring and Records).

C. SECURITY

1. The permittee shall provide and maintain an artificial or natural barrier which completely surrounds the active waste management portion(s) of the facility and shall have a means to control entry, at all times, through gates or other entrances to these same facility areas.

2. The permittee shall post warning signs at all points of access to the active waste management portion(s) of the facility and along the natural and/or artificial barriers in sufficient numbers to be seen from any approach to that (those) portion(s) of the facility. The signs shall be printed so that they may be clearly read from a distance of at least 25 feet, and shall state "Danger - Unauthorized Personnel Keep Out" in English.

D. GENERAL INSPECTION REQUIREMENTS

The permittee shall follow the inspection schedule contained in the permit application submittals identified in Provision I.B. (Incorporated Application Material). The permittee shall remedy any deterioration or malfunction discovered by an inspection. Records of inspection shall be kept, as required by Provision II.B.b. (Monitoring and Records). Any remedial actions taken in response to facility inspections and the date of the remediation shall be included in the inspection records.

E. CONTINGENCY PLAN

1. The permittee shall follow a Contingency Plan, to be developed within 180 days after issuance of this permit. Copies of this plan shall be available to all employees involved in waste management at the facility.

2. The permittee shall immediately initiate clean-up procedures for removal of any spilled industrial nonhazardous wastes and waste residues and shall take all steps necessary to prevent surface-water or groundwater contamination as a result of any spills.

3. Collected industrial nonhazardous wastes, spills, leaks, clean-up residues, and contaminated rainfall runoff, including contaminated stormwater from the drainage control system(s) associated with the permitted units, shall be removed promptly after the spillage and\or rainfall event in as timely a manner as is necessary to prevent overflow of the system by the following method(s):

   a. Removal to an authorized industrial solid waste management facility or authorized off-site facility; or

[III.E.3.]

b. Discharge in accordance with a wastewater discharge permit.

4. The permittee shall ensure that any equipment or vehicles which have come in contact with waste in the loading/unloading, storage, processing, and/or disposal areas have been decontaminated prior to their movement into designated uncontaminated areas of the site property. At a minimum, all contaminated equipment shall be externally decontaminated and contaminated vehicles shall have their undercarriages and tires or tracks decontaminated to remove all waste residues and to prevent contamination of uncontaminated areas. All wash water generated shall be collected and disposed of in accordance with Provision III.E.3..

5. Preparedness and Prevention

a. At a minimum, the permittee shall equip the facility with appropriate emergency equipment to be able to handle any emergency.

b. All sumps, pumps, fire- and spill-control equipment, decontamination equipment, and all other equipment and structures identified by the Contingency Plan shall be tested and maintained, as necessary, to assure its proper operation in time of emergency.

c. The permittee shall maintain access to communications or alarm systems.

d. A trained emergency coordinator shall be available at all times in case of an emergency and will have the responsibility for coordinating all emergency response measures. Emergency number(s) shall be posted in all waste management portions of the facility and all employees in those areas shall be trained in the location of those postings.

F. SPECIAL PERMIT CONDITIONS (Not Applicable)

PERMIT SECTION IV. - WASTES AND WASTE ANALYSIS

A. WASTE ANALYSIS PLAN

The permittee shall follow the Waste Analysis Plan, developed in the permit application and identified in Provision I.B. (Incorporated Application Material).

B. AUTHORIZED WASTES

1. The permittee is authorized to manage non-hazardous industrial solid wastes listed in Table IV.B. - Wastes Managed in Permitted Units, subject to the limitations provided herein.

Wastes authorized for storage and processing include those generated from off-site sources.

[IV.B.]

2. Hazardous Waste Received From Off-Site Sources

The permittee may not receive hazardous waste from off-site sources.

3. The wastes authorized in Table IV.B. shall not contain any of the following:

a. Polychlorinated biphenyls (PCBs), as defined by the EPA in regulations issued pursuant to the Toxic Substances Control Act under Title 40 Code of Federal Regulations (CFR) Part 761, unless the permittee is compliant with the federal requirements for PCB storage as specified in 40 CFR Part 761;

b. Radioactive wastes unless the permittee is authorized to store, process and dispose of these wastes in compliance with specific licensing and permitting requirements under Chapter 401 of the Texas Health and Safety Code and the rules of the Texas Commission on Environmental Quality or Texas Department of Health or Texas Railroad Commission, and/or any other rules of state or federal authorities;

c. Explosive material, as defined by the Department of Transportation under 49 CFR Part 173;

d. Dioxin-containing wastes, identified by EPA as F020, F021, F022, F023, F026, and F027 wastes in 40 CFR 261.31;

e. Ignitable compressed gases;

f. Municipal garbage; or

g. Special Waste from Health-Care Related Facilities subject to 25 TAC Chapter 1 or 30 TAC Chapter 330.

4. Prior to accepting any additional wastes not authorized in Table IV.B, the permittee shall follow the permit amendment or modification requirements listed in 30 TAC Section 305.62 and 305.69.

C. SAMPLING AND ANALYTICAL METHODS

The permittee shall ensure that all waste analyses utilized for waste identification or verification have been performed in accordance with methods specified in the current editions of "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", (SW-846), ASTM or other methods accepted by the TCEQ. The permittee shall have a QA/QC program that is consistent with EPA SW 846 and the TCEQ RCRA QAPP.

PERMIT SECTION V. - AUTHORIZED UNITS AND OPERATIONS

A. AUTHORIZED UNITS

1. The permittee is authorized to operate the facility units listed in "Attachment D" for storage and processing subject to the limitations herein. All waste management activities not otherwise exempted from permitting under 30 TAC Section 335.2 shall be confined to the authorized facility units listed in "Attachment D". References hereinafter in this permit to "TCEQ ISW Permit Unit No. ___" shall be to the facility units listed in "Attachment D". All authorized units must be clearly identified as numbered in "Attachment D". These units must have signs indicating "TCEQ ISW PERMIT UNIT NO. ___ ".

2. The permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the permittee must confine smoking and open flame to specifically designated areas. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

3. The permittee shall prevent inundation of any permitted units and prevent any discharges of any waste or runoff of waste contaminated stormwater from permitted units. Additionally, each loading or unloading area, associated with a permitted hazardous or nonhazardous waste management unit, shall be provided with a drainage control system which will collect spills and precipitation in such a manner as to satisfy the following:

   a. Preclude the release from the system of any collected spills, leaks or precipitation;

   b. Minimize the amount of rainfall that is collected by the system; and

   c. Prevent run-on into the system from other portions of the facility.

4. The permittee shall construct, operate, and maintain the facility to prevent washout of any waste by a 100-year flood, as specified below:

   In the event of a 100-year flood, the permittee shall remove all waste, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to the flood waters.

B. CONTAINER STORAGE AREAS

1. The permitted container storage areas are shown in Table V.B. - Container Storage Areas. The permittee is authorized to operate the facility container storage areas for storage and processing subject to the limitations contained herein.

2. The permittee shall construct and maintain the containment systems and buildings for the container storage areas in accordance with the drawings and details included in the Application in Provision I.B..

[V.]

C. TANKS AND TANK SYSTEMS

1. The permitted tank units and their approved waste types are shown in Table V.C.-Tanks and Tank Systems. The permittee is authorized to operate the permitted tank units for storage and processing subject to the limitations contained herein.

2. The permittee shall prevent spills and overflows from the tank, containment system, or building.

D. SURFACE IMPOUNDMENTS (Not Applicable)

E. WASTE PILES (Not Applicable)

F. LAND TREATMENT UNITS (Not Applicable)

G. LANDFILLS (Not Applicable)

H. INCINERATORS (Not Applicable)

I. BOILERS (Not Applicable)

J. DRIP PADS (Not Applicable)

K. MISCELLANEOUS UNITS (Not Applicable)

L. CONTAINMENT BUILDINGS (Not Applicable)

PERMIT SECTION VI.- GROUNDWATER DETECTION MONITORING (Not Applicable)

PERMIT SECTION VII. - CLOSURE AND POST-CLOSURE REQUIREMENTS

A. FACILITY CLOSURE

1. The permittee shall follow the closure plan contained in the permit application submittals identified in Provision I.B. (Incorporated Application Material) of this permit.

Additionally, facility closure shall also commence:

a. Upon direction of the TCEQ for violation of the permit, TCEQ Rules, or State Statutes; or

b. Upon suspension, cancellation, or revocation of the terms and conditions of this permit concerning the authorization to receive, store, process, or dispose of waste materials; or

c. Upon abandonment of the site; or

[VII.A.1.]

d. Upon direction of the TCEQ for failure to secure and maintain an adequate bond or other financial assurance as required by Provision VII.B.1..

2. Request for Permit Modification or Amendment

The permittee shall submit a written request for a permit modification or amendment to authorize a change in the approved Closure Plan. The written request shall include a copy of the amended Closure Plan for approval by the Executive Director.

3. Time Frames for Modification\Amendment Request Submittal (Not Applicable)

4. Closure Notice and Certification Requirements

a. The permittee shall notify the Executive Director, in writing, at least 45 days prior to the date on which he expects to begin partial or final closure of a facility with processing or storage tanks, or container storage, whichever is earlier. A copy of the notice shall be submitted to the TCEQ Regional Office.

b. The permittee shall notify the TCEQ Regional Office at least ten (10) days prior to any closure sampling activity required by the permit in order to afford regional personnel the opportunity to observe these events and collect samples.

5. Unless the Executive Director approves an extension to the closure period, the permittee must complete partial and final closure activities within 180 days after receiving the final known volume of nonhazardous industrial wastes at the waste management unit or facility.

6. Within 60 days of the completion of final closure of the facility, the permittee shall submit to the Executive Director, by registered mail, with a copy to the TCEQ Regional Office, a certification that the nonhazardous industrial waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved Closure Plan and this permit. The certification, which shall be signed by the permittee and by an independent professional engineer licensed in Texas, must be in the form described in Provision II.A.6.. A closure certification report shall be submitted with the required certifications which includes a summary of the activities conducted during closure and the results of all analyses performed. The certification report shall contain the information required by Provision II.A.6.. The closure certification report shall be furnished to the Executive Director upon request until the Executive Director releases the permittee from the financial assurance requirements for closure.

7. Final closure is considered complete when all nonhazardous industrial waste management units at the facility have been closed in accordance with all applicable closure requirements so that hazardous waste management activities are no longer conducted at the facility.

8. All units, sumps, pumps, piping and any other equipment or ancillary components which have come in contact with nonhazardous industrial wastes shall either be decontaminated

[VII.A.8.]

by removing all waste, waste residues, and sludges or be disposed of at an authorized off-site facility.

9. All contaminated equipment/structures, liners, dikes, and soils (i.e., debris) intended for decontamination shall be decontaminated or removed and managed at an authorized industrial solid waste management facility.

10. All hard-surfaced areas within the waste management unit areas shall be decontaminated and the wash water generated treated and/or disposed at an authorized off-site facility.

11. Verification of decontamination shall be performed by analyzing wash water, and as necessary, soil samples for the hazardous constituents which have been in contact with the particular item being decontaminated. In addition, the permittee shall perform visual inspections of the equipment/structures for visible evidence of contamination.

12. Unless it can be demonstrated that soil contamination has not occurred, soils shall be sampled and analyzed. Sufficiently detailed analyses of samples representative of soils remaining in non-hard-surfaced areas of the storage and processing facility area shall be performed to verify removal or decontamination of all waste and waste residues.

13. Soil and/or wash-water samples shall be analyzed using laboratory methods specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, SW-846, 1987, as revised; *Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition, 1980, and 1981 supplement, or current adopted edition.* Equivalent or modified methods, must be specified in the Closure Plan and have written approval of the Executive Director prior to use. All data submitted to the TCEQ shall be in a manner consistent with the latest version of the Quality Assurance Project Plan for the Texas Commission on Environmental Quality for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act (TCEQ QAPP).

14. Decontamination shall be deemed complete when no visible evidence of contamination is observed and when the results from verification sampling and analyses indicate wash water concentrations and/or soil concentrations are below the applicable critical Protective Concentration Level (PCL) for Remedy Standard A. If the underlying soils are decontaminated or removed to the PCL for Remedy Standard A, Commercial/Industrial Land use, the permittee shall comply with the institutional controls requirements of 30 TAC Section 350.111 as required.

B. FINANCIAL ASSURANCE FOR CLOSURE

1. The permittee shall provide financial assurance for closure of all permitted units covered by this permit in an amount not less than $114,590.00 (2002 dollars) as shown on Table VII.E.1.- Permitted Unit Closure Cost Summary. Financial assurance shall be secured and maintained in compliance with 30 TAC Chapter 37, Subchapter P; and 30 TAC Section 335.7. Financial assurance is subject to the following:

[VII.B.1.]

a. Adjustments to Financial Assurance Amount:

The amount of financial assurance for closure of existing units, may be reduced by the amount listed in Table VII.E.1, upon certification of closure of an existing permitted unit, in accordance with Provision VII.A.4. (Closure Notice and Certification Requirements), and upon written approval of the Executive Director.

b. Annual Inflation Adjustments

Financial assurance for closure, including any adjustments after permit issuance, shall be corrected for inflation according to the methods described by 30 TAC §37.131 and §37.141.

2. The permittee shall submit to the Executive Director, upon request, such information as may be required to determine the adequacy of the financial assurance.

C. STORAGE, PROCESSING, AND COMBUSTION UNIT CLOSURE REQUIREMENTS (Not Applicable)

D. SURFACE IMPOUNDMENT CLOSURE REQUIREMENTS (Not Applicable)

E. LANDFILL CLOSURE AND CERTIFICATION REQUIREMENTS (Not Applicable)

F. CONTAINMENT BUILDINGS CLOSURE REQUIREMENTS (Not Applicable)

G. FACILITY POST-CLOSURE CARE REQUIREMENTS (Not Applicable)

H. POST-CLOSURE FINANCIAL ASSURANCE REQUIREMENTS (Not Applicable)

PERMIT SECTION VIII. - LIABILITY REQUIREMENTS

A. SUDDEN AND NONSUDDEN ACCIDENTAL OCCURRENCES

The permittee shall demonstrate continuous compliance with the requirements of 30 TAC Chapter 37, Subchapter P; and 30 TAC § 335.7 and to maintain liability coverage for sudden and accidental occurrences of at least $1 million per occurrence, with an annual aggregate of at least $2 million, exclusive of legal defense costs.

B. INCAPACITY OF OWNERS OR OPERATORS, GENERATORS, OR FINANCIAL INSTITUTIONS

The permittee shall comply with 30 TAC §37.71, regarding bankruptcy, whenever necessary.

PERMIT SECTION IX. - CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

(Not Applicable)

PERMIT SECTION X. - AIR EMISSION STANDARDS

A. PROCESS VENTS AND EQUIPMENT LEAKS

Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in Section 382.003 of the Texas Health and Safety Code Ann. or violate Section 382.085 of the Texas Health and Safety Code Ann. If the Executive Director of the TCEQ determines that such a condition or violation occurs, the permittee shall implement additional abatement measures as necessary to control or prevent the condition or violation.

TABLE IV.B. WASTES MANAGED IN PERMITTED UNITS

WASTE MATERIAL	TYPE MATERIAL
Class 1 & 2 Nonhazardous Industrial Waste	Inorganic Liquids
Class 1 & 2 Nonhazardous Industrial Waste	Inorganic Solids
Class 1 & 2 Nonhazardous Industrial Waste	Inorganic Sludges
Class 1 & 2 Nonhazardous Industrial Waste	Organic Liquids
Class 1 & 2 Nonhazardous Industrial Waste	Organic Solids
Class 1 & 2 Nonhazardous Industrial Waste	Organic Sludges

TABLE V.B. CONTAINER STORAGE AREAS

Unit No.	*Container Storage Area*	*N.O.R. #*	*Rated Capacity*	*Dimensions*	*Containment Volume (including rainfall for unenclosed areas)*	*Unit will manage Ignitable,[1] Reactive,[1] or Incompatible[2] Waste (state all that apply)*
1	Waste Management Area #106		Volume equivalent of up to500 55-gallon drums per day	50' x 70' within a 210' x 70' metal building	Not applicable	Liquid, Sludge, & Solid Class 1 & 2 nonhazardous industrial waste
2	Waste Management Area #107		Volume equivalent of up to 4 25 cubic yard roll-off boxes	122' x 70' within a 210' x 70' metal building	Not applicable	Liquid, Sludge, & Solid Class 1 & 2 nonhazardous industrial waste

[1]Containers managing ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[2]Incompatible waste must be separated from other waste or materials stored nearby in other containers, piles, open tanks, or surface impoundments by means of a dike, berm, wall, or other device.

EPAHO119001334

TABLE V.C TANKS AND TANK SYSTEMS

Unit No.	*Tank*	*N.O.R. #*	*Storage and/or Processing*	*Waste Materials*	*Rated Capacity*	*Dimensions*	*Containment Volume (including rainfall for unenclosed areas)*	*Unit will manage Ignitable, Reactive, or Incompatible Waste (state all that apply)*
3	Waste Management Area #108		Processing and/or storage	All wastes identified in Table IV.B.	Volume equivalent of up to 6500 gallons	38' x 70' area within a 210' x 70' metal building	Not applicable	Liquid, sludge, and solid class 1 & 2 nonhazardous industrial waste

EPAHO119001335

TABLE VII.E.1. PERMITTED UNIT CLOSURE COST SUMMARY

Existing Unit Closure Cost Estimate (Not Applicable)	
Unit	Cost
TOTAL EXISTING UNIT CLOSURE COST ESTIMATE	

Proposed Unit Closure Cost Estimate	
Unit	Cost
Permitted Unit Nos. 1, 2, & 3 (Waste Management Unit Nos. 106, 107, & 108)	$114,590.00 (2002 dollars)

ATTACHMENT A

LEGAL DESCRIPTION OF FACILITY

LEGAL DESCRIPTION 6.294 ACRE TRACT
TRACT 2

BEING 6.294 ACRES (274,175 SQUARE FEET) OF LAND OUT OF THE WASHINGTON COUNTY RAILROAD COMPANY SURVEY SECTION 2, ABSTRACT 1020 IN THE CITY OF HOUSTON, HARRIS COUNTY, TEXAS AND BEING A PART OF THE CALLED 12.5273 ACRE TRACT RECORDED IN HARRIS COUNTY CLERKS FILE NUMBER T237280;

BEGINNING AT A 5/8 INCH IRON ROD SET FOR THE NORTHWEST CORNER OF LOT 1, BLOCK 13 SOUTHERN VILLAGE, SECTION 2 AS RECORDED IN VOLUME 21, PAGE 23 OF THE MAP RECORDS OF HARRIS COUNTY, TEXAS. SAID POINT ALSO BEING IN THE EAST RIGHT-OF-WAY LINE OF WAYLAND ROAD (60 FEET WIDE);

THENCE NORTH 19 DEGREES 42 MINUTES 37 SECONDS EAST, ALONG THE SOUTHEAST RIGHT-OF-WAY LINE OF SAID WAYLAND ROAD A DISTANCE OF 951.78 FEET TO A 5/8 INCH IRON ROD SET FOR CORNER, BEING THE SOUTHWEST CORNER OF A CALLED 15.00 SQUARE FEET TRACT RECORDED IN VOLUME 1355, PAGE 29 OF THE HARRIS COUNTY, DEED RECORDS;

THENCE SOUTH 69 DEGREES 09 MINUTES 11 SECONDS EAST, ALONG THE SOUTHWEST LINE OF SAID 15,000 SQUARE FEET TRACT A DISTANCE OF 75.00 FEET TO A 3 INCH METAL FENCE POST FOUND FOR CORNER;

THENCE NORTH 20 DEGREES 18 MINUTES 54 SECONDS EAST, ALONG THE SOUTHEAST LINE OF SAID 15,000 SQUARE FEET TRACT A DISTANCE OF 200.24 FEET TO A FENCE POST FOR CORNER IN THE SOUTHWEST RIGHT-OF-WAY LINE OF GRIGGS ROAD;

THENCE SOUTH 70 DEGREES 38 MINUTES 50 SECONDS EAST, ALONG THE SOUTHEAST RIGHT-OF-WAY LINE OF SAID GRIGGS ROAD A DISTANCE OF 172.82 FEET TO A 4 BY 4 FENCE POST FOR CORNER IN THE EAST LINE OF GRIGGS TERRACE ADDITION, AN UNRECORDED SUBDIVISION;

THENCE SOUTH 19 DEGREES 34 MINUTES 01 SECONDS WEST, ALONG THE WEST LINE OF SAID GRIGGS TERRACE ADDITION A DISTANCE OF 1152.08 FEET TO A 3/4 INCH IRON PIPE FOUND FOR CORNER. SAME BEING THE NORTHEAST CORNER OF LOT 3, BLOCK 13, SOUTHERN VILLAGE, SECTION 2;

THENCE NORTH 70 DEGREES 10 MINUTES 51 SECONDS WEST, ALONG THE NORTHEAST LINE OF SAID BLOCK 13, SOUTHERN VILLAGE A DISTANCE OF 252.80 FEET TO THE POINT OF BEGINNING AND CONTAINING 6.294 ACRES (274,175 SQUARE FEET) OF LAND.

I, hereby certify that this survey was made in the ground and completed on this 26th day of January 2000 and that this plat correctly represents the facts found at the time of survey showing the improvements. There are no encroachments apparent on the ground, except as shown. This survey substantially complies with the current Texas Society of Professional Surveyors Standards and Specifications for Category 1A, Condition II Survey. This survey is certified for boundary only and for this transaction only. Surveyor did not abstract property. Easements, building lines, etc., shown are as identified by:

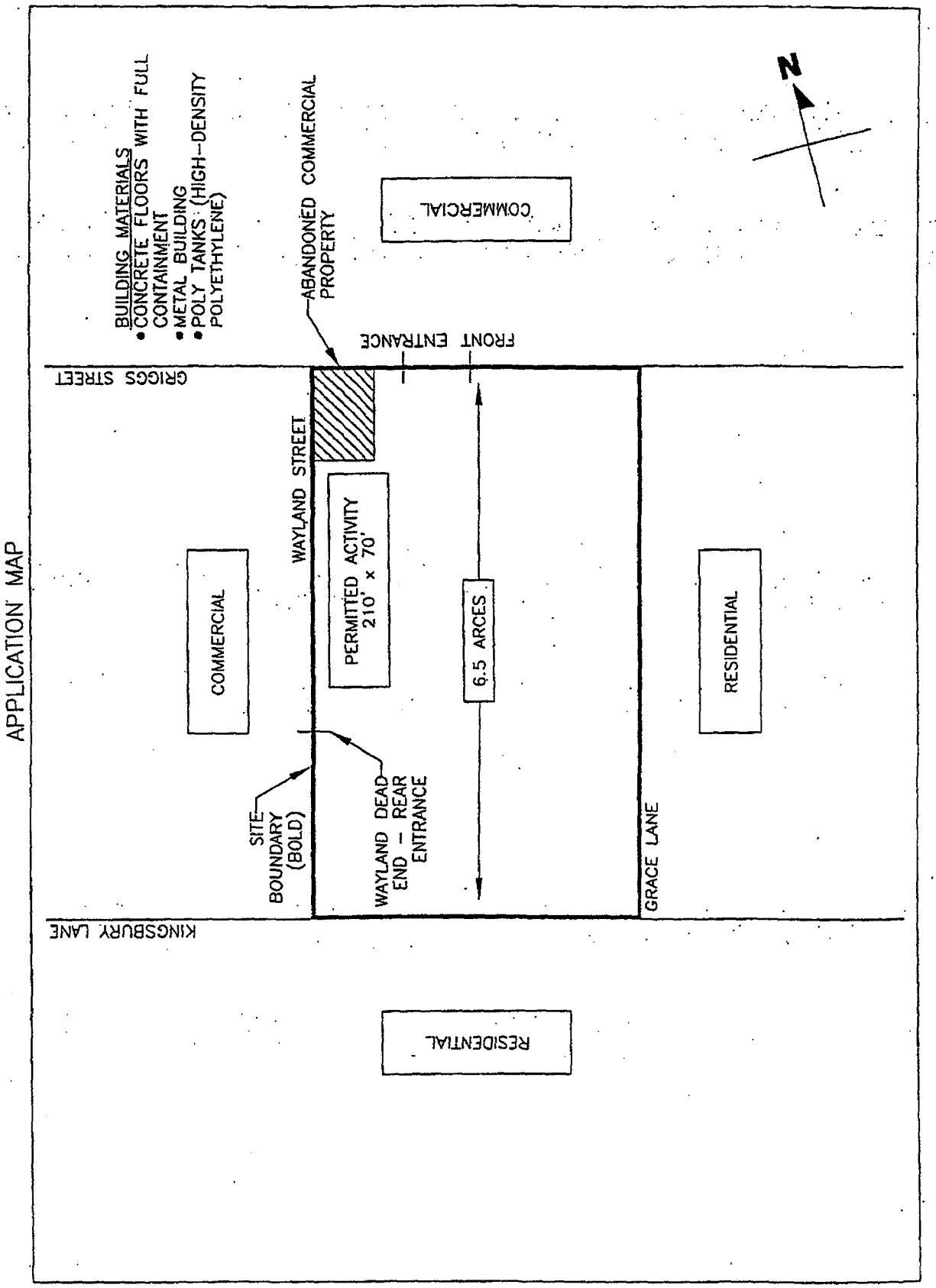
GF 99154426 of PARTNERS TITLE COMPANY

Fred W. Lawton, Registered Professional Land Surveyor No. 2021

STATE OF TEXAS
REGISTERED
FRED W. LAWTON
2021
PROFESSIONAL
LAND SURVEYOR

ATTACHMENT B

FACILITY MAP


APPLICATION MAP
BUILDING MATERIALS
• CONCRETE FLOORS WITH FULL CONTAINMENT
• METAL BUILDING
• POLY TANKS (HIGH-DENSITY POLYETHYLENE)
ABANDONED COMMERCIAL PROPERTY
COMMERCIAL
FRONT ENTRANCE
GRIGGS STREET
WAYLAND STREET
PERMITTED ACTIVITY 210' x 70'
6.5 ARCES
COMMERCIAL
RESIDENTIAL
SITE BOUNDARY (BOLD)
WAYLAND DEAD END – REAR ENTRANCE
GRACE LANE
KINGSBURY LANE
RESIDENTIAL
N

ATTACHMENT D

Authorized Facility Units

TCEQ Permit Unit No.	Unit Name	Unit Description	Capacity
1	Container Storage	50' x 70' area within a 210' x 70' metal building, Waste Management Area #106, used for storage of drums or other containers	Volume equivalent of up to 500 55-gallon drums per day
2	Container Storage	122' x 70' area within a 210' x 70' metal building, Waste Management Area #107, used for storage and processing of waste in roll-off boxes or other containers	Volume equivalent of up to four 25 cubic yard roll-off boxes
3	Processing Area	38' x 70' area within a 210' x 70' metal building, Waste Management Area #108, used for processing and storage of liquid waste	Volume equivalent of up to 6500 gallons

EPAHO119001341

ATTACHMENT C

List of Incorporated Application Materials

The following is a list of the Application for Permit to Store, Process, or Dispose of Nonhazardous Industrial Solid Waste elements which are incorporated into all Nonhazardous Industrial Solid Waste permits by reference as per Provision I.B.

TCEQ Application Form

1. Applicant Information
2. Authorized Agents
3. Responsible Party
4. Location of Application for Public Viewing
5. Type of Permit
6. Other Permit Information
7. Plant or Disposal Site Information
8. Process Water Discharge
9. Waste Management Unit Identification
10. Estimated Startup Date
11. Application Map
12. Property Ownership Information
13. Source of Property Ownership Information
14. List of Evidence of Non-Compliance
15. Core Data Form

TCEQ Technical Information

I. General Information
- Applicant
- Facility Location - Address
- Summary of description of Facility

II. Operations
- A. Security
- B. Inspection and Maintenance
- C. Personnel
- D. Equipment
- E. Record Keeping
- F. Roadway Information

III. Design
- A. Solid Waste to be Accepted
- B. Location
- C. Methods
- D. Engineering Design Report
  - 1., 2, & 3. (Not Applicable)
  - 4. Waste Management Units
  - 5. Ground & Surface Water Protection
  - 6. Closing
- E. Geology Information
- F. Climate Information

CITY OF HOUSTON

Bill White
Mayor

Michael S. Marcotte, P.E., DEE
Director
Public Works & Engineering
Department
Industrial Wastewater Service
10500 Bellaire Blvd.
Houston, Texas 77072

T. 281.575.2800
F. 281.983-6704
www.houstontx.gov

RECEIVED
JAN 16 2009
BY:

January 14, 2009

PRABHAKAR THANGUDU
HSE MANAGER
CES ENVIRONMENTAL SERVICES, INC.
4904 GRIGGS ROAD
HOUSTON, TX 77021

Enclosed please find your firm's amended Industrial Waste Permit No. 6806. Please disregard all previously issued Industrial Waste Permits. Your firm's Industrial Waste Permit has been changed as follows:

The following permit endorsement has been removed from your firm's Industrial Waste Permit:

ENDORSEMENT P - PHENOL DISCHARGE LIMIT

The Industrial Wastewater Service has established a Total Toxic Organic (TTO) discharge limit of 50 mg/L as defined in the permit endorsement titled ENDORSEMENT TTO - City Total Toxic Organics Limit. The City TTO limit is applicable at any sample point that has City (local) discharge limits. At this time industries in the following categories will be issued the 50 mg/L TTO Limit:

Centralized Waste Treatment - regulated under 40 CFR Part 437

Transportation Equipment Cleaning - regulated under 40 CFR Part 442

The following permit endorsement has been added to your firm's Industrial Waste Permit:

ENDORSEMENT TTO - City Total Toxic Organics Limit

This permit endorsement provides the City's local limit for TTO and defines how a TTO value is determined. The endorsement also provides a list of volatile organic compounds and semi-volatile organic compounds (base neutral acids) that are used in determining the TTO value for a wastewater sample.

The Industrial Wastewater Service has determined that a City Total Toxic Organic (TTO) discharge limit of 50 mg/L to be appropriate for centralized waste treatment and transportation and equipment cleaning facilities based on the nature of the industrial waste that may be discharged from these types of industrial operations. The City TTO limit was established and issued under the authority to establish permit provisions as provided by Part II of this permit; Sections 47-189 (a)(2), (a)(16), and 47-189 (b).

Should you have any questions concerning this matter please call me at 281-575-2833.

Sincerely,

Clyde Smith
Environmental Investigator V
Industrial Wastewater Service
Department of Public Works and Engineering

6806

CITY OF HOUSTON

Bill White
Mayor

Michael S. Marcotte, P.E., DEE
Director
Public Works & Engineering Department
Industrial Wastewater Service
10500 Bellaire Blvd.
Houston, Texas 77072

T. 281.575.2800
F. 281.983-6704
www.cityofhouston.gov

January 5, 2009

CES ENVIRONMENTAL SERVICES, INC.
4904 GRIGGS ROAD
HOUSTON, TX 77021

ATTN: **PRABHAKAR THANGUDU**
HSE MANAGER

GENTLEMEN:

Attached is your firm's Industrial Waste Permit. Please refer to the permit number in all future correspondence. A copy of page one (1) of this permit should be exhibited in an area for public viewing.

Part II of this permit is the City's Industrial Waste Ordinance; Chapter 47, Article V. (Disposal of Industrial Wastes Through City Sewer System).

Also attached Please find a posting for accidental discharges to the sanitary sewer system. The posting should be placed in your process area in accordance with Section 47-195(c) of the Ordinance.

Should you have any questions, please call the Industrial Wastewater Service at (281) 575-2800.

Sincerely,

Clyde Smith
Environmental Investigator V
Industrial Wastewater Service
Department of Public Works & Engineering

Council Members: Toni Lawrence Jarvis Johnson Anne Clutterbuck Wanda Adams Mike Sullivan M.J. Khan, P.E. Pam Holm Adrian Garcia James G. Rodriguez Peter Brown Sue Lovell Ronald C. Green Jolanda "Jo" Jones Melissa Noriega Controller: Annise D. Parker

CITY OF HOUSTON

Industrial Waste Permit Number: 6806

Department Of Public Works And Engineering
Wastewater Operations
Industrial Wastewater Service
10500 Bellaire Blvd.
Houston, Texas 77072
Phone: (281) 575-2800

Authorization to discharge under City of Houston Industrial Waste Ordinance Chapter 47; Article V.

CES ENVIRONMENTAL SERVICES, INC.

is authorized to discharge into the City's collection system raw liquid waste in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit at the following location:

4904 GRIGGS ROAD
HOUSTON, TX 77021

Regulated Waste Offsite Disposal: **Yes**
EPA Categorical Limits Applicable: **No**
Significant Industrial User: **Yes**
Pretreatment: **Yes**
Category: **TRANSPORTATION EQUIPMENT CLEANING**
Product/Service: **PETROCHEMICAL TRANSPORTATION**
NAICS Code(s): **484220**
Key Map No.: **534-J** Sewer Map No.: **1604B**
Treatment Plant: **SIMS SOUTH**

This permit shall become effective on **01/14/2009** and the authorization to discharge shall expire at midnight **01/14/2011**.

Signed this **5th** day of **January 2009**

Clyde Smith
Environmental Investigator V
City of Houston Pretreatment Program

EPAHO119001346

PART I

SECTION A. EFFLUENT LIMITS AND SPECIAL PROVISIONS

1. Local Limits - City Ordinance: Chapter 47, Article V.; Disposal of Industrial Waste Through City Sewer System:

2. Special Provisions:

Endorsement P3 - City Discharge Limits For Heavy Metals, Oil & Grease, Amenable Cyanide, pH & Temperature
Endorsement S - Significant Industrial User (SIU) Compliance Evaluation Procedure
Endorsement SR - Semiannual Reporting Requirements
Endorsement T - Pollution Management Plan Requirements for Transportation and Equipment Cleaning Category 40 CFR 442
Endorsement U - Sewer Billing Rate - BOD & TSS is being monitored.
Endorsement SM - Self-Monitoring Sampling, Reporting and Certification Requirements
Endorsement TTO - City Total Toxic Organic (TTO) Limit

SECTION B. WATER ACCOUNTS AND SAMPLING POINTS

1. Water and/or Sewer Account Number(s):
0920-2370-113 **0920-2375-109**

2. Sampling Points:

Sample Point Number:	**1**
Sample Point Location:	**NORTH OF PRETREATMENT AREA**
Sample Point Description:	**SW**
Discharge Limits:	**LOCAL**
Discharge Type:	**Continuous**

Sample Point Number:	**2**
Sample Point Location:	**AT TREATMENT TANK**
Sample Point Description:	**FLUME**
Discharge Limits:	**N**
Discharge Type:	**Continuous**

EPAHO119001347

Authorized Pollutants and Discharge Limits:

The permittee is authorized to discharge the pollutants, at the allowable City of Houston discharge limits, which are listed on permit endorsement P(x). "x" will be a number after the P. There are different P endorsements used for different industries. The authorized pollutants are those pollutants that have a potential to be present, or those pollutants that the City will monitor for, in the wastewater that is discharged to the sanitary sewer from the process operations that were at the permitted facility the time this permit was issued.

Process Operation Changes & Unauthorized Pollutant Discharges:

If the permittee modifies, adds or removes an industrial process operation, the permittee is required to provide written notification to the Industrial Wastewater Service to include a description of the process change and information concerning any changes in the type and or concentration of pollutants expected in the permittee's industrial discharge to the City' sanitary sewer.

The permittee is required to notify the Industrial Wastewater Service before discharging a wastestream with an unauthorized pollutant to the City's sanitary sewer. The permittee's authorized pollutants are listed on permit endorsement P.

Part 2 of this permit is the City of Houston's Industrial Waste Ordinance; Chapter 47 Article V. (Disposal of Industrial Wastes Through City Sewer System). The City of Houston's sanitary sewer discharge limits and prohibited Discharges are listed in Section 47-194 (Standard of Quality) of the Industrial Waste Ordinance.

Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS):

If a permitted discharge has an average BOD5 concentration exceeding 350 mg/L or an average TSS concentration exceeding 375 mg/L, the permittee will have a sewer rate surcharge. If the City is monitoring for BOD and TSS endorsement U will be part of this permit. If there are any water meter accounts or discharge meter accounts that are surcharged, permit endorsement U will provide the current surcharged sewer billing rate.

Bypass:

(a.) ***Definitions.***

(1) " Bypass" means the intentional diversion of wastestreams from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become in operable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

EPAHO119001348

Bypass (Continued):

(b) ***Bypass not violating applicable Pretreatment Standards or requirements.***

An Industrial User may allow any bypass to occur which does not cause Pretreatment Standards or Requirements to be violated, but only if it also is for the essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (c) and (d) of this section.

(c) ***Notice.***

(1) If an Industrial User knows in advance of the need for a bypass, it shall submit prior notice to the City of Houston's Industrial Wastewater Service (Control Authority), if possible, at least ten days before the date of the bypass.

(2) An Industrial User shall submit oral notice of an unanticipated bypass that exceeds applicable Pretreatment Standards to the Control Authority within 24 hours from the time the Industrial User becomes aware of the bypass. A written submission shall also be provided within five days of the time that the Industrial User becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. The Control Authority may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(d) ***Prohibition of bypass.***

(1) Bypass is prohibited, and the Control Authority may take enforcement action against an Industrial User for a bypass, unless;

(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(iii) The Industrial User submitted notices as required under paragraph (c) of this Bypass Section of this Industrial Waste Permit.

(2) The Control Authority may approve an anticipated bypass, after considering its adverse effects, if the Control Authority determines that it will meet the three conditions listed in paragraph (d) (1) of this section.

EPAHO119001349

Slug Load / Slug Discharge and Slug Discharge Control Plans:

Slug Load or Slug Discharge is defined as any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's regulations, local limits or permit conditions.

Industrial Users of the City's sanitary sewer are required to notify the Industrial Wastewater Service immediately of any change at its facility that affects the potential for a slug discharge to the sanitary sewer.

The City will determine by inspection of the permitted facility if the potential exists for a slug discharge to the sanitary sewer. If it is determined that the potential exists for a slug discharge a Slug Discharge Control Plan or other action to prevent / control a slug discharge will be required. The permitee's Industrial Waste Permit may be amended to add a permit endorsement to require a Slug Discharge Control Plan. The permit endorsement will include the minimum elements of an acceptable Slug Discharge Control Plan.

EPAHO119001350

ENDORSEMENT P3

City of Houston Sanitary Sewer Discharge Limits

Heavy Metals	Grab Sample Limit	Composite Sample Limit
Arsenic	3.0 mg/L	2.0 mg/L
Cadmium	0.4 mg/L	0.2 mg/L
Chromium	3.0 mg/L	1.0 mg/L
Copper	3.0 mg/L	2.0 mg/L
Lead	1.5 mg/L	1.0 mg/L
Nickel	3.0 mg/L	2.0 mg/L
Selenium	5.0 mg/L	3.0 mg/L
Silver	2.0 mg/L	1.0 mg/L
Zinc	6.0 mg/L	3.0 mg/L

Based on process operations performed at the permitted industry mercury is not a pollutant of concern. Therefore, this endorsement does not authorize the discharge of any concentration of mercury to the sanitary sewer.

Amenable Cyanide – CN(A) - Grab Sample Limit

Amenable Cyanide shall not be greater than 2.0 mg/L

---

pH - Grab Sample Limit

pH shall not be less than 5 or greater than 11

Temperature - Grab Sample Limit

Temperature shall not be greater than 113.0 Fahrenheit (45.0 Celsius)

Oil and Grease (Total) - Grab Sample Limit

Total Oil and Grease shall not be greater than 400 mg/L (floating oil and grease is not allowed)

If the following values for BOD and or TSS are exceeded sewer billing rates may be surcharged:

BOD (Biochemical Oxygen Demand) greater than 350 mg/L
TSS (Total Suspended Solids) greater than 375 mg/L

EPAHO119001351

ENDORSEMENT S

SIU COMPLIANCE EVALUATION

In accordance with 40 CFR Part 403.3(v), the permittee has been identified as a Significant Industrial User (SIU) of the City's sanitary sewer system (see page 1 of permit).

Part of determining the compliance status of a SIU is performing an evaluation on the SIU's sample data to determine the compliance status with the permitted effluent limits (chronic limits) and the Technical Review Criteria (TRC) limits.

The Technical Review Criteria Limits are 40% higher than the listed discharge limit for oil and grease, and 20% higher for all other listed discharge limits except pH.

An evaluation of your firm's compliance with the permitted discharge limits is performed quarterly using six month rolling quarters as follows:

1st Quarter.....July 1st	through	December 31st
2nd Quarter..... October 1st	through	March 31st
3rd Quarter.....January 1st	through	June 30th
4th Quarter.....April 1st	through	September 30th

Based on the evaluation of sample data and other criteria (listed in this permit endorsement), per 40 CFR 430.8(f)(2)(viii)(A-H), each Significant Industrial User will be identified as compliant, non-compliant, or significantly noncompliant (SNC).

The City of Houston will also issue a notice of violation to each Significant Industrial User that has been identified as being significantly noncompliant. The notice of violation will inform the SIU of their SNC status, the reason for being SNC, and the SIU will be notified that their company name and the reason for being SNC will be published during the month of November, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the City of Houston, in a list of the Significant Industrial Users or other Industrial Users which, at any time during the previous twelve (12) months, were in Significant Noncompliance with applicable Pretreatment Standards and Requirements.

EPAHO119001352

ENDORSEMENT S
(continued)

The criteria to determine Significant Noncompliance is listed in paragraphs A - H (see below) and shall be applicable to all Significant Industrial Users or any other Industrial User of the sanitary sewer that violates paragraphs (C), (D), or (H):

A. Chronic violations of wastewater discharge limits, defined here as those in which sixty-six percent (66%) or more of all the measurements taken for the same pollutant parameter taken during a six- (6-) month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement.

B. Technical Review Criteria (TRC) violations, defined here as those in which thirty-three percent (33%) or more of wastewater measurements taken for each pollutant parameter during a six- (6-) month period equals or exceeds the product of the numeric Pretreatment Standard or Requirement multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils and grease, and 1.2 for all other pollutants except pH);

C. Any other violation of a Pretreatment Standard or Requirement that [the Superintendent] determines has caused, alone or in combination with other discharges, Interference or Pass Through, including endangering the health of POTW personnel or the general public.

D. Any discharge of a pollutant that has caused imminent endangerment to the public or to the environment, or has resulted in City of Houston's exercise of its emergency authority to halt or prevent such a discharge;

E. Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in an individual wastewater discharge or enforcement order for starting construction, completing construction, or attaining final compliance;

F. Failure to provide within thirty (30) days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical Pretreatment Standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance; or

H. Any other violation(s), which may include a violation of Best Management Practices, which the City of Houston determines will adversely affect the operation or implementation of the local pretreatment program.

Endorsement SM

Self-Monitoring Sampling and Reporting Requirements
Certification Requirements for Significant Industrial Users

In accordance with 40 CFR Part 403.3(v), the permitted industry has been identified on page one of this permit as a Significant Industrial User (SIU) of the City's sanitary sewer system. This permit endorsement provides information concerning the collection of wastewater samples when an SIU is required to perform self-monitoring of their industrial discharge to the City's sanitary sewer, the reporting requirements when an SIU becomes aware of a violation of the discharge limits of this permit and, a certification requirement when submitting analytical laboratory reports of wastewater samples.

Self-monitoring Requirements - the collection of wastewater samples

The permitted industry is responsible for performing self-monitoring to demonstrate compliance when required by the City of Houston. The permitted industry is not required to perform routine self-monitoring unless there are special self-monitoring sampling requirements specified elsewhere in this permit.

Routine sample collection and testing will be performed by the City of Houston. If the City sample testing detects a permitted discharge limit violation, then a violation notice will be issued. The violation notice may require the permitted industry to perform self-monitoring.

If self-monitoring is required the permitted industry shall follow the sampling instructions that are provided in each notice of violation. At a minimum each notice of violation will specify the following:

1. The sample collection point
   Wastewater samples are to be collected at the sample point(s) that are specified in each violation notice. Refer to page 2 of this permit for a list of sample points.

2. The type of sample to be used for self monitoring
   The type of sample that will be required when performing self-monitoring will be specified each time the City of Houston requests self-monitoring in a notice of violation or requires self-monitoring in an Industrial Waste Permit.

   A grab sample or a composite sample may be required. Definitions of a grab or composite sample are provided in Section 47-186; Part II of this permit.

   Sampling for such pollutants as pH, cyanide, oil and grease, and volatile organic compounds require manual collection of grab samples. All grab samples must be representative of the monitored discharge and are to be collected from actively flowing wastestream. A grab sample or composite sample will be required when sampling for a heavy metal or a semi-volatile organic compound.

   Whenever a composite sample is required the permitted industry is hereby authorized to collect a time-proportional composite sample (as opposed to a flow-proportional composite sample) unless a particular notice of violation or permit requirement specifies that flow-proportional composite sampling is required. Each composite sample must be collected during the permitted industry's normal operating hours from a actively flowing wastestream. Sample collection and handling protocols must be done in accordance with 40 CFR Part 136.

EPAHO119001354

3. Number of samples to be collected and the frequency of sampling
The permitted industry will be required to collect 3 samples on three different days for each instance of non-compliance that is addressed in a notice of violation or other enforcement document. However, the number of samples required may vary depending on the nature of the violation, the magnitude of the violation, the duration of the violation, the frequency of the violation (isolated or recurring), and the (potential) impact of the violation (e.g., interference, pass through, or POTW worker safety).

4. Parameters to be tested – identification of pollutants to be monitored
Each notice of violation will identify which parameters are to be tested for when self-monitoring is required. However, any parameter listed with a discharge limit on any endorsement in this permit is subject to being non-compliant and therefore, subject to being identified in a notice of violation that requires self- monitoring to demonstrate compliance. A review of this permit will also identify any parameter that requires special self-monitoring and reporting requirements.

5. Analytical test methods required for testing self-monitoring wastewater samples
The only test methods that are approved for the testing of wastewater samples are the analytical methods listed in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

Self-monitoring Reporting Requirements

1. Requirements for laboratory reports and chain of custody forms
The analytical laboratory reports and chain of custody forms that are submitted to the City, in response to any self-monitoring requirement, must contain specific information to be acceptable. Each notice of violation or other enforcement document, will provide a list of the requirements for laboratory reports and chain of custody forms. If it is determined that the required information is not provided on a lab report or chain of custody form, a violation notice may be issued to require the permitted industry to repeat the self-monitoring sampling and analyses.

2. Reporting a violation / repeat sampling and reporting
In accordance with 40 CFR 403.12(g) (2):

If sampling performed by the permitted industry indicates a violation, the industry shall notify the Control Authority (City of Houston/Industrial Wastewater Service) within twenty-four (24) hours of becoming aware of the violation. The permitted industry shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City of Houston within thirty (30) days after becoming aware of the violation. Where the City of Houston has performed sampling and analysis in lieu of the permitted industry the City must perform the repeat sampling and analysis unless it notifies the permitted industry of the violation and requires the industry to perform the repeat analysis.

Resampling is not required if:

a. The City of Houston performs sampling at the permitted industry's facility at least once a month, or

b. The City of Houston performs sampling at the permitted industry between the time when the initial sampling was conducted and the time when the permitted industry or the City receives the results of this sampling.

EPAHO119001355

Certification Requirement

A certification will be required with the analytical laboratory reports and chain of custody forms for any self-monitoring that is performed. A separate certification shall be submitted by the permitted industry in response to each notice of violation or other self-monitoring sampling event.

A certification form will be provided to the permittee with each notice of violation. The certification will have the date of the notice of violation to indicate which certification to complete and submit with the self-monitoring laboratory reports. If a permitted industry performs voluntary self-monitoring and submits the results of the self-monitoring to the City, a certification statement is required. The industry should use the exact certification that appears in this permit endorsement (see below).

All certifications shall be signed by an authorized representative of the permitted industry.
40 CFR Part 403.12(l) *Signatory requirements for Industrial User reports* provides the criteria to determine who can qualify as an authorized representative. **If there is a change in the name and or title of an authorized representative the Industrial Wastewater Service shall be notified in writing of such a change.**

The following certification shall be included with all analytical laboratory reports for self- monitoring:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

EPAHO119001356

ENDORSEMENT SR

Semiannual Reporting Requirements

Periodic Report on Continued Compliance (Semiannual Report)

In Accordance with 40 CFR Part 403.12 (The General Pretreatment Regulations for Existing and New Sources of Pollution) which is incorporated in this permit, the permittee is required to submit a Periodic Report on Continued Compliance (Semiannual Report) for each of the following six (6) month periods:

SIX MONTH REPORTING PERIOD	REPORT DUE
January - June	**Report due on or before July, 15th**
July - December	**Report due on or before January, 15th**

The City's Industrial Wastewater Service will provide Semiannual Reporting forms to the permittee during each May and November. The permittee is required to submit all Semiannual Reporting forms on or before the report due date specified on the Semiannual Report form.

As part of the Semiannual Reporting requirement the permittee is also required to submit all analytical laboratory reports that have not yet been provided to the Industrial Wastewater Service for any wastewater sample collected at a permitted sample point during each of the six (6) month reporting periods.

The permittee is not required to perform sampling for the Semiannual Report. However, the City reserves the right to request the permittee to perform wastewater sampling for the Semiannual Report or for any other reporting or compliance monitoring requirement. Detailed sampling instructions will be provided to the permittee if the City requests wastewater sampling and analysis.

EPAHO119001357

ENDORSEMENT T

In accordance with the provisions listed in Chapter 47; Article V; (Disposal of Industrial Waste Through City Sewer System), and 40 CFR Part 442 (Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category) the following provisions are added to Industrial Waste Permit Number .

As an alternative to achieving Pretreatment Standards for Existing Sources of Pollution (PSES) a Pollution Management Plan shall be submitted and followed as specified below:

a. The facility is required to conduct its operations in accordance with the Pollutant Management Plan.
b. The facility shall notify the Industrial Wastewater Service prior to renewing or modifying their Industrial Waste Permit, of the intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting a certification statement of their intent to utilize a Pollutant Management Plan. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR Part 403.12(l).
c. The facility shall submit a copy of their Pollutant Management Plan to the Industrial Wastewater Service at the time they apply to renew or modify their Industrial Waste Permit.
d. The facility shall maintain at their office and make available for inspection the Pollutant Management Plan.

The Pollutant Management Plan shall include:

I. Procedures for identifying cargo's, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW.
II. For cargo's identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other waste waters, and handled in an appropriate manner;
III. For cargo's identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be pre-rinsed or pre-steamed as appropriate and the wastewater segregated from waste waters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;
IV. All spent cleaning solutions, including interior caustic washes, interior pre-solve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;
V. Provisions for appropriate recycling or re-use of cleaning agents;
VI. Provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);
VII. Provisions for appropriate recycling or re-use of segregated waste waters (including heels and pre-rinse/pre-steam wastes);
VIII. Provisions for off-site treatment or disposal, or effective pretreatment of segregated waste waters (including heels, pre-rinse/pre-steam wastes, spent cleaning solutions);
IX. Information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and
X. Provisions for maintaining appropriate records of heel management procedures, pre-rinse/pre-steam management procedures, operator training, and proper operation and maintenance of any pretreatment system.

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ENDORSEMENT TTO – Total Toxic Organics Limit

This endorsement establishes a total toxic organics (TTO) discharge limit. The TTO limit is applicable at each [redacted] point on page two of this permit that has City (local) discharge limits. This endorsement is issued under the au[redacted] establish permit provisions as provided by Part II of this permit - Sections 47-189(a)(2), (a)(16) , and 47-189 (b[redacted]

TTO Limit ..... 50 mg/L
TTO is defined as the summation of all quantifiable values greater than 0.1 mg/L for any co[redacted] listed below:

BASE / NEUTRALS / ACIDS - Test Method EPA 625

1,2-Benzanthracene (Benzo (a) Anthracene)
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,12-Benzoperylene (Benzo (ghi) Perylene)
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,6-Dinitrotoluene
3-Nitroaniline
3,3-Dichlorobenzidine
3,4-Benzofluoranthene (Benzo(b)fluoranthene)
3,4-Benzopyrene (Benzo (a) Pyrene)
4-Bromophenyl Phenyl Ether
4-Chloroaniline
4-Chlorophenyl Phenyl Ether
4-Nitroaniline
4-Nitrophenol
4,6-Dinitro-O-Cresol
11,12-Benzofluoranthene (Benzo (k) Fluoranthene)
Acenapththylene
Ancenapthene
Anthracene
Benzidine
Benzyl Alcohol
Benzoic Acid
BIS (2-Chloroethoxy) Methane
BIS (2-Chloroethyl) Ether
BIS (2-Chloroisopropyl) Ether
BIS (2-Ethylhexyl) Phthalate
Butyl Benzyl Phthalate
Chrysene
Di-N-Butyl Phthalate
Di-N-Octyl Phthalate
Dibenzo (A,H) Anthracene (1,2,5,6-Dibenzanthracene)
Dibenzofuran
Diethyl Phthalate
Dimethyl Phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-CD) Pyrene (2,3-0-Phenylenepyrene)
Isophorone
N-Nitrosodi-n-propylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
Naphthalene
Nitrobenzene
p-Cresol
Parachlorometa cresol (4-Chloro-3-Methylphenol)
Pentachlorophenol
Phenanthrene
Phenol (Acid extractable)
Pyrene

VOLATILES - Test Method EPA 624

1,1-Dichloroethane
1,1-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dichloroethane
1,2-Dichloroethene (Total) (1,2-Trans-Dichloroethylene)
1,2-Dichloropropane
1,3-Dichloropropylene (Cis-1,3-Dichloropropene)
Trans-1,3-Dichloropropene
2-Butanone
2-Chloroethyl Vinyl Ether (Mixed)
2-Hexanone
4-Methyl-2-Pentanone
Acetone
Benzene
Bromoform (Tribromomethane)
Carbon Disulfide
Carbon Tetrachloride (Tetrachloromethane)
Chlorobenzene
Chlorodibromomethane (Dibromochloromethane)
Chloroethane
Chloroform (Trichloromethane)
Dichlorobromomethane (Bromodichloromethane)
Ethylbenzene
Methyl Bromide (Bromomethane)
Methyl Chloride (Chloromethane)
Methylene Chloride
Styrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl Acetate
Vinyl Chloride (Chloroethylene)
Xylenes (Total)

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ENDORSEMENT U

Establishment of Sewer User Charge Based on Strength of Waste

In accordance with Chapter 47, Article III of the City Code of Ordinances, the following information has been used in establishing your firm's wastewater billing rate:

(1) The wastewater discharged from the permitted facility has been analyzed and found to contain an average biochemical oxygen demand (BOD) concentration of **1967** mg/L and an average total suspended solids (TSS) concentration of **144** mg/L.

(2) Based on the average concentrations for BOD and TSS the water/sewer billing accounts for each City water meter, sewer discharge meter or private well meter that is being used for sewer billing (that have been identified as industrial accounts) shall now have a sewer user billing rate of **$7.77** per 1,000 gallons.

NOTE: The minimum base rate (for sewer billing) for industrial accounts and for sewer discharge meter accounts; is currently $4.84 per 1,000 gallons.

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PART II

CITY OF HOUSTON
INDUSTRIAL WASTE ORDINANCE

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ARTICLE V. DISPOSAL OF INDUSTRIAL WASTES
THROUGH CITY SEWER SYSTEM

Sec. 47-186. **Definitions**.

For the purpose of this article, the following words and terms shall have the following meanings unless the context indicates otherwise:

Average quality. The arithmetic average of all the 'daily determinations of concentration,' as that term is defined herein, made during a calendar month.

BOD (biochemical oxygen demand). The quantity of oxygen consumed from the biochemical oxidation of organic matter under standard laboratory conditions for five (5) days at a temperature of twenty (20) degrees Celsius, reported in mg/l, as described in 40 CFR part 136.

Categorical pretreatment standards. See pretreatment standards.

CFR. The Code of Federal Regulations. True copies of 40 CFR Part 403 and 40 CFR Part 136 are on file in the office of the city secretary.

COD (chemical oxygen demand). The quantity of oxygen consumed from the chemical oxidation of inorganic and organic matter present in water or wastewater, expressed in mg/l, as described in the 40 CFR Part 136.

Control authority. This term has the meaning established in the 40 CFR 403.12.

Daily composite sample. A sample of effluent collected in several portions during a normal operating day.

Daily composite sample quality. The concentration of some parameter tested in a ''daily composite sample,'' as that term is defined herein.

Daily determination of concentration. For composite samples, 'daily determination of concentration' shall be the same as 'daily composite sample quality,' as the term is defined herein. For grab samples, the daily determination of concentration shall be the arithmetic average of all 'grab sample qualities,' as that term is defined herein, determined for any 24 hour period.

Department. The Department of Public Utilities.

Domestic waste. A typical, residential type waste which requires no pretreatment under the provisions of this article and does not contain industrial waste.

EPA. The Environmental Protection Agency.

Establishment, plant. Any establishment or plant producing industrial waste that is discharged into the sewer system.

Grab sample. An individual sample of effluent collected in less that fifteen (15) minutes.

Grab sample quality. The concentration of some parameter tested in a 'grab sample,' as that term is defined herein.

Industrial user. Any person that discharges industrial waste into the sanitary sewer system.

Industrial waste. Any waterborne solid, liquid or gaseous waste, resulting from any production, industrial, manufacturing or food processing operation or from the development, recovery or processing of any natural resource, including waste that is required to be pretreated by this article or the plumbing code.

Industrial waste permit or permit. Any permit issued pursuant to this article.

Interference. This term has the meaning established in 40 CFR 403.3(i).

Milligrams per liter (mg/l). The same as parts per million (ppm). The milligram per liter value multiplied by the factor 8.34 gives the ratio in pounds per million gallons of water.

New source. This term has the meaning established in 40 CFR 403.3(k).

NPDES permit. A permit issued to the POTW pursuant to section 402 of the Clean Water Act.

Pass through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES of state discharge permit.

Permittee, permit holder. Any person who owns, operates, possesses or controls an establishment or plant being operated under a valid industrial waste permit.

pH value. The logarithm of the reciprocal of the hydrogen ion concentration in grams per liter; i.e.:

$$pH = LOG_{10} \frac{1}{[H+]}$$

pH determination. Determination of pH made according to 40 CFR Part 136.

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Plant, establishment. See 'Establishment, plant.'

Pretreatment requirements. Any substantive or procedural pretreatment requirement promulgated by the EPA, other than a pretreatment standard.

Pretreatment standards. Any regulation applicable to industrial users containing pollutant discharge limits promulgated by the EPA in accordance with sections 307 (b) and (c) of the Clean Water Act.

Publicly owned treatment works(POTW). All city wastewater treatment facilities, wastewater lift stations, and all wastewater collection and/or conveyance systems. The term is synonymous with 'sanitary sewer system' below.

Sample well. A physical connection on an industrial user's discharge sewer that is constructed to allow access for sampling and inspection.

Sanitary tap. A physical connection on an industrial user's discharge to the city's sewer for the purpose of obtaining a sample.

Sanitary sewer system, sewers, sewage works, sewer system. All city facilities for collecting, conveying, pumping, treating and disposing of sanitary sewage and industrial wastes. For the purposes of this article, however, waterways shall not be included in this definition.

Significant industrial user. (i) All industrial users subject to EPA categorical pretreatment standards. (ii) Any other industrial user that discharges an average of 25,000 gallons or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) per day or contributes a process waste stream equal to or greater than five percent (5%) of the dry weather flow or organic capacity of the city wastewater treatment plant into which it discharges. (iii) Industrial users that are designated by the control authority due to the potential to adversely affect the POTW's operation or cause a violation of any pretreatment standard or requirement.

Suspended solids (SS). Solids measured in mg/l that either float on the surface of or are in suspension in water, wastewater, or other liquids, and which are largely removable by a laboratory filtration device, as defined in 40 CFR Part 136.

User charges. Charges established under article III of this chapter for discharging wastes into the sanitary sewer system.

Sec. 47-187. **Permit required; compliance with utility official's requests.**

(a) It shall be unlawful any person included in the following classes of industrial users to be connected to the sewer system without holding a current and valid industrial waste permit:

(1) Industrial users, including new sources, subject to categorical pretreatment standards established by the EPA.

(2) Industrial users that discharge 25,000 gallons or more of industrial waste (excluding sanitary, noncontact cooling and boiler blowdown wastewater) per day into the sanitary sewer system.

(3) Industrial users that discharge industrial waste (excluding sanitary, noncontact cooling and boiler blowdown wastewater) equal to or greater than (5%) five percent of the average dry weather flow or organic capacity of the city treatment plant into which they discharge.

(4) Industrial users that discharge BOD or SS greater than those levels established for the imposition of the industrial user surcharge under article III of this chapter.

(5) Industrial users that contribute or have the potential to contribute industrial waste having significant concentrations of pollutants that would interfere with or pass through the sewer system, or contaminate the city's sewage sludge.

(b) Any industrial user discharging or proposing to discharge industrial waste into a city sewer in any quantity upon request by the utility official shall provide:

(1) Information which shall include, but not be limited to, a description of activities, facilities, plant processes, and types of products or services of the industrial user. The information shall include a list of chemicals used but not normally discharged into the sewer system as well as a list of process industrial wastes which are, or could be, discharged into the sewer system.

(2) A site drawing showing location and size of on site sewers, sampling points, pretreatment facilities, city sewers, and any other pertinent details relating to discharge of waste.

(3) A discharge report which shall include, but not be limited to, nature of process, volume, rate of flow, and any other information that is relevant to the production of waste, including substances and their concentrations in the wastewater discharge.

(4) A tour of facilities for department inspectors.

(5) A permit application pursuant to this article and consistent with applicable requirements established under 40 CFR 403.

Sec. 47-188. **Permit issuance, renewal.**

(a) The fee for permits shall be $75.00 and shall be non-refundable. An industrial waste permit shall be valid for a term of two (2) years from its date of issuance.

An applicant seeking an industrial waste permit shall submit as part of the application the results of a laboratory analysis of the industrial waste produced by the applicant's facility. Sample collection and analysis for such report shall conform to 40 CFR Part 136. Such analysis shall include tests for concentrations of pollutants reasonably expected to be present in the wastewater discharge of the applicant. The applicant shall not be issued an industrial waste permit if the laboratory report shows violations of the provisions of this article.

If the applicant is subject to pretreatment standards, it shall submit to the department baseline reports and such other information as may be required by applicable pretreatment regulations or by the department to determine compliance with pretreatment standards and requirements. The applicant shall not be issued an industrial waste permit if its discharge fails to meet applicable pretreatment standards and requirements.

(b) Upon the receipt of an application for a permit, the utility official shall determine if a permit is required. If a permit is required, the permit shall be granted or denied in accordance with the requirements provided elsewhere in this article. If the permit is denied, the utility official shall notify the applicant by certified mail of the denial and the reasons therefor. Upon receipt of such notification of denial, the applicant may revise its application or modify its pretreatment system to cure the reasons for denial stated in the notice if the applicant desires to obtain a permit.

(c) A verified report, to be made upon a form provided by the department, shall be filed annually by each permittee. The report shall state that the permittee has not made any change in its operations that have, or will have within the term of the permit, increased the strength, volume or any other characteristic of the permittee's discharge into the city sanitary sewer system.

(d) All significant industrial users shall file verified semi-annual reports using forms provided by the department. Semi-annual reports shall be filed during June and December of each year.

(e) A permittee who changes or proposes to change its industrial process in such a manner as to cause any change in the quantity or quality of its discharge of industrial waste into the sewer system shall make an application for a new permit to cover such change in quantity or quality of discharge.

Sec. 47-189. **Permit conditions.**

(a) All permits shall be expressly subject to all provisions of this article and all other applicable laws, ordinances or regulations. Permit provisions may include, but are not limited to:

(1) Unit charge or schedule of user charges and fees for the wastewater discharged to the sanitary sewer.

(2) Average and maximum strength, characteristics or constituents of the user's wastewater discharge.

(3) Limits on rate and time of discharge, or requirements for flow regulations and equalization.

(4) Regulations for installation of inspection and sampling facilities, including requirements for department access to such facilities.

(5) Regulations relating to pretreatment standards and requirements.

(6) Regulations for monitoring programs, which may include sampling locations, frequency and method of sampling, number, types and standards of tests, and reporting schedule.

(7) Requirements for the submission of technical reports or discharge reports.

(8) Requirements of the maintenance of plant records relating to wastewater discharge and affording department access thereto.

(9) Advance notice to the department prior to release into the sewer system of batch discharges.

(10) Slug discharge plans if required by control authority to control slug discharges as defined in 40 CFR 403.8(f)(2)(v).

(11) Operation and maintenance certification as defined in 40 CFR 403.12(b)(6).

(12) Data accuracy certification as defined in 40 CFR 403.6(a)(II)(ii).

(13) Authorized signatory requirements as defined in 40 CFR 403.12(l).

(14) Record keeping requirements as defined in 40 CFR 403.12(o).

(15) Compliance schedule if required pursuant to 40 CFR 403.8(F)(1)(iv).

(16) Other conditions deemed reasonably necessary by the department to ensure compliance with this article.

(b) The department may modify the conditions of any permit from time to time as necessary to prevent interference or a pass through of the sewer system, contamination of sewage sludge or violation by the city of laws or regulations enacted by the state or federal government.

(c) As a condition of its permit, a permittee in violation of any condition of its permit shall notify the department within 24 hours of the violation and shall submit to the utility official within fifteen (15) days of such violation a report outlining the steps which have been taken to ensure its discharge is compliant with this article.

(d) As a condition of its permit, each permittee must agree to indemnify and hold harmless the city from any liability, loss of business, property damage to city facilities, extra costs for wastewater treatment, and civil, criminal, or administrative fines due to or caused by a discharge of wastewater in violation of this article. The city attorney shall prescribe the form of the indemnity agreement to be included in the permit application.

Sec. 47-190. **Permit suspension orrevocation; correction of violations.**

(a) The utility official is authorized to suspend or revoke any permit issued and terminate service any time that the permittee:

(1) Violates any of the provisions this article or any city ordinance pertaining to sewage discharge into the city sewers; or

(2) Violates a requirement of its permit.

(b) If the department discovers a violation of a permit condition, the department will give written notice of such violation to the permittee, and the permittee shall within fifteen (15) days after receipt of such notice furnish to the utility official notice in writing of actions taken to correct such violation.

Sec. 47-191. **Special agreements.**

No provision contained in this article shall be deemed to prevent any contract authorized by city council between the city and any industrial user whereby an industrial waste of unusual strength or characteristic may be accepted by the city for treatment, but which will not violate or cause the city to violate federal or state discharge standards, and which will not be harmful to the wastewater treatment plant, the treatment process or the sewage lines. Waiver of national pretreatment standards may not be granted unless such waiver is in compliance with the mechanisms established under the general pretreatment regulations (40 CFR Part 403).

Sec. 47-192. **Quantity determination.**

Except as provided in article III of this chapter, the quantity of waste delivered to the city sewers by the industrial user will be construed as being the same as the water delivered to the industrial user by the city water system.

Sec. 47-193. **Quality determination.**

(a) Determination of the concentration or strength of the waste discharged shall be the obligation of the city, except for sampling required in connection with:

(1) A permit application;

(2) Demonstration of compliance after violation of any discharge standard; or

(3) Permit requirements which specify sampling frequency.

Tests made on representative samples collected by the city shall be made at such intervals as the utility official may designate.

(b) Samples may be taken and tests made by the utility official without prior notice to the permittee, and the results of such tests shall be used to calculate the applicable user charge established in article III of this chapter. Provided, however, a permittee may request in writing permission to conduct self-monitoring through an independent laboratory for determining the user charge. The utility official shall grant such a request and accept the results of the permittee's self-monitoring if the permittee provides documentation in the format required by the utility official showing that the permittee used proper chain of custody and that sampling and analysis were conducted in accordance with subsection (c), below. All costs of such sampling and analyses for self-monitoring shall be borne by the permittee. Approval of sampling and analysis performed by an independent laboratory does not

prevent representatives of the department from taking additional samples without prior notice to the permittee. Submission of any self-monitoring analyses that are not representative of the process discharge shall be grounds for permit revocation of termination of water and wastewater services.

(c) Sampling and analysis shall be conducted in accordance with 40 CFR Part 136.

(d) The utility official may make periodic tests of waste being discharged into the city sewer from the premises of on industrial user under the provisions hereof.

Sec. 47-194. **Standard of quality**.

(a) Unless otherwise required or approved, the delivery of all industrial waste from the industrial user to the sanitary sewer shall be at a reasonably uniform rate, as produced, without storage by the industrial user, except that storage which is necessary in the pretreatment plant of the industrial user.

(b) It shall be unlawful to discharge or cause to be discharged any subsurface drainage, storm or ground water, downspout or roof runoff, yard sprinklers, drains, fountains or ponds into the sanitary sewer system. Water from swimming pools, boiler drains, blow off pipes or cooling water from equipment may be discharged into the sewer system by an indirect connection whereby such discharge is cooled, if required, and flow into the sewer system is at a rate not to exceed the design capacity of the sewer system, provided that the waste does not contain materials or substances that would violate other provisions of this article.

(c) It shall be unlawful to discharge or cause to be discharged into the sewer system, any of following described substances, materials, waters, or wastes:

(1) Any liquid or vapor having a temperature higher than forty-five (45) degrees Celsius (one hundred thirteen (113) degrees Fahrenheit) at the place of discharge into the sewer system, or which causes the temperature of the influent reaching a city treatment plant to be forty (40) degrees Celsius (one hundred four (104) degrees Fahrenheit) or more.

(2) Any water or waste which contains wax, grease, oil, plastics, or other substances that will solidify or become discernibly viscous at temperatures between sixty (60) to ninety (90) degrees Fahrenheit.

(3) Flammable or explosive liquids, solids or gas, such as gasoline, kerosene, benzene, naphtha, etc.

(4) Solid or viscous substances which may interfere with or obstruct the POTW, such as ashes, cinders, sand, mud, straw, shaving, metal, glass, rags, feathers, tar, plastics, wood, whole blood, paunch manure, hair and fleshings, entrails, lime slurries, lime residues, slops, chemical residues, paint residues, fiber glass, or bulk solids.

(5) Waste from garbage grinders, except waste generated in the preparation of foods that are generally consumed on the premises, and not unless it has been properly comminuted or shredded to reduce all food scraps and like particles to three-sixteenths inch or less in greatest dimensions. Garbage grinders shall not be used for grinding plastics, paper products, garden refuse, hospital or veterinarian refuse, or similar refuse for disposal into a city sewer.

(6) Any noxious or malodorous substance which can form a gas; which either singly or by interaction with other wastes is capable of causing objectionable odors or hazard to life and property; which forms solids in concentrations exceeding limits established herein; which creates any other condition deleterious to structures or treatment processes; or which requires unusual facilities, attention, or expense to handle.

(7) Wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Celsius.

(8) Petroleum oil, nonbiodegradable cutting oil, or products of mineral origin in amounts that cause interference with or passes through the sanitary sewer system.

(9) Pollutants producing toxic vapors, gases, or fumes within the sanitary sewer system that may cause acute worker health and safety problems.

(10) Any trucked or hauled waste, except at discharge points designated by the utility official. Only domestic septic tank waste generated within the city will be allowed at these designated points. Provided, however, the city may move waste it collects within its sanitary sewer system to designated points.

(d) It shall be unlawful for any industrial user to discharge into the publicly owned treatment system:

(1) Free or emulsified oil and grease, if such materials:

a. Exceed on analysis an average of four hundred (400) milligrams per liter (mg/l) of free or emulsified oil and grease;

b. Form a discernible floating layer on the surface of the discharge waters;

c. Overload the industrial user's skimming and grease handling equipment;

d. Are not amenable to biological treatment and will therefore pass through to the receiving waters without being affected by normal sewage treatment processes;

e. Have adverse effects on the treatment process due to the excessive quantities; or

f. Deposit oil or grease in the sewer lines in such a manner as to obstruct the sewer.

(2) Acids or alkalies which attack or corrode sewers or sewage disposal structures or have a pH value lower than 5.0 or higher than 11.0, or which, due to contents, may be reduced or changed with age or by sewage, to produce acid or alkaline reactions.

(3) Any salt of the following heavy metals in concentrations greater than the amounts specified below. The permit shall specify pollutant limitations based on a method for allocating pollutant loadings approved by EPA and incorporated into the city's approved pretreatment program.

Metal	Grab Limit mg/l	Composite Limit mg/l
Arsenic	3.0	2.0
Cadmium	0.4	0.2
Chromium	3.0	1.0
Cooper	3.0	2.0
Lead	1.5	1.0
Mercury	0.02	0.01
Nickel	3.0	2.0
Selenium	5.0	3.0
Silver	2.0	1.0
Zinc	6.0	3.0

(4) Cyanides (CN) or cyanogen compounds capable of liberating hydrocyanic gas upon acidification in excess of two (2) milligrams per liter (mg/l) as CN based upon a grab or composite sample.

(5) Radioactive materials exceeding the existing standards of the state.

(6) Substances in such concentrations as to produce odor or taste in the effluent as to affect the taste and odor of the receiving waters.

(7) Substances which exert or cause:

a. Unusual BOD or an immediate oxygen demand;

b. Unusual concentrations of solids or composition, as an example, in total suspended solids of an inert nature (such as Fuller's earth) or in total dissolved solids (such as sodium chloride or sodium sulfate); or

c. Unusual flow or concentration.

(8) Any substance which is not amenable to treatment or reduction by the wastewater treatment process employed, or is amenable to treatment only to such degree that the sanitary sewer system cannot meet the requirements of agencies having jurisdiction over discharge to the receiving waters.

(9) Substances which exert or cause excessive discoloration, such as dye wastes and tanning solutions, which would cause an interference in or pass through the sewer system.

(10) Sulfides in concentrations greater than five (5) milligrams per liter (mg/l).

(11) Any discharge which fails to meet applicable pretreatment standards or requirements.

Sec. 47-195. **Accidental discharges**.

(a) Each industrial user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this article.

(b) In order to facilitate countermeasures to be taken by the city to minimize damage to the sanitary sewer system and degradation of the receiving waters, industrial users shall

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notify the department immediately after the occurrence of any accidental discharge of wastes in violation of this article. This notification shall be followed within fifteen (15) days of the date of occurrence by a detailed written statement describing the causes of the accidental discharge and the measures taken to prevent future occurrences.

(c) In order to keep employees of permittees informed of the departments' requirements, permittees shall make available to their employees copies of this article, together with such other wastewater information and notices which may be furnished by the city from time to time for the purpose of improving and making more effective water pollution control. A notice shall be furnished and permanently posted on the permittee's bulletin board advising officers, agents, and employees the number to call in case of an accidental discharge in excess of the limits authorized.

Sec. 47-196. **Change of ownership or location of discharge**.

Industrial waste permits may neither be assigned nor be transferred. Whenever a person other than the permittee becomes the industrial user at the site of a permitted establishment, or whenever there is a change in discharge location, the prior permit is void and an application for a new permit shall be made.

Sec. 47-197. **Pretreatment**.

(a) Pretreatment shall be required in the following instances:

(1) The utility official determines upon the initial application for a permit that the proposed industrial waste must be pretreated by the permittee to comply with the requirements of this article.

(2) The utility official determines that pretreatment, or an additional level of pretreatment, is required for the city to improve the discharge from the sewer system to comply with a city discharge permit, court order, or order from a state or federal agency.

(3) The utility official determines that an industrial user is discharging wastewater that does not comply with the requirements of this article.

Pretreatment facilities shall be provided, operated, and maintained at the permittee's expense.

(b) Any sludge or other material removed from the industrial waste by the pretreatment facility shall be disposed of in accordance with applicable federal, state, and local laws, and records or manifests for such disposal shall be made available for inspection upon request by the department.

(c) Except where expressly authorized by applicable pretreatment standards, no industrial user shall increase the use of the process water or in any other way attempt to dilute its industrial waste discharge as a partial or complete substitute for adequate treatment to achieve compliance with the discharge standards established in accordance with this article.

(d) Detailed plans showing any pretreatment facilities shall be submitted to the utility official for approval before construction of the facilities. The review and approval of plans will in no way relieve any permittee from the responsibility of modifying and operating the facilities to produce an effluent complying with this article and the permit. Any subsequent, significant changes in the approved facilities or method of operation shall be reported to the utility official and must be reviewed and approved by the utility official as complying with the provisions herein established.

(e) After the construction plans for such pretreatment plants have been approved and an industrial waste permit issued, a building permit for the construction may be issued.

(f) The city's industrial waste pretreatment program has been approved by the EPA. Thereby, the city as POTW/Control Authority accedes to all powers, duties, and responsibilities promulgated by the EPA for a POTW/Control Authority. The utility official shall be authorized to act for the city as Control Authority of POTW. As POTW/Control Authority, the city shall have the legal authority, pursuant to this subsection, to enforce any and all pretreatment standards as well as pretreatment requirements specified by regulations promulgated by the EPA, but including not limited to the powers enumerated in 40 CFR 403.8(f)(1) as well as any amendments thereto, and same are hereby incorporated herein by this reference.

Any industrial user who is subject to pretreatment standards shall file with the utility official such reports as may be required by pretreatment standards or requirements promulgated by the EPA.

In case of any conflict between a pretreatment standard or requirement promulgated by the EPA and any standard or requirement imposed elsewhere by this article, the more stringent shall apply.

Sec. 47-198 **Inspection and testing of discharges**.

(a) The utility official and the health officer may enter upon the property of any industrial user discharging or proposing to discharge wastewater into the sewer system, for the

purpose of inspecting any waste discharge, or inspecting and/or copying records required by the city, the state or the EPA. City inspectors shall observe the establishment's rules and regulations concerning safety, internal security and fire protection; and if the establishment has management in residence, the city inspectors shall notify management or the person in charge of their presence and shall exhibit proper credentials. If refused entry onto the premises, the city inspectors shall procure a search warrant to inspect the industrial user's waste discharge or records, or the department may initiate termination of water or wastewater service pursuant to this article.

(b) Industrial users shall notify in writing the department, the Environmental Protection Agency regional waste management director, and the state hazardous waste authorities of any discharge into the POTW of a substance which, if otherwise disposed of , would be hazardous waste under 40 CFR 261. The notification shall include the EPA hazardous waste number and the type of discharge (continuous, batch, etc.). Industrial waste shall comply with the reporting requirements under 40 CFR 403.12.

(c) All industrial users shall be required to install sampling facilities at their own expense to allow city inspection, observation and sampling of the industrial users' discharge.

Sec. 47-199. **Trade secrets**.

All information and data relating to an industrial user obtained from reports, questionnaires, permit application, permits, monitoring programs, and inspections shall be available to the public as required by 40 CFR 2.302.

Sec. 47-200 to 47-204. **Reserved**.

Sec. 47-205. **Enforcement**.

(a) Any or all the following three (3) remedies may be employed by the city to abate and prevent further violations of the provisions of this article.

(1) The department may discontinue city water service.

(2) The department may disconnect and seal the sanitary sewer connection.

(3) The city attorney may, and is hereby authorized to, proceed in a court of competent jurisdiction to secure appropriate judicial relief from the violation of the provision of this article by such industrial user.

(b) Representatives of the city health and human services department and the public utilities department are authorized to issue citations charging the violation of any of the provisions of this article.

Sec. 47-206. **Penalty**.

(a) It shall be unlawful for:

(1) Any industrial user required by this article to obtain an industrial waste permit to be connected to the sewer system, unless said industrial user has obtained a valid industrial waste permit for that connection.

(2) Any industrial user to violate any provision of this article that applies to industrial users.

(3) Any permittee to violate any condition of its industrial waste permit.

(b) Violations of this article shall be misdemeanors punishable by fines of not more than two thousand dollars ($2,000.00) for each violation. Each day of violation shall constitute a separate offense.

Sec. 47-207. **Publication of certain violations**.

At least once a year the utility official shall publish in the newspaper with the largest daily circulation in the city a list of industrial users, which during the previous twelve (12) months have been significantly noncompliant as defined in 40 CFR 403.8.

Sec. 47-208. **Appeals - Denial of ermit/termination of service**.

(a) Except as provided herein for discharges posing immediate danger, the utility official shall give ten (10) days prior notice to any person whose utilities are to be terminated pursuant to the provisions of this article. Any such notice shall specify the reasons for the proposed termination and inform the affected person of the appeal procedure provided herein. If, within said ten day period, the utility official receives notice that such person requests a hearing, the effective date of termination shall be automatically delayed at least until the date set by the utility official for a hearing. The utility official shall select a hearing date, giving the person appealing the decision at least three (3) days notice thereof.

(b) Any person whose application for a permit is denied, whose permit is suspended or revoked pursuant to this article, or whose service is to be terminated shall be given notice thereof. Such notice shall specify the reasons for the decision and inform the affected person of the appeal procedure provided herein. If any such affected person desires a hearing, he shall file a notice of appeal with the utility official no later than ten (10) days after his receipt of the utility official's notice of decision.

(c) The director shall establish rules not inconsistent with this section governing hearing procedures.

(d) The director of the department shall appoint a qualified individual to serve as hearings examiner to hear appeals. The hearings examiner shall be authorized to affirm, deny or modify the utility official's initial decision.

(e) The hearings examiner may, in lieu of termination of service, require any or all of the following: (i) administrative penalties not to exceed $1,000 per day, (ii) special permit conditions, or (iii) mandatory compliance schedules.

(f) If the director determines that a discharge from an industrial user causes (1) an immediate danger to the health of city employees or the public or (2) a likelihood that the city's treatment plant permit parameters (including sludge) will be violated, then the department may, after prior notice, immediately terminate water/wastewater service and provide a hearing as described herein within three (3) days of initial termination.

(g) To be effective under this section, a notice shall be in writing and either:

(1) Be delivered in person to the person (or his agent) entitled to receive such notice; or

(2) Be deposited in the care of the United States postal service return receipt requested, and addressed to the person (or his agent) entitled to receive notice.''

CITY OF HOUSTON

Bill White
Mayor

Michael S. Marcotte, P.E., DE
Director
Public Works & Engineering
Department
Industrial Wastewater Service
10500 Bellaire Blvd.
Houston, Texas 77072

T. 281.575.2800
F. 281.983-6704
www.houstontx.gov

RECEIVED
JAN 16 2009
BY:

January 14, 2009

KARL GUIDRY
HSE MANAGER
CES ENVIRONMENTAL SERVICES, INC.*
4904 GRIGGS ROAD
HOUSTON, TX 77021

Enclosed please find your firm's amended Industrial Waste Permit No. 9558. Please disregard all previously issued Industrial Waste Permits. Your firm's Industrial Waste Permit has been changed as follows:

The following permit endorsement has been removed from your firm's Industrial Waste Permit:

ENDORSEMENT P - PHENOL DISCHARGE LIMIT

The Industrial Wastewater Service has established a Total Toxic Organic (TTO) discharge limit of 50 mg/L as defined in the permit endorsement titled ENDORSEMENT TTO - City Total Toxic Organics Limit. The City TTO limit is applicable at any sample point that has City (local) discharge limits. At this time industries in the following categories will be issued the 50 mg/L TTO Limit:

Centralized Waste Treatment - regulated under 40 CFR Part 437

Transportation Equipment Cleaning - regulated under 40 CFR Part 442

The following permit endorsement has been added to your firm's Industrial Waste Permit:

ENDORSEMENT TTO - City Total Toxic Organics Limit

This permit endorsement provides the City's local limit for TTO and defines how a TTO value is determined. The endorsement also provides a list of volatile organic compounds and semi-volatile organic compounds (base neutral acids) that are used in determining the TTO value for a wastewater sample.

The Industrial Wastewater Service has determined that a City Total Toxic Organic (TTO) discharge limit of 50 mg/L to be appropriate for centralized waste treatment and transportation and equipment cleaning facilities based on the nature of the industrial waste that may be discharged from these types of industrial operations. The City TTO limit was established and issued under the authority to establish permit provisions as provided by Part II of this permit; Sections 47-189 (a)(2), (a)(16), and 47-189 (b).

Should you have any questions concerning this matter please call me at 281-575-2833.

Sincerely,

Clyde Smith
Environmental Investigator V
Industrial Wastewater Service
Department of Public Works and Engineering

9558

CITY OF HOUSTON

Industrial Waste Permit Number: 9558

Department Of Public Works And Engineering
Wastewater Operations
Industrial Wastewater Service
10500 Bellaire Blvd.
Houston, Texas 77072
Phone: (281) 575-2800

Authorization to discharge under City of Houston Industrial Waste Ordinance Chapter 47; Article V.

CES ENVIRONMENTAL SERVICES, INC.*

is authorized to discharge into the City's collection system raw liquid waste in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit at the following location:

4904 Griggs Road
HOUSTON, TX 77021

Regulated Waste Offsite Disposal: **Yes**
EPA Categorical Limits Applicable: **Yes**
Significant Industrial User: **Yes**
Pretreatment: **Yes**
Category: **CENTRALIZED WASTE TREATMENT FACILITY**
Product/Service: **LIQUID AND SOLID WASTE PROCESSING, TREATMENT AND DISPOSAL - CENTRALIZED WASTE TREATMENT FOR METALS, OILS, AND ORGANIC WASTES**
NAICS Code(s): **562219**
Key Map No.: **534-J** Sewer Map No.: **1604B**
Treatment Plant: **SIMS SOUTH**

This permit shall become effective on **12/14/2008** and the authorization to discharge shall expire at midnight **12/14/2010.**

Signed this 9th day of **January 2009**

Clyde Smith
Environmental Investigator V
City of Houston Pretreatment Program

EPAHO119001374

PART I

SECTION A. EFFLUENT LIMITS AND SPECIAL PROVISIONS

1. Local Limits - City Ordinance: Chapter 47, Article V.; Disposal of Industrial Waste Through City Sewer System:

2. Special Provisions:

Endorsement A20 40 CFR 437 (PSNS) - CWT - Subpart A - Metals Limits
Endorsement A21 40 CFR 437 (PSNS) - CWT - Subpart B - Oils Limits
Endorsement A22 40 CFR 437 (PSNS) - CWT - Subpart C - Organics Limits
Endorsement P3 - City Discharge Limits For Heavy Metals, Oil & Grease, Amenable Cyanide, pH & Temperature
Endorsement S - Significant Industrial User (SIU) Compliance Evaluation Procedure
Endorsement SR - Semiannual Reporting Requirements
Endorsement U - Sewer Billing Rate - BOD & TSS is being monitored.
Endorsement L-9558 - Discharge Reporting Requirements for Metals Wastewater - Sample Point No. 2
Endorsement D2 - Special Sampling and Reporting Requirement for Phenol
Endorsement SM - Self-Monitoring Sampling, Reporting and Certification Requirements
Endorsement TTO - City Total Toxic Organic (TTO) Limit

SECTION B. WATER ACCOUNTS AND SAMPLING POINTS

1. Water and/or Sewer Account Number(s):
5010-0030-201

2. Sampling Points:

Sample Point Number:	**1**
Sample Point Location:	**Sample point does not exist any longer as of 2-9-2007**
Sample Point Description:	**TAP**
Discharge Limits:	**LOCAL**
Discharge Type:	**Continuous**
Sample Point Number:	**2**
Sample Point Location:	**Metals wastewater holding tank.**
Sample Point Description:	**TAP**
Discharge Limits:	**EPA**
Discharge Type:	**Batch**
Sample Point Number:	**3**
Sample Point Location:	**Wastewater line from oils treatment tank.**
Sample Point Description:	**TAP**
Discharge Limits:	**EPA**
Discharge Type:	**Continuous**
Sample Point Number:	**4**
Sample Point Location:	**Tap on wastewater line from organics treatment tank**
Sample Point Description:	**TAP**
Discharge Limits:	**EPA**
Discharge Type:	**Continuous**
Sample Point Number:	**5**
Sample Point Location:	**Inside metal building near front entrance.**
Sample Point Description:	**SW**
Discharge Limits:	**LOCAL**
Discharge Type:	**Continuous**

EPAHO119001375

Authorized Pollutants and Discharge Limits:

The permittee is authorized to discharge the pollutants, at the allowable City of Houston discharge limits, which are listed on permit endorsement P(x). "x" will be a number after the P. There are different P endorsements used for different industries. The authorized pollutants are those pollutants that have a potential to be present, or those pollutants that the City will monitor for, in the wastewater that is discharged to the sanitary sewer from the process operations that were at the permitted facility the time this permit was issued.

Process Operation Changes & Unauthorized Pollutant Discharges:

If the permittee modifies, adds or removes an industrial process operation, the permittee is required to provide written notification to the Industrial Wastewater Service to include a description of the process change and information concerning any changes in the type and or concentration of pollutants expected in the permittee's industrial discharge to the City' sanitary sewer.

The permittee is required to notify the Industrial Wastewater Service before discharging a wastestream with an unauthorized pollutant to the City's sanitary sewer. The permittee's authorized pollutants are listed on permit endorsement P.

Part 2 of this permit is the City of Houston's Industrial Waste Ordinance; Chapter 47 Article V. (Disposal of Industrial Wastes Through City Sewer System). The City of Houston's sanitary sewer discharge limits and prohibited Discharges are listed in Section 47-194 (Standard of Quality) of the Industrial Waste Ordinance.

Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS):

If a permitted discharge has an average BOD5 concentration exceeding 350 mg/L or an average TSS concentration exceeding 375 mg/L, the permittee will have a sewer rate surcharge. If the City is monitoring for BOD and TSS endorsement U will be part of this permit. If there are any water meter accounts or discharge meter accounts that are surcharged, permit endorsement U will provide the current surcharged sewer billing rate.

Bypass:

(a.) ***Definitions.***

(1) " Bypass" means the intentional diversion of wastestreams from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become in operable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

EPAHO119001376

Bypass (Continued):

(b) ***Bypass not violating applicable Pretreatment Standards or requirements.***
An Industrial User may allow any bypass to occur which does not cause Pretreatment Standards or Requirements to be violated, but only if it also is for the essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (c) and (d) of this section.

(c) ***Notice.***

(1) If an Industrial User knows in advance of the need for a bypass, it shall submit prior notice to the City of Houston's Industrial Wastewater Service (Control Authority), if possible, at least ten days before the date of the bypass.

(2) An Industrial User shall submit oral notice of an unanticipated bypass that exceeds applicable Pretreatment Standards to the Control Authority within 24 hours from the time the Industrial User becomes aware of the bypass. A written submission shall also be provided within five days of the time that the Industrial User becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. The Control Authority may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(d) ***Prohibition of bypass.***

(1) Bypass is prohibited, and the Control Authority may take enforcement action against an Industrial User for a bypass, unless;

(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
(iii) The Industrial User submitted notices as required under paragraph (c) of this Bypass Section of this Industrial Waste Permit.

(2) The Control Authority may approve an anticipated bypass, after considering its adverse effects, if the Control Authority determines that it will meet the three conditions listed in paragraph (d) (1) of this section.

EPAHO119001377

Slug Load / Slug Discharge and Slug Discharge Control Plans:

Slug Load or Slug Discharge is defined as any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the POTW's regulations, local limits or permit conditions.

Industrial Users of the City's sanitary sewer are required to notify the Industrial Wastewater Service immediately of any change at its facility that affects the potential for a slug discharge to the sanitary sewer.

The City will determine by inspection of the permitted facility if the potential exists for a slug discharge to the sanitary sewer. If it is determined that the potential exists for a slug discharge a Slug Discharge Control Plan or other action to prevent / control a slug discharge will be required. The permitee's Industrial Waste Permit may be amended to add a permit endorsement to require a Slug Discharge Control Plan. The permit endorsement will include the minimum elements of an acceptable Slug Discharge Control Plan.

EPAHO119001378

ENDORSEMENT A20 CATEGORICAL DISCHARGE LIMITS

40 CFR 437 Effluent Guidelines and Standards for the Centralized Waste Treatment Point Source Category. Pretreatment Standards for Existing Sources (PSNS):
Subpart A - Metals

Pollutant	Daily Maximum Limit	Monthly Average Limit
Antimony	0.249 mg/L	0.206 mg/L
Arsenic	0.162 mg/L	0.104 mg/L
Cadmium	0.474 mg/L	0.0962 mg/L
Chromium	15.50 mg/L	3.0700 mg/L
Cobalt	0.192 mg/L	0.1240 mg/L
Copper	4.140 mg/L	1.0600 mg/L
Cyanide (In-plant)	500 mg/L	178 mg/L
Lead	1.320 mg/L	0.2830 mg/L
Mercury	0.00234 mg/L	0.000739 mg/L
Nickel	3.950 mg/L	1.4500 mg/L
Silver	0.120 mg/L	0.0351 mg/L
Tin	0.409 mg/L	0.1200 mg/L
Titanium	0.0947 mg/L	0.0618 mg/L
Vanadium	0.218 mg/L	0.0662 mg/L
Zinc	2.870 mg/L	0.6410 mg/L

National Categorical (EPA) Limits and Permitted Categorical (EPA) Sample Points

The sanitary sewer discharge limits listed on this permit endorsement are applicable at the permitted categorical (EPA) sample points listed on page two (2) of this Industrial Waste Permit.

A. Definition of an "EPA" Sample Point:

1. An "EPA" sample point is where the discharge from the categorical (regulated) processes can be sampled prior to dilution with any non-categorical discharge.

B. Permitted Sample Points:

1. All permitted sample points are listed on page two (2) of this permit. Any sample point with the word "EPA" next to the words "DISCHARGE LIMIT(S)" is a categorical sample point. If the words "EPA" and "LOCAL" appear, compliance will be determined by using the lowest discharge limit.

EPAHO119001379

ENDORSEMENT A21 CATEGORICAL DISCHARGE LIMITS

40 CFR 437 Effluent Guidelines and Standards for the Centralized Waste Treatment Point Source Category. Pretreatment Standards for Existing Sources (PSNS):
Subpart B - Oils

Pollutant	Daily Maximum Limit	Monthly Average Limit
Chromium	**0.746 mg/L**	**0.323 mg/L**
Cobalt	**56.40 mg/L**	**18.80 mg/L**
Copper	**0.500 mg/L**	**0.242 mg/L**
Lead	**0.350 mg/L**	**0.160 mg/L**
Tin	**0.335 mg/L**	**0.165 mg/L**
Zinc	**8.260 mg/L**	**4.500 mg/L**
ORGANIC ANALYTES		
Bis(2-ethylhexyl) phthalate	**0.215 mg/L**	**0.101 mg/L**
Carbazole	**0.598 mg/L**	**0.276 mg/L**
n-Decane	**0.948 mg/L**	**0.437 mg/L**
Fluoranthene	**0.0537 mg/L**	**0.0268 mg/L**
n-Octadecane	**0.589 mg/L**	**0.302 mg/L**

National Categorical (EPA) Limits and Permitted Categorical (EPA) Sample Points

The sanitary sewer discharge limits listed on this permit endorsement are applicable at the permitted categorical (EPA) sample points listed on page two (2) of this Industrial Waste Permit.

A. Definition of an "EPA" Sample Point:

1. An "EPA" sample point is where the discharge from the categorical (regulated) processes can be sampled prior to dilution with any non-categorical discharge.

B. Permitted Sample Points:

1. All permitted sample points are listed on page two (2) of this permit. Any sample point with the word "EPA" next to the words "DISCHARGE LIMIT(S)" is a categorical sample point. If the words "EPA" and "LOCAL" appear, compliance will be determined by using the lowest discharge limit

EPAHO119001380

ENDORSEMENT A22 CATEGORICAL DISCHARGE LIMITS

40 CFR 437 Effluent Guidelines and Standards for the Centralized Waste Treatment Point Source Category. Pretreatment Standards for Existing Sources (PSNS):
Subpart C - Organics

Pollutant	Daily Maximum Limit	Monthly Average Limit
ORGANIC ANALYTES		
o-Cresol	1.920 mg/L	0.561 mg/L
p-Cresol	0.698 mg/L	0.205 mg/L
2,4,6-Trichlorophenol	0.155 mg/L	0.106 mg/L

National Categorical (EPA) Limits and Permitted Categorical (EPA) Sample Points

The sanitary sewer discharge limits listed on this permit endorsement are applicable at the permitted categorical (EPA) sample points listed on page two (2) of this Industrial Waste Permit.

A. Definition of an "EPA" Sample Point:

1. An "EPA" sample point is where the discharge from the categorical (regulated) processes can be sampled prior to dilution with any non-categorical discharge.

B. Permitted Sample Points:

1. All permitted sample points are listed on page two (2) of this permit. Any sample point with the word "EPA" next to the words "DISCHARGE LIMIT(S)" is a categorical sample point. If the words "EPA" and "LOCAL" appear, compliance will be determined by using the lowest discharge limit.

EPAHO119001381

ENDORSEMENT D2-PHENOL

SPECIAL MONITORING AND REPORTING PROVISION

In accordance with the provisions listed in Chapter 47, Article V; (Disposal of Industrial Waste Through City Sewer System) of the City of Houston's Code of Ordinances, the following provisions are hereby added to this Industrial Waste Permit.

Your firm has a City TTO limit of 50 mg/L (refer to Endorsement TTO). Phenol is one of the parameters used to determine the TTO value which is compared to the 50 mg/L City TTO Limit. Be advised that 50 mg/L is the maximum concentration of phenol that can be discharged on any one day if all the other organic compounds listed on Endorsement TTO are at 0.1mg/L or lower.

SPECIAL MONITORING AND REPORTING PROVISION

The following self-monitoring for phenol shall be performed and reported as specified below:

1. **Perform a daily colorimetric phenol test of the industrial wastewater discharge to the City's sanitary sewer system.**

2. **Maintain a daily log of the colorimetric phenol tests and submit a copy of the log to the City by the fifteenth (15th) of each month for the previous month's phenol testing.**

The log shall include the following information:

1. The date the test was performed.

2. The time the test was performed.

3. The person's name that performed the test.

4. The location the sample was collected to perform the colorimetric test.

5. The result of the colorimetric test using the number scale that is provided with the test.

The monthly log should be submitted to the Industrial Wastewater Service, 10500 Bellaire Blvd., Houston, Texas 77072.

EPAHO119001382

ENDORSEMENT L-9558

Discharge Reporting Requirement for Metals Wastewater - Sample Point Number 2

In order to obtain a sample of wastewater from the treatment system that CES Environmental Services (CES) uses to pretreat metal-bearing wastes, CES and the Industrial Wastewater Service have agreed that CES will, at least once a month, retain a sufficient volume of treated wastewater from the metals pretreatment system and hold that wastewater in a container that will allow the City to collect a sample to monitor compliance with the discharge limits of 40 CFR Part 437; Subcategory A (Metals Waste).

This permit endorsement L-9558 specifies the requirement to notify the Industrial Wastewater Service that CES has wastewater to be sampled and the requirement to maintain a notification and discharge record on site using a discharge log that is provided to CES by the Industrial Wastewater Service.

Requirement to maintain a record of notification and discharge:

It is a requirement that CES Environmental Services uses a discharge log provided by the Industrial Wastewater Service to maintain a record of notifications and discharges of treated metal-bearing wastewater that was retained for City sample collection.

The discharge log must be retained at your firm for a minimum of three (3) years. The Industrial Wastewater Service may, at any time; request a copy of the discharge log and the discharge logs may be inspected during routine inspections that are performed at your facility by the Industrial Wastewater Service.

Requirement To Notify

CES Environmental Services shall notify the Industrial Wastewater Services once a month, during each month of the year, that they have wastewater from their metals pretreatment system ready to be sampled at sample point No. two (2). If for some reason CES does not receive any metal-bearing waste during a particular month then it should be documented on the discharge log that there was a NO FLOW for that month.

CES Environmental Services will notify the Industrial Wastewater Service by telephone at (281) 575-2800 the first day that treated wastewater from the metals pretreatment system is retained in a holding tank. A discharge number will be provided to the person that calls to provide the discharge notification.

The discharge number is for the date the wastewater from the holding container will be discharged. From the date CES notifies the Industrial Wastewater Service that wastewater is ready to be sampled at sample point No. two (2), CES shall not discharge the wastewater before 4:00 pm the next day. This will allow time for City sampling personnel to arrive at CES to collect a sample. If the sampler has not arrived by 4:00 pm of the following day, CES may then discharge the wastewater from the holding container. CES shall not provide the above-specified notification on a Friday, Saturday or Sunday.

EPAHO119001383

ENDORSEMENT P3

City of Houston Sanitary Sewer Discharge Limits

Heavy Metals	Grab Sample Limit	Composite Sample Limit
Arsenic	3.0 mg/L	2.0 mg/L
Cadmium	0.4 mg/L	0.2 mg/L
Chromium	3.0 mg/L	1.0 mg/L
Copper	3.0 mg/L	2.0 mg/L
Lead	1.5 mg/L	1.0 mg/L
Nickel	3.0 mg/L	2.0 mg/L
Selenium	5.0 mg/L	3.0 mg/L
Silver	2.0 mg/L	1.0 mg/L
Zinc	6.0 mg/L	3.0 mg/L

Based on process operations performed at the permitted industry mercury is not a pollutant of concern. Therefore, this endorsement does not authorize the discharge of any concentration of mercury to the sanitary sewer.

Amenable Cyanide – CN(A) - Grab Sample Limit

Amenable Cyanide shall not be greater than 2.0 mg/L

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pH - Grab Sample Limit

pH shall not be less than 5 or greater than 11

Temperature - Grab Sample Limit

Temperature shall not be greater than 113.0 Fahrenheit (45.0 Celsius)

Oil and Grease (Total) - Grab Sample Limit

Total Oil and Grease shall not be greater than 400 mg/L (floating oil and grease is not allowed)

If the following values for BOD and or TSS are exceeded sewer billing rates may be surcharged:

BOD (Biochemical Oxygen Demand) greater than 350 mg/L
TSS (Total Suspended Solids) greater than 375 mg/L

EPAHO119001384

ENDORSEMENT S

SIU COMPLIANCE EVALUATION

In accordance with 40 CFR Part 403.3(v), the permittee has been identified as a Significant Industrial User (SIU) of the City's sanitary sewer system (see page 1 of permit).

Part of determining the compliance status of a SIU is performing an evaluation on the SIU's sample data to determine the compliance status with the permitted effluent limits (chronic limits) and the Technical Review Criteria (TRC) limits.

The Technical Review Criteria Limits are 40% higher than the listed discharge limit for oil and grease, and 20% higher for all other listed discharge limits except pH.

An evaluation of your firm's compliance with the permitted discharge limits is performed quarterly using six month rolling quarters as follows:

1st Quarter.....July 1st	through	December 31st
2nd Quarter..... October 1st	through	March 31st
3rd Quarter.....January 1st	through	June 30th
4th Quarter.....April 1st	through	September 30th

Based on the evaluation of sample data and other criteria (listed in this permit endorsement), per 40 CFR 430.8(f)(2)(viii)(A-H), each Significant Industrial User will be identified as compliant, non-compliant, or significantly noncompliant (SNC).

The City of Houston will also issue a notice of violation to each Significant Industrial User that has been identified as being significantly noncompliant. The notice of violation will inform the SIU of their SNC status, the reason for being SNC, and the SIU will be notified that their company name and the reason for being SNC will be published during the month of November, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the City of Houston, in a list of the Significant Industrial Users or other Industrial Users which, at any time during the previous twelve (12) months, were in Significant Noncompliance with applicable Pretreatment Standards and Requirements.

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ENDORSEMENT S
(continued)

The criteria to determine Significant Noncompliance is listed in paragraphs A - H (see below) and shall be applicable to all Significant Industrial Users or any other Industrial User of the sanitary sewer that violates paragraphs (C), (D), or (H):

A. Chronic violations of wastewater discharge limits, defined here as those in which sixty-six percent (66%) or more of all the measurements taken for the same pollutant parameter taken during a six- (6-) month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement.

B. Technical Review Criteria (TRC) violations, defined here as those in which thirty-three percent (33%) or more of wastewater measurements taken for each pollutant parameter during a six- (6-) month period equals or exceeds the product of the numeric Pretreatment Standard or Requirement multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils and grease, and 1.2 for all other pollutants except pH);

C. Any other violation of a Pretreatment Standard or Requirement that [the Superintendent] determines has caused, alone or in combination with other discharges, Interference or Pass Through, including endangering the health of POTW personnel or the general public.

D. Any discharge of a pollutant that has caused imminent endangerment to the public or to the environment, or has resulted in City of Houston's exercise of its emergency authority to halt or prevent such a discharge;

E. Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in an individual wastewater discharge or enforcement order for starting construction, completing construction, or attaining final compliance;

F. Failure to provide within thirty (30) days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical Pretreatment Standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance; or

H. Any other violation(s), which may include a violation of Best Management Practices, which the City of Houston determines will adversely affect the operation or implementation of the local pretreatment program.

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Endorsement SM

Self-Monitoring Sampling and Reporting Requirements
Certification Requirements for Significant Industrial Users

In accordance with 40 CFR Part 403.3(v), the permitted industry has been identified on page one of this permit as a Significant Industrial User (SIU) of the City's sanitary sewer system. This permit endorsement provides information concerning the collection of wastewater samples when an SIU is required to perform self-monitoring of their industrial discharge to the City's sanitary sewer, the reporting requirements when an SIU becomes aware of a violation of the discharge limits of this permit and, a certification requirement when submitting analytical laboratory reports of wastewater samples.

Self-monitoring Requirements - the collection of wastewater samples

The permitted industry is responsible for performing self-monitoring to demonstrate compliance when required by the City of Houston. The permitted industry is not required to perform routine self-monitoring unless there are special self-monitoring sampling requirements specified elsewhere in this permit.

Routine sample collection and testing will be performed by the City of Houston. If the City sample testing detects a permitted discharge limit violation, then a violation notice will be issued. The violation notice may require the permitted industry to perform self-monitoring.

If self-monitoring is required the permitted industry shall follow the sampling instructions that are provided in each notice of violation. At a minimum each notice of violation will specify the following:

1. The sample collection point
   Wastewater samples are to be collected at the sample point(s) that are specified in each violation notice. Refer to page 2 of this permit for a list of sample points.

2. The type of sample to be used for self monitoring
   The type of sample that will be required when performing self-monitoring will be specified each time the City of Houston requests self-monitoring in a notice of violation or requires self-monitoring in an Industrial Waste Permit.

   A grab sample or a composite sample may be required. Definitions of a grab or composite sample are provided in Section 47-186; Part II of this permit.

   Sampling for such pollutants as pH, cyanide, oil and grease, and volatile organic compounds require manual collection of grab samples. All grab samples must be representative of the monitored discharge and are to be collected from actively flowing wastestream. A grab sample or composite sample will be required when sampling for a heavy metal or a semi-volatile organic compound.

   Whenever a composite sample is required the permitted industry is hereby authorized to collect a time-proportional composite sample (as opposed to a flow-proportional composite sample) unless a particular notice of violation or permit requirement specifies that flow-proportional composite sampling is required. Each composite sample must be collected during the permitted industry's normal operating hours from a actively flowing wastestream. Sample collection and handling protocols must be done in accordance with 40 CFR Part 136.

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3. Number of samples to be collected and the frequency of sampling
The permitted industry will be required to collect 3 samples on three different days for each instance of non-compliance that is addressed in a notice of violation or other enforcement document. However, the number of samples required may vary depending on the nature of the violation, the magnitude of the violation, the duration of the violation, the frequency of the violation (isolated or recurring), and the (potential) impact of the violation (e.g., interference, pass through, or POTW worker safety).

4. Parameters to be tested – identification of pollutants to be monitored
Each notice of violation will identify which parameters are to be tested for when self-monitoring is required. However, any parameter listed with a discharge limit on any endorsement in this permit is subject to being non-compliant and therefore, subject to being identified in a notice of violation that requires self- monitoring to demonstrate compliance. A review of this permit will also identify any parameter that requires special self-monitoring and reporting requirements.

5. Analytical test methods required for testing self-monitoring wastewater samples
The only test methods that are approved for the testing of wastewater samples are the analytical methods listed in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

Self-monitoring Reporting Requirements

1. Requirements for laboratory reports and chain of custody forms
The analytical laboratory reports and chain of custody forms that are submitted to the City, in response to any self-monitoring requirement, must contain specific information to be acceptable. Each notice of violation or other enforcement document, will provide a list of the requirements for laboratory reports and chain of custody forms. If it is determined that the required information is not provided on a lab report or chain of custody form, a violation notice may be issued to require the permitted industry to repeat the self-monitoring sampling and analyses.

2. Reporting a violation / repeat sampling and reporting
In accordance with 40 CFR 403.12(g) (2):

If sampling performed by the permitted industry indicates a violation, the industry shall notify the Control Authority (City of Houston/Industrial Wastewater Service) within twenty-four (24) hours of becoming aware of the violation. The permitted industry shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City of Houston within thirty (30) days after becoming aware of the violation. Where the City of Houston has performed sampling and analysis in lieu of the permitted industry the City must perform the repeat sampling and analysis unless it notifies the permitted industry of the violation and requires the industry to perform the repeat analysis.

Resampling is not required if:

a. The City of Houston performs sampling at the permitted industry's facility at least once a month, or

b. The City of Houston performs sampling at the permitted industry between the time when the initial sampling was conducted and the time when the permitted industry or the City receives the results of this sampling.

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Certification Requirement

A certification will be required with the analytical laboratory reports and chain of custody forms for any self-monitoring that is performed. A separate certification shall be submitted by the permitted industry in response to each notice of violation or other self-monitoring sampling event.

A certification form will be provided to the permittee with each notice of violation. The certification will have the date of the notice of violation to indicate which certification to complete and submit with the self-monitoring laboratory reports. If a permitted industry performs voluntary self-monitoring and submits the results of the self-monitoring to the City, a certification statement is required. The industry should use the exact certification that appears in this permit endorsement (see below).

All certifications shall be signed by an authorized representative of the permitted industry.
40 CFR Part 403.12(l) *Signatory requirements for Industrial User reports* provides the criteria to determine who can qualify as an authorized representative. **If there is a change in the name and or title of an authorized representative the Industrial Wastewater Service shall be notified in writing of such a change.**

The following certification shall be included with all analytical laboratory reports for self- monitoring:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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ENDORSEMENT SR

Semiannual Reporting Requirements

Periodic Report on Continued Compliance (Semiannual Report)

In Accordance with 40 CFR Part 403.12 (The General Pretreatment Regulations for Existing and New Sources of Pollution) which is incorporated in this permit, the permittee is required to submit a Periodic Report on Continued Compliance (Semiannual Report) for each of the following six (6) month periods:

SIX MONTH REPORTING PERIOD	REPORT DUE
January - June	**Report due on or before July, 15th**
July - December	**Report due on or before January, 15th**

The City's Industrial Wastewater Service will provide Semiannual Reporting forms to the permittee during each May and November. The permittee is required to submit all Semiannual Reporting forms on or before the report due date specified on the Semiannual Report form.

As part of the Semiannual Reporting requirement the permittee is also required to submit all analytical laboratory reports that have not yet been provided to the Industrial Wastewater Service for any wastewater sample collected at a permitted sample point during each of the six (6) month reporting periods.

The permittee is not required to perform sampling for the Semiannual Report. However, the City reserves the right to request the permittee to perform wastewater sampling for the Semiannual Report or for any other reporting or compliance monitoring requirement. Detailed sampling instructions will be provided to the permittee if the City requests wastewater sampling and analysis.

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ENDORSEMENT TTO – Total Toxic Organics Limit

This endorsement establishes a total toxic organics (TTO) discharge limit. The TTO limit is applicable at each sample point on page two of this permit that has City (local) discharge limits. This endorsement is issued under the authority to establish permit provisions as provided by Part II of this permit - Sections 47-189(a)(2), (a)(16) , and 47-189 (b).

TTO Limit ..... 50 mg/L

TTO is defined as the summation of all quantifiable values greater than 0.1 mg/L for any compound listed below:

BASE / NEUTRALS / ACIDS - Test Method EPA 625

1,2-Benzanthracene (Benzo (a) Anthracene)
1,2-Dichlorobenzene
1,2-Diphenylhydrazine
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,12-Benzoperylene (Benzo (ghi) Perylene)
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,6-Dinitrotoluene
3-Nitroaniline
3,3-Dichlorobenzidine
3,4-Benzofluoranthene (Benzo(b)fluoranthene)
3,4-Benzopyrene (Benzo (a) Pyrene)
4-Bromophenyl Phenyl Ether
4-Chloroaniline
4-Chlorophenyl Phenyl Ether
4-Nitroaniline
4-Nitrophenol
4,6-Dinitro-O-Cresol
11,12-Benzofluoranthene (Benzo (k) Fluoranthene)
Acenapththylene
Ancenapthene
Anthracene
Benzidine
Benzyl Alcohol
Benzoic Acid
BIS (2-Chloroethoxy) Methane
BIS (2-Chloroethyl) Ether
BIS (2-Chloroisopropyl) Ether
BIS (2-Ethylhexyl) Phthalate
Butyl Benzyl Phthalate
Chrysene
Di-N-Butyl Phthalate
Di-N-Octyl Phthalate
Dibenzo (A,H) Anthracene (1,2,5,6-Dibenzanthracene)
Dibenzofuran
Diethyl Phthalate
Dimethyl Phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-CD) Pyrene (2,3-0-Phenylenepyrene)
Isophorone
N-Nitrosodi-n-propylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
Naphthalene
Nitrobenzene
p-Cresol
Parachlorometa cresol (4-Chloro-3-Methylphenol)
Pentachlorophenol
Phenanthrene
Phenol (Acid extractable)
Pyrene

VOLATILES - Test Method EPA 624

1,1-Dichloroethane
1,1-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dichloroethane
1,2-Dichloroethene (Total) (1,2-Trans-Dichloroethylene)
1,2-Dichloropropane
1,3-Dichloropropylene (Cis-1,3-Dichloropropene)
Trans-1,3-Dichloropropene
2-Butanone
2-Chloroethyl Vinyl Ether (Mixed)
2-Hexanone
4-Methyl-2-Pentanone
Acetone
Benzene
Bromoform (Tribromomethane)
Carbon Disulfide
Carbon Tetrachloride (Tetrachloromethane)
Chlorobenzene
Chlorodibromomethane (Dibromochloromethane)
Chloroethane
Chloroform (Trichloromethane)
Dichlorobromomethane (Bromodichloromethane)
Ethylbenzene
Methyl Bromide (Bromomethane)
Methyl Chloride (Chloromethane)
Methylene Chloride
Styrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl Acetate
Vinyl Chloride (Chloroethylene)
Xylenes (Total)

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ENDORSEMENT U

Establishment of Sewer User Charge Based on Strength of Waste

In accordance with Chapter 47, Article III of the City Code of Ordinances, the following information has been used in establishing your firm's wastewater billing rate:

(1) The wastewater discharged from the permitted facility has been analyzed and found to contain an average biochemical oxygen demand (BOD) concentration of **5375** mg/L and an average total suspended solids (TSS) concentration of **162** mg/L.

(2) Based on the average concentrations for BOD and TSS the water/sewer billing accounts for each City water meter, sewer discharge meter or private well meter that is being used for sewer billing (that have been identified as industrial accounts) shall now have a sewer user billing rate of **$13.95** per 1,000 gallons.

NOTE: The minimum base rate (for sewer billing) for industrial accounts and for sewer discharge meter accounts; is currently $4.84 per 1,000 gallons.

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PART II

CITY OF HOUSTON
INDUSTRIAL WASTE ORDINANCE

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Section 47-189	Permit Conditions
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ARTICLE V. DISPOSAL OF INDUSTRIAL WASTES
THROUGH CITY SEWER SYSTEM

Sec. 47-186. **Definitions**.

For the purpose of this article, the following words and terms shall have the following meanings unless the context indicates otherwise:

Average quality. The arithmetic average of all the 'daily determinations of concentration,' as that term is defined herein, made during a calendar month.

BOD (biochemical oxygen demand). The quantity of oxygen consumed from the biochemical oxidation of organic matter under standard laboratory conditions for five (5) days at a temperature of twenty (20) degrees Celsius, reported in mg/l, as described in 40 CFR part 136.

Categorical pretreatment standards. See pretreatment standards.

CFR. The Code of Federal Regulations. True copies of 40 CFR Part 403 and 40 CFR Part 136 are on file in the office of the city secretary.

COD (chemical oxygen demand). The quantity of oxygen consumed from the chemical oxidation of inorganic and organic matter present in water or wastewater, expressed in mg/l, as described in the 40 CFR Part 136.

Control authority. This term has the meaning established in the 40 CFR 403.12.

Daily composite sample. A sample of effluent collected in several portions during a normal operating day.

Daily composite sample quality. The concentration of some parameter tested in a ''daily composite sample,'' as that term is defined herein.

Daily determination of concentration. For composite samples, 'daily determination of concentration' shall be the same as 'daily composite sample quality,' as the term is defined herein. For grab samples, the daily determination of concentration shall be the arithmetic average of all 'grab sample qualities,' as that term is defined herein, determined for any 24 hour period.

Department. The Department of Public Utilities.

Domestic waste. A typical, residential type waste which requires no pretreatment under the provisions of this article and does not contain industrial waste.

EPA. The Environmental Protection Agency.

Establishment, plant. Any establishment or plant producing industrial waste that is discharged into the sewer system.

Grab sample. An individual sample of effluent collected in less that fifteen (15) minutes.

Grab sample quality. The concentration of some parameter tested in a 'grab sample,' as that term is defined herein.

Industrial user. Any person that discharges industrial waste into the sanitary sewer system.

Industrial waste. Any waterborne solid, liquid or gaseous waste, resulting from any production, industrial, manufacturing or food processing operation or from the development, recovery or processing of any natural resource, including waste that is required to be pretreated by this article or the plumbing code.

Industrial waste permit or permit. Any permit issued pursuant to this article.

Interference. This term has the meaning established in 40 CFR 403.3(i).

Milligrams per liter (mg/l). The same as parts per million (ppm). The milligram per liter value multiplied by the factor 8.34 gives the ratio in pounds per million gallons of water.

New source. This term has the meaning established in 40 CFR 403.3(k).

NPDES permit. A permit issued to the POTW pursuant to section 402 of the Clean Water Act.

Pass through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES of state discharge permit.

Permittee, permit holder. Any person who owns, operates, possesses or controls an establishment or plant being operated under a valid industrial waste permit.

pH value. The logarithm of the reciprocal of the hydrogen ion concentration in grams per liter; i.e.:

$$pH = LOG_{10} \frac{1}{[H+]}$$

pH determination. Determination of pH made according to 40 CFR Part 136.

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Plant, establishment. See 'Establishment, plant.'

Pretreatment requirements. Any substantive or procedural pretreatment requirement promulgated by the EPA, other than a pretreatment standard.

Pretreatment standards. Any regulation applicable to industrial users containing pollutant discharge limits promulgated by the EPA in accordance with sections 307 (b) and (c) of the Clean Water Act.

Publicly owned treatment works(POTW). All city wastewater treatment facilities, wastewater lift stations, and all wastewater collection and/or conveyance systems. The term is synonymous with 'sanitary sewer system' below.

Sample well. A physical connection on an industrial user's discharge sewer that is constructed to allow access for sampling and inspection.

Sanitary tap. A physical connection on an industrial user's discharge to the city's sewer for the purpose of obtaining a sample.

Sanitary sewer system, sewers, sewage works, sewer system. All city facilities for collecting, conveying, pumping, treating and disposing of sanitary sewage and industrial wastes. For the purposes of this article, however, waterways shall not be included in this definition.

Significant industrial user. (i) All industrial users subject to EPA categorical pretreatment standards. (ii) Any other industrial user that discharges an average of 25,000 gallons or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) per day or contributes a process waste stream equal to or greater than five percent (5%) of the dry weather flow or organic capacity of the city wastewater treatment plant into which it discharges. (iii) Industrial users that are designated by the control authority due to the potential to adversely affect the POTW's operation or cause a violation of any pretreatment standard or requirement.

Suspended solids (SS). Solids measured in mg/l that either float on the surface of or are in suspension in water, wastewater, or other liquids, and which are largely removable by a laboratory filtration device, as defined in 40 CFR Part 136.

User charges. Charges established under article III of this chapter for discharging wastes into the sanitary sewer system.

Sec. 47-187. **Permit required; compliance with utility official's requests.**

(a) It shall be unlawful any person included in the following classes of industrial users to be connected to the sewer system without holding a current and valid industrial waste permit:

(1) Industrial users, including new sources, subject to categorical pretreatment standards established by the EPA.

(2) Industrial users that discharge 25,000 gallons or more of industrial waste (excluding sanitary, noncontact cooling and boiler blowdown wastewater) per day into the sanitary sewer system.

(3) Industrial users that discharge industrial waste (excluding sanitary, noncontact cooling and boiler blowdown wastewater) equal to or greater than (5%) five percent of the average dry weather flow or organic capacity of the city treatment plant into which they discharge.

(4) Industrial users that discharge BOD or SS greater than those levels established for the imposition of the industrial user surcharge under article III of this chapter.

(5) Industrial users that contribute or have the potential to contribute industrial waste having significant concentrations of pollutants that would interfere with or pass through the sewer system, or contaminate the city's sewage sludge.

(b) Any industrial user discharging or proposing to discharge industrial waste into a city sewer in any quantity upon request by the utility official shall provide:

(1) Information which shall include, but not be limited to, a description of activities, facilities, plant processes, and types of products or services of the industrial user. The information shall include a list of chemicals used but not normally discharged into the sewer system as well as a list of process industrial wastes which are, or could be, discharged into the sewer system.

(2) A site drawing showing location and size of on site sewers, sampling points, pretreatment facilities, city sewers, and any other pertinent details relating to discharge of waste.

(3) A discharge report which shall include, but not be limited to, nature of process, volume, rate of flow, and any other information that is relevant to the production of waste, including substances and their concentrations in the wastewater discharge.

(4) A tour of facilities for department inspectors.

(5) A permit application pursuant to this article and consistent with applicable requirements established under 40 CFR 403.

Sec. 47-188. **Permit issuance, renewal.**

(a) The fee for permits shall be $75.00 and shall be non-refundable. An industrial waste permit shall be valid for a term of two (2) years from its date of issuance.

An applicant seeking an industrial waste permit shall submit as part of the application the results of a laboratory analysis of the industrial waste produced by the applicant's facility. Sample collection and analysis for such report shall conform to 40 CFR Part 136. Such analysis shall include tests for concentrations of pollutants reasonably expected to be present in the wastewater discharge of the applicant. The applicant shall not be issued an industrial waste permit if the laboratory report shows violations of the provisions of this article.

If the applicant is subject to pretreatment standards, it shall submit to the department baseline reports and such other information as may be required by applicable pretreatment regulations or by the department to determine compliance with pretreatment standards and requirements. The applicant shall not be issued an industrial waste permit if its discharge fails to meet applicable pretreatment standards and requirements.

(b) Upon the receipt of an application for a permit, the utility official shall determine if a permit is required. If a permit is required, the permit shall be granted or denied in accordance with the requirements provided elsewhere in this article. If the permit is denied, the utility official shall notify the applicant by certified mail of the denial and the reasons therefor. Upon receipt of such notification of denial, the applicant may revise its application or modify its pretreatment system to cure the reasons for denial stated in the notice if the applicant desires to obtain a permit.

(c) A verified report, to be made upon a form provided by the department, shall be filed annually by each permittee. The report shall state that the permittee has not made any change in its operations that have, or will have within the term of the permit, increased the strength, volume or any other characteristic of the permittee's discharge into the city sanitary sewer system.

(d) All significant industrial users shall file verified semi-annual reports using forms provided by the department. Semi-annual reports shall be filed during June and December of each year.

(e) A permittee who changes or proposes to change its industrial process in such a manner as to cause any change in the quantity or quality of its discharge of industrial waste into the sewer system shall make an application for a new permit to cover such change in quantity or quality of discharge.

Sec. 47-189. **Permit conditions.**

(a) All permits shall be expressly subject to all provisions of this article and all other applicable laws, ordinances or regulations. Permit provisions may include, but are not limited to:

(1) Unit charge or schedule of user charges and fees for the wastewater discharged to the sanitary sewer.

(2) Average and maximum strength, characteristics or constituents of the user's wastewater discharge.

(3) Limits on rate and time of discharge, or requirements for flow regulations and equalization.

(4) Regulations for installation of inspection and sampling facilities, including requirements for department access to such facilities.

(5) Regulations relating to pretreatment standards and requirements.

(6) Regulations for monitoring programs, which may include sampling locations, frequency and method of sampling, number, types and standards of tests, and reporting schedule.

(7) Requirements for the submission of technical reports or discharge reports.

(8) Requirements of the maintenance of plant records relating to wastewater discharge and affording department access thereto.

(9) Advance notice to the department prior to release into the sewer system of batch discharges.

(10) Slug discharge plans if required by control authority to control slug discharges as defined in 40 CFR 403.8(f)(2)(v).

(11) Operation and maintenance certification as defined in 40 CFR 403.12(b)(6).

(12) Data accuracy certification as defined in 40 CFR 403.6(a)(II)(ii).

(13) Authorized signatory requirements as defined in 40 CFR 403.12(1).

(14) Record keeping requirements as defined in 40 CFR 403.12(o).

(15) Compliance schedule if required pursuant to 40 CFR 403.8(F)(1)(iv).

(16) Other conditions deemed reasonably necessary by the department to ensure compliance with this article.

(b) The department may modify the conditions of any permit from time to time as necessary to prevent interference or a pass through of the sewer system, contamination of sewage sludge or violation by the city of laws or regulations enacted by the state or federal government.

(c) As a condition of its permit, a permittee in violation of any condition of its permit shall notify the department within 24 hours of the violation and shall submit to the utility official within fifteen (15) days of such violation a report outlining the steps which have been taken to ensure its discharge is compliant with this article.

(d) As a condition of its permit, each permittee must agree to indemnify and hold harmless the city from any liability, loss of business, property damage to city facilities, extra costs for wastewater treatment, and civil, criminal, or administrative fines due to or caused by a discharge of wastewater in violation of this article. The city attorney shall prescribe the form of the indemnity agreement to be included in the permit application.

Sec. 47-190. **Permit suspension orrevocation; correction of violations.**

(a) The utility official is authorized to suspend or revoke any permit issued and terminate service any time that the permittee:

(1) Violates any of the provisions this article or any city ordinance pertaining to sewage discharge into the city sewers; or

(2) Violates a requirement of its permit.

(b) If the department discovers a violation of a permit condition, the department will give written notice of such violation to the permittee, and the permittee shall within fifteen (15) days after receipt of such notice furnish to the utility official notice in writing of actions taken to correct such violation.

Sec. 47-191. **Special agreements.**

No provision contained in this article shall be deemed to prevent any contract authorized by city council between the city and any industrial user whereby an industrial waste of unusual strength or characteristic may be accepted by the city for treatment, but which will not violate or cause the city to violate federal or state discharge standards, and which will not be harmful to the wastewater treatment plant, the treatment process or the sewage lines. Waiver of national pretreatment standards may not be granted unless such waiver is in compliance with the mechanisms established under the general pretreatment regulations (40 CFR Part 403).

Sec. 47-192. **Quantity determination.**

Except as provided in article III of this chapter, the quantity of waste delivered to the city sewers by the industrial user will be construed as being the same as the water delivered to the industrial user by the city water system.

Sec. 47-193. **Quality determination.**

(a) Determination of the concentration or strength of the waste discharged shall be the obligation of the city, except for sampling required in connection with:

(1) A permit application;

(2) Demonstration of compliance after violation of any discharge standard; or

(3) Permit requirements which specify sampling frequency.

Tests made on representative samples collected by the city shall be made at such intervals as the utility official may designate.

(b) Samples may be taken and tests made by the utility official without prior notice to the permittee, and the results of such tests shall be used to calculate the applicable user charge established in article III of this chapter. Provided, however, a permittee may request in writing permission to conduct self-monitoring through an independent laboratory for determining the user charge. The utility official shall grant such a request and accept the results of the permittee's self-monitoring if the permittee provides documentation in the format required by the utility official showing that the permittee used proper chain of custody and that sampling and analysis were conducted in accordance with subsection (c), below. All costs of such sampling and analyses for self-monitoring shall be borne by the permittee. Approval of sampling and analysis performed by an independent laboratory does not

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prevent representatives of the department from taking additional samples without prior notice to the permittee. Submission of any self-monitoring analyses that are not representative of the process discharge shall be grounds for permit revocation of termination of water and wastewater services.

(c) Sampling and analysis shall be conducted in accordance with 40 CFR Part 136.

(d) The utility official may make periodic tests of waste being discharged into the city sewer from the premises of on industrial user under the provisions hereof.

Sec. 47-194. **Standard of quality**.

(a) Unless otherwise required or approved, the delivery of all industrial waste from the industrial user to the sanitary sewer shall be at a reasonably uniform rate, as produced, without storage by the industrial user, except that storage which is necessary in the pretreatment plant of the industrial user.

(b) It shall be unlawful to discharge or cause to be discharged any subsurface drainage, storm or ground water, downspout or roof runoff, yard sprinklers, drains, fountains or ponds into the sanitary sewer system. Water from swimming pools, boiler drains, blow off pipes or cooling water from equipment may be discharged into the sewer system by an indirect connection whereby such discharge is cooled, if required, and flow into the sewer system is at a rate not to exceed the design capacity of the sewer system, provided that the waste does not contain materials or substances that would violate other provisions of this article.

(c) It shall be unlawful to discharge or cause to be discharged into the sewer system, any of following described substances, materials, waters, or wastes:

(1) Any liquid or vapor having a temperature higher than forty-five (45) degrees Celsius (one hundred thirteen (113) degrees Fahrenheit) at the place of discharge into the sewer system, or which causes the temperature of the influent reaching a city treatment plant to be forty (40) degrees Celsius (one hundred four (104) degrees Fahrenheit) or more.

(2) Any water or waste which contains wax, grease, oil, plastics, or other substances that will solidify or become discernibly viscous at temperatures between sixty (60) to ninety (90) degrees Fahrenheit.

(3) Flammable or explosive liquids, solids or gas, such as gasoline, kerosene, benzene, naphtha, etc.

(4) Solid or viscous substances which may interfere with or obstruct the POTW, such as ashes, cinders, sand, mud, straw, shaving, metal, glass, rags, feathers, tar, plastics, wood, whole blood, paunch manure, hair and fleshings, entrails, lime slurries, lime residues, slops, chemical residues, paint residues, fiber glass, or bulk solids.

(5) Waste from garbage grinders, except waste generated in the preparation of foods that are generally consumed on the premises, and not unless it has been properly comminuted or shredded to reduce all food scraps and like particles to three-sixteenths inch or less in greatest dimensions. Garbage grinders shall not be used for grinding plastics, paper products, garden refuse, hospital or veterinarian refuse, or similar refuse for disposal into a city sewer.

(6) Any noxious or malodorous substance which can form a gas; which either singly or by interaction with other wastes is capable of causing objectionable odors or hazard to life and property; which forms solids in concentrations exceeding limits established herein; which creates any other condition deleterious to structures or treatment processes; or which requires unusual facilities, attention, or expense to handle.

(7) Wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Celsius.

(8) Petroleum oil, nonbiodegradable cutting oil, or products of mineral origin in amounts that cause interference with or passes through the sanitary sewer system.

(9) Pollutants producing toxic vapors, gases, or fumes within the sanitary sewer system that may cause acute worker health and safety problems.

(10) Any trucked or hauled waste, except at discharge points designated by the utility official. Only domestic septic tank waste generated within the city will be allowed at these designated points. Provided, however, the city may move waste it collects within its sanitary sewer system to designated points.

(d) It shall be unlawful for any industrial user to discharge into the publicly owned treatment system:

(1) Free or emulsified oil and grease, if such materials:

a. Exceed on analysis an average of four hundred (400) milligrams per liter (mg/l) of free or emulsified oil and grease;

b. Form a discernible floating layer on the surface of the discharge waters;

c. Overload the industrial user's skimming and grease handling equipment;

d. Are not amenable to biological treatment and will therefore pass through to the receiving waters without being affected by normal sewage treatment processes;

e. Have adverse effects on the treatment process due to the excessive quantities; or

f. Deposit oil or grease in the sewer lines in such a manner as to obstruct the sewer.

(2) Acids or alkalies which attack or corrode sewers or sewage disposal structures or have a pH value lower than 5.0 or higher than 11.0, or which, due to contents, may be reduced or changed with age or by sewage, to produce acid or alkaline reactions.

(3) Any salt of the following heavy metals in concentrations greater than the amounts specified below. The permit shall specify pollutant limitations based on a method for allocating pollutant loadings approved by EPA and incorporated into the city's approved pretreatment program.

Metal	Grab Limit mg/l	Composite Limit mg/l
Arsenic	3.0	2.0
Cadmium	0.4	0.2
Chromium	3.0	1.0
Cooper	3.0	2.0
Lead	1.5	1.0
Mercury	0.02	0.01
Nickel	3.0	2.0
Selenium	5.0	3.0
Silver	2.0	1.0
Zinc	6.0	3.0

(4) Cyanides (CN) or cyanogen compounds capable of liberating hydrocyanic gas upon acidification in excess of two (2) milligrams per liter (mg/l) as CN based upon a grab or composite sample.

(5) Radioactive materials exceeding the existing standards of the state.

(6) Substances in such concentrations as to produce odor or taste in the effluent as to affect the taste and odor of the receiving waters.

(7) Substances which exert or cause:

a. Unusual BOD or an immediate oxygen demand;

b. Unusual concentrations of solids or composition, as an example, in total suspended solids of an inert nature (such as Fuller's earth) or in total dissolved solids (such as sodium chloride or sodium sulfate); or

c. Unusual flow or concentration.

(8) Any substance which is not amenable to treatment or reduction by the wastewater treatment process employed, or is amenable to treatment only to such degree that the sanitary sewer system cannot meet the requirements of agencies having jurisdiction over discharge to the receiving waters.

(9) Substances which exert or cause excessive discoloration, such as dye wastes and tanning solutions, which would cause an interference in or pass through the sewer system.

(10) Sulfides in concentrations greater than five (5) milligrams per liter (mg/l).

(11) Any discharge which fails to meet applicable pretreatment standards or requirements.

Sec. 47-195. **Accidental discharges**.

(a) Each industrial user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this article.

(b) In order to facilitate countermeasures to be taken by the city to minimize damage to the sanitary sewer system and degradation of the receiving waters, industrial users shall

notify the department immediately after the occurrence of any accidental discharge of wastes in violation of this article. This notification shall be followed within fifteen (15) days of the date of occurrence by a detailed written statement describing the causes of the accidental discharge and the measures taken to prevent future occurrences.

(c) In order to keep employees of permittees informed of the departments' requirements, permittees shall make available to their employees copies of this article, together with such other wastewater information and notices which may be furnished by the city from time to time for the purpose of improving and making more effective water pollution control. A notice shall be furnished and permanently posted on the permittee's bulletin board advising officers, agents, and employees the number to call in case of an accidental discharge in excess of the limits authorized.

Sec. 47-196. **Change of ownership or location of discharge**.

Industrial waste permits may neither be assigned nor be transferred. Whenever a person other than the permittee becomes the industrial user at the site of a permitted establishment, or whenever there is a change in discharge location, the prior permit is void and an application for a new permit shall be made.

Sec. 47-197. **Pretreatment**.

(a) Pretreatment shall be required in the following instances:

(1) The utility official determines upon the initial application for a permit that the proposed industrial waste must be pretreated by the permittee to comply with the requirements of this article.

(2) The utility official determines that pretreatment, or an additional level of pretreatment, is required for the city to improve the discharge from the sewer system to comply with a city discharge permit, court order, or order from a state or federal agency.

(3) The utility official determines that an industrial user is discharging wastewater that does not comply with the requirements of this article.

Pretreatment facilities shall be provided, operated, and maintained at the permittee's expense.

(b) Any sludge or other material removed from the industrial waste by the pretreatment facility shall be disposed of in accordance with applicable federal, state, and local laws, and records or manifests for such disposal shall be made available for inspection upon request by the department.

(c) Except where expressly authorized by applicable pretreatment standards, no industrial user shall increase the use of the process water or in any other way attempt to dilute its industrial waste discharge as a partial or complete substitute for adequate treatment to achieve compliance with the discharge standards established in accordance with this article.

(d) Detailed plans showing any pretreatment facilities shall be submitted to the utility official for approval before construction of the facilities. The review and approval of plans will in no way relieve any permittee from the responsibility of modifying and operating the facilities to produce an effluent complying with this article and the permit. Any subsequent, significant changes in the approved facilities or method of operation shall be reported to the utility official and must be reviewed and approved by the utility official as complying with the provisions herein established.

(e) After the construction plans for such pretreatment plants have been approved and an industrial waste permit issued, a building permit for the construction may be issued.

(f) The city's industrial waste pretreatment program has been approved by the EPA. Thereby, the city as POTW/Control Authority accedes to all powers, duties, and responsibilities promulgated by the EPA for a POTW/Control Authority. The utility official shall be authorized to act for the city as Control Authority of POTW. As POTW/Control Authority, the city shall have the legal authority, pursuant to this subsection, to enforce any and all pretreatment standards as well as pretreatment requirements specified by regulations promulgated by the EPA, but including not limited to the powers enumerated in 40 CFR 403.8(f)(1) as well as any amendments thereto, and same are hereby incorporated herein by this reference.

Any industrial user who is subject to pretreatment standards shall file with the utility official such reports as may be required by pretreatment standards or requirements promulgated by the EPA.

In case of any conflict between a pretreatment standard or requirement promulgated by the EPA and any standard or requirement imposed elsewhere by this article, the more stringent shall apply.

Sec. 47-198 **Inspection and testing of discharges**.

(a) The utility official and the health officer may enter upon the property of any industrial user discharging or proposing to discharge wastewater into the sewer system, for the

purpose of inspecting any waste discharge, or inspecting and/or copying records required by the city, the state or the EPA. City inspectors shall observe the establishment's rules and regulations concerning safety, internal security and fire protection; and if the establishment has management in residence, the city inspectors shall notify management or the person in charge of their presence and shall exhibit proper credentials. If refused entry onto the premises, the city inspectors shall procure a search warrant to inspect the industrial user's waste discharge or records, or the department may initiate termination of water or wastewater service pursuant to this article.

(b) Industrial users shall notify in writing the department, the Environmental Protection Agency regional waste management director, and the state hazardous waste authorities of any discharge into the POTW of a substance which, if otherwise disposed of , would be hazardous waste under 40 CFR 261. The notification shall include the EPA hazardous waste number and the type of discharge (continuous, batch, etc.). Industrial waste shall comply with the reporting requirements under 40 CFR 403.12.

(c) All industrial users shall be required to install sampling facilities at their own expense to allow city inspection, observation and sampling of the industrial users' discharge.

Sec. 47-199. **Trade secrets**.

All information and data relating to an industrial user obtained from reports, questionnaires, permit application, permits, monitoring programs, and inspections shall be available to the public as required by 40 CFR 2.302.

Sec. 47-200 to 47-204. **Reserved**.

Sec. 47-205. **Enforcement**.

(a) Any or all the following three (3) remedies may be employed by the city to abate and prevent further violations of the provisions of this article.

(1) The department may discontinue city water service.

(2) The department may disconnect and seal the sanitary sewer connection.

(3) The city attorney may, and is hereby authorized to, proceed in a court of competent jurisdiction to secure appropriate judicial relief from the violation of the provision of this article by such industrial user.

(b) Representatives of the city health and human services department and the public utilities department are authorized to issue citations charging the violation of any of the provisions of this article.

Sec. 47-206. **Penalty**.

(a) It shall be unlawful for:

(1) Any industrial user required by this article to obtain an industrial waste permit to be connected to the sewer system, unless said industrial user has obtained a valid industrial waste permit for that connection.

(2) Any industrial user to violate any provision of this article that applies to industrial users.

(3) Any permittee to violate any condition of its industrial waste permit.

(b) Violations of this article shall be misdemeanors punishable by fines of not more than two thousand dollars ($2,000.00) for each violation. Each day of violation shall constitute a separate offense.

Sec. 47-207. **Publication of certain violations**.

At least once a year the utility official shall publish in the newspaper with the largest daily circulation in the city a list of industrial users, which during the previous twelve (12) months have been significantly noncompliant as defined in 40 CFR 403.8.

Sec. 47-208. **Appeals - Denial of ermit/termination of service**.

(a) Except as provided herein for discharges posing immediate danger, the utility official shall give ten (10) days prior notice to any person whose utilities are to be terminated pursuant to the provisions of this article. Any such notice shall specify the reasons for the proposed termination and inform the affected person of the appeal procedure provided herein. If, within said ten day period, the utility official receives notice that such person requests a hearing, the effective date of termination shall be automatically delayed at least until the date set by the utility official for a hearing. The utility official shall select a hearing date, giving the person appealing the decision at least three (3) days notice thereof.

(b) Any person whose application for a permit is denied, whose permit is suspended or revoked pursuant to this article, or whose service is to be terminated shall be given notice thereof. Such notice shall specify the reasons for the decision and inform the affected person of the appeal procedure provided herein. If any such affected person desires a hearing, he shall file a notice of appeal with the utility official no later than ten (10) days after his receipt of the utility official's notice of decision.

(c) The director shall establish rules not inconsistent with this section governing hearing procedures.

(d) The director of the department shall appoint a qualified individual to serve as hearings examiner to hear appeals. The hearings examiner shall be authorized to affirm, deny or modify the utility official's initial decision.

(e) The hearings examiner may, in lieu of termination of service, require any or all of the following: (i) administrative penalties not to exceed $1,000 per day, (ii) special permit conditions, or (iii) mandatory compliance schedules.

(f) If the director determines that a discharge from an industrial user causes (1) an immediate danger to the health of city employees or the public or (2) a likelihood that the city's treatment plant permit parameters (including sludge) will be violated, then the department may, after prior notice, immediately terminate water/wastewater service and provide a hearing as described herein within three (3) days of initial termination.

(g) To be effective under this section, a notice shall be in writing and either:

(1) Be delivered in person to the person (or his agent) entitled to receive such notice; or

(2) Be deposited in the care of the United States postal service return receipt requested, and addressed to the person (or his agent) entitled to receive notice.''

Attachment 3

2.0 FACILITY DESCRIPTION

2.1 FACILITY LOCATION

CES operates a tank truck cleaning facility at 4904 Griggs Road, Houston, Texas 77021. The facility is located in a commercial/residential area inside the Houston 610 Loop. The site is approximately 6.5 acres, mostly covered with parking, a five bay wash facility, a wastewater pre-treatment facility and offices. A site location map is included in Attachment B.

2.2 FACILITY OPERATION

Services provided by CES include interior and exterior transportation equipment cleaning. Tank trucks are delivered and picked up by customers.

About 3,000 truck trailers, roll-off boxes, totes and other transportation equipment are cleaned per year. CES requires that the tank trailers be emptied by the customer before cleaning the interior of the tank trailer. The contents of these trailers to be cleaned my have included: e.g., petroleum products, paint thinner, acids, caustic soda solution (lye), wax etc. No trailers that contained Department of Transportation-classed poisons are cleaned at this facility.

2.3 WASTEWATER MANAGEMENT

Wastewater pre-treatment consists of equalization, pH adjustment, precipitation, and clarification. Equalization is used to average out fluctuations in the wastewater chemical composition to allow better operation of the facility. Wastewater is pH adjusted to neutralize excess acid or caustic and clarification is used to remove suspended solids from the mixture. A treatment plant flow schematic is located in Attachment B.

3.0 TRUCK CLEANING OPERATIONS

3.1 IDENTIFY CARGO

Upon receiving an empty tank truck for cleaning at the facility, the contents last delivered by the tank truck are determined. The customer supplies a copy of the shipping manifest and/or a Material Data Safety Sheet (MSDS) for the most recent material hauled in the tank truck. This information is used in determining POTW compatibility, the management method for any residual material (or heel) in the tank truck, and the appropriate tank cleaning solution.

3.2 HEEL MANAGEMENT

Based on the shipping manifest and/or MSDS for the most recently shipped material, the proper heel management technique (e.g., storage in drums and shipment off-site or addition to the wastewater pre-treatment system) will be determined.

The truck is first inspected. Tank trucks with excessive amounts of heel will be returned to the customer or an additional charge may be assessed for the management of larger quantities of waste material. Large quantities of heel will be drained before pre-rinsing

Using the information collected under Section 3.1 above, a determination of whether the heel is a compatible or incompatible material will be made. In general, materials that are not water soluble and multi-phase materials are incompatible. Many water-soluble materials are POTW compatible.

Compatible pollutants are materials which are considered treatable at the POTW (e.g., food materials, some detergents, etc.) or which are incompatible with POTW and are effectively removed by pre-treatment at the CES facility (e.g., acids and bases).

Incompatible pollutants are materials which are considered as not treatable at the POTW and which are not effectively removed by the CES pre-treatment facility (e.g., petroleum products, emulsified oils). The heel from a tank truck, which last hauled an incompatible pollutant, will not be treated on-site. These incompatible pollutants (materials) will be stored and shipped off-site to a properly permitted facility for treatment and/or disposal.

3.3 PRE-RINSE

Thick, viscous, or tacky materials are difficult to remove from the tank truck. In addition, some trailers are not sloped to a central sump, making complete removal of residuals (heel) difficult. In these cases a pre-rinse solution (frequently hot water and steam) is used to reduce viscocity and to promote removal of residual materials. Pre-rinse is managed similarly to heel. Information collected under Section 3.1 above is used to determine POTW compatibility and to ensure regulatory compliance.

3.4 CLEANING

After heel management and pre-rinse procedures are complete, an appropriate cleaning solution is selected. The cleaning solution is applied using a spinner and is frequently heated to improve performance. Cleaning solution drained from the tank truck is collected, reheated if necessary, and reused as much as feasibly possible.

3.4.1 Aqueous Cleaner

A water and cleaner solution is typically utilized to wash trailers that contained materials such as acids, bases, petroleum products, latex paint, etc.

3.4.2 Solvent Cleaner

Diesel/glycol ether mixture is typically utilized to wash trailers that contained materials, such as epoxy or enamel coatings, hardened latex paints, thick oils, some resin, etc. All of this mixture is recycled.

3.5 RINSE

After cleaning, the trailer is rinsed, usually with water, and inspected. Occasionally additional cleaning or manual spot cleaning is necessary. Upon passing final inspection, the truck trailer is ready for customer pickup.

4.0 WASTE MANAGEMENT

4.1 COMPATIBLE WASTES

The final rinse and other wastewater streams that are classified as compatible are collected and treated in the CES wastewater pre-treatment facility. Treatment is continuous and approximately 10,000 gallons per day is discharged to the POTW.

4.2 POTW INCOMPATIBLE WASTES

Incompatible wastes are collected in drums and bulk containers and labeled appropriately. Employees will label drums and classify them as hazardous and nonhazardous waste. These materials will be managed off-site.

4.3 RECYCLING AND REUSE

In some cases the heel and pre-rinse may be suitable for treatment at CES. Examples include caustic (used in caustic vat) and acids used to neutralize excess caustic in the wastewater treatment plant. Where possible, CES will recycle such chemicals for appropriate uses.

5.0 CHEMICAL MANAGEMENT

The CES facility utilizes cleaners, brighteners, detergents, etc. The table below summarizes the chemicals used at CES and the average and maximum quantity in storage at any given time.

CLEANER	AVERAGE QUANTITY	MAXIMUM QUANTITY
All-Brite	150 Gallons	300 Gallons
Fleet Wash #2	150 Gallons	300 Gallons
Ezee –Strip	100 Gallons	200 Gallons
Sodium Hydroxide	2,000 Lbs	4,000 Lbs

Spent cleaners including interior caustic washes, interior pre-solve washes, interior detergent washes and interior acid washes are analyzed and shipped off-site, when necessary.

CES reuses the cleaning chemicals continuously by re-circulating and reheating material drained from the trailers. At the point that the cleaner becomes ineffective in removing contaminants from trailers it is replaced with fresh cleaner. The spent solution is managed off-site. CES prefers to utilize nontoxic or "low toxicity" cleaning compounds where possible to minimize any potential adverse effects on its wastewater pre-treatment system, the POTW, and the environment, in general. Where possible, aqueous solutions are used rather than solvents. When solvents are utilized, for example to remove resins, a less hazardous solvent is utilized. Other waste minimization measures include minimizing the amount of hazardous waste generated through the use of nonhazardous solvents, minimizing the amount of heel in incoming trucks, and using the minimum effective amount of solvent or water for pre-rinse. See Attachment D for a copy of the facility's current "Notice of Registration" (NOR) with the Texas Commission on Environmental Quality (TCEQ).

6.0 PLAN ADMINISTRATION, TRAINING, RECORDS

6.1 PMP MODIFICATIONS

In the event of any changes made to pollution control system or a modification to the City of Houston, Public Works Department wastewater discharge permit, the PMP will be appropriately amended or modified as necessary, and a new certification statement will be prepared and submitted to the Public Works Department for review and approval.

6.2 TRAINING

The CES facility manager is responsible for ensuring that CES employees are properly trained in the requirements of this plan and that work practices at CES are in compliance with this plan. At least annually, all CES washrack employees will receive refresher training on the requirements of this plan. New employees will be trained in the requirements of this plan before they are allowed to work, except under the direct supervision of an experienced coworker or supervisor. Training requirements are listed in Attachment C.

6.3 RECORDKEEPING

CES will maintain records on truck trailers received for washing including the former contents of each truck trailer, heel management, any hazardous waste generated and employee training on the requirements of this plan.

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Attachment 4

1.0 PROCESS DESCRIPTION

The Methylene Chloride recovery process takes place in two parts, transloading, and water treatment. The inbound trucks contain two phases of liquid. The bottom phase contains MeCl2. The upper phase is an aqueous layer consisting of water with a small amount of dissolved MeCl2.

The incoming tank trailer containing MeCl2 and water will be placed on an existing concrete containment pad adjacent to the wash rack along with another tank trailer and a 550 gallon tote "interface vessel". The tank trailers are both connected to the interface vessel. Methylene Chloride is slowly decanted in batches from the bottom of the inbound trailer into the interface vessel. The material is allowed to settle briefly in the interface vessel and is then pumped from the interface vessel into the MeCl2 product trailer. Emissions from the trailers and the interface vessel are vented through a 450 gallon tote vessel containing diesel oil which acts as a scrubbing solution and then through an activated carbon canister to remove any residual MeCl2 vapor.

When the MeCl2 decanting and transfer process is complete, the liquid remaining in the hose is gravity drained into the interface vessel and a very small amount of air is used to clear the liquid in the line leading from the pump on the interface vessel into the MeCl2 storage trailer. The tank trailer containing mostly water with some residual MeCl2 is then moved to another area for the facility where additional processing is performed.

The water and any remaining MeCl2 in the tank trailer are pumped into a 10,000 gallon distillation tank. The distillation tank is then heated to approximately 120 F to remove MeCl2 from the water. The remaining water is tested to ensure removal of the MeCl2 and then sent to water treatment. The vapor phase from the distillation process containing MeCl2 and any evaporated water passes through a condenser where it is cooled to approximately 70 F and the condensed liquid is collected in a 250 gallon tote "accumulator vessel". Emissions of any uncondensed vapor from the accumulator vessel are routed to a diesel scrubber and then to activated carbon drums before being vented to the atmosphere. The material collected in the accumulator vessel is then transferred into the interface vessel from the transloading step of the process for phase separation and transfer into the product trailer.

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Attachment 5

NOTIFICATION FORM FOR RECEIVING AND RECYCLING HAZARDOUS OR INDUSTRIAL WASTE

The Texas Solid Waste Disposal Act Authorized the Texas Commission on Environmental Quality (TCEQ) to regulate all industrial solid waste and municipal hazardous waste activities in Texas. Use this form to notify the TCEQ of wastes which are to be received for recycling by your facility. **This form is not appropriate for generators of materials to be recycled. Generators should use Form #TCEQ-0525.**

All information is required for a complete notification, unless otherwise indicated.

TCEQ ID: 3 0 9 0 0 *(if assigned)*

INDUSTRIAL OR HAZARDOUS WASTE PERMIT NUMBER: 3 0 9 0 0 *(if assigned)*

COMPANY NAME: CES Environmental Services, Inc.

CONTACT PERSON: Matt Bowman TELEPHONE NUMBER: 713-826-1329 (cell) 713-676-1460 (office)

Skip to **1** if a TCEQ ID, or Permit Number has been assigned to your facility.

PHYSICAL ADDRESS: _____

_____ TX _____

MAILING ADDRESS: _____

_____ TX _____

1. **Describe the type of material to be recycled.**
A mixture of water (Approximately 59%), Methanol (Approx. 16%) and Methylene Chloride (Approx 25%) which has been used in the manufacture of pharmaceuticals

2. **Describe any storage of the material prior to recycling. If no storage occurs, write "none."**
None

3. **A. Describe how the material will be recycled.** The waste will come to CES in tank Trailers. The water and methanol partition out automatically, by gravity, as a separate phase. The methylene chloride partitions out as the bottom phase. The methylene chloride will be gravity seperated onto a separate tank trailer. The recovered methylene chloride will be sold as a solvent. The water/Methanol phase will be handled as a wastewater at the CES wastewater
B. Describe what purpose/function the material serves in the recycling activity. treatment facility.

The recovered methylene Chloride is a valuable product. It can be used in numerous solvent and degreasing applications.

Storage of material prior to recycling may require a permit as described in Title 30 Texas Administrative Code (TAC) Section (§)335.2 For more information on permitting requirements you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6595.

Any waste generated from recycling processes which involve industrial and/or hazardous waste is subject to all applicable requirements of 30 TAC Chapter 335. For information on waste notification forms, you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6412.

Please note that deed recordation as outlined in 30 TAC 335.5 is **not** required for the legitimate reuse/recycling of nonhazardous materials, even if land applied.

For additional information on recycling, please refer to 30 TAC 335.24 and/or Subchapter H.

Materials which are recycled remain subject to the General Prohibitions of 30 TAC 335.4. As described in this Section, recyclable materials may not

1) threaten the waters of the state, or

2) cause a nuisance, or

3) endanger human health and/or welfare.

Sign each form submitted or you may submit a cover letter with an original signature.

Authorized Representative:

Name: Matt Bowman
PLEASE TYPE OR PRINT

Signature: Matt Bowm Date: 5-23-07

Telephone Number: 713-826-1329 Fax Number: 713-676-1676

Return this form to:

TCEQ,
Industrial and Hazardous Waste Permits Division
Waste Permits Section, MC 130
P.O. Box 13087
Austin, Texas 78711-3087

Please be aware that the TCEQ may or may not require additional information after this form has been reviewed. TCEQ will contact you if additional information is needed.

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NOTIFICATION FORM FOR RECEIVING AND RECYCLING HAZARDOUS OR INDUSTRIAL WASTE

The Texas Solid Waste Disposal Act Authorized the Texas Commission on Environmental Quality (TCEQ) to regulate all industrial solid waste and municipal hazardous waste activities in Texas. Use this form to notify the TCEQ of wastes which are to be received for recycling by your facility. **This form is not appropriate for generators of materials to be recycled. Generators should use Form #TCEQ-0525.**

All information is required for a complete notification, unless otherwise indicated.

TCEQ ID: 3 0 9 0 0 *(if assigned)*

INDUSTRIAL OR HAZARDOUS WASTE PERMIT NUMBER: 3 0 9 0 0 *(if assigned)*

COMPANY NAME: CES Environmental Services, Inc.

CONTACT PERSON: Matt Bowman TELEPHONE NUMBER: 713-826-1329

Skip to **1** if a TCEQ ID, or Permit Number has been assigned to your facility.

PHYSICAL ADDRESS: 4904 Griggs Rd.
Houston TX 77021

MAILING ADDRESS: 4904 Griggs Rd.
Houston TX 77021

1. **Describe the type of material to be recycled.**
Spent Pharmaceutical solvents containing water, xylenes, toluenes, heptanes, and small amounts of pharmaceutical product and intermediate solids/powders.

2. **Describe any storage of the material prior to recycling. If no storage occurs, write "none."**
NONE

3. **A. Describe how the material will be recycled.**
First, the material will be filtered to remove suspended solids. Next, all water that has gravity separated will be removed. Next, if required, the material will be distilled to separate the solvents (xylenes, heptanes, toluenes) from the remaining water and dissolved solids/powders. The water will be properly treated and disposed. The clean solvents will be sold in a solvents market.

B. Describe what purpose/function the material serves in the recycling activity.
The solvents (xylene, toluene, heptanes) are now free of water and pharmaceutical products and intermediates. They are now highly valuable solvent products.

Storage of material prior to recycling may require a permit as described in Title 30 Texas Administrative Code (TAC) Section (§)335.2 For more information on permitting requirements you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6595.

Any waste generated from recycling processes which involve industrial and/or hazardous waste is subject to all applicable requirements of 30 TAC Chapter 335. For information on waste notification forms, you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6412.

Please note that deed recordation as outlined in 30 TAC 335.5 is **not** required for the legitimate reuse/recycling of nonhazardous materials, even if land applied.

For additional information on recycling, please refer to 30 TAC 335.24 and/or Subchapter H.

Materials which are recycled remain subject to the General Prohibitions of 30 TAC 335.4. As described in this Section, recyclable materials may not

1) threaten the waters of the state, or

2) cause a nuisance, or

3) endanger human health and/or welfare.

Sign each form submitted or you may submit a cover letter with an original signature.

Authorized Representative:

Name: Matt Bowman
PLEASE TYPE OR PRINT

Signature: Matt Bowman Date: 2-29-08

Telephone Number: 713-826-1329 Fax Number: 713-676-1676

Return this form to:

TCEQ,
Industrial and Hazardous Waste Permits Division
Waste Permits Section, MC 130
P.O. Box 13087
Austin, Texas 78711-3087

Please be aware that the TCEQ may or may not require additional information after this form has been reviewed. TCEQ will contact you if additional information is needed.

EPAHO119001417

NOTIFICATION FORM FOR RECEIVING AND RECYCLING HAZARDOUS OR INDUSTRIAL WASTE

The Texas Solid Waste Disposal Act Authorized the Texas Commission on Environmental Quality (TCEQ) to regulate all industrial solid waste and municipal hazardous waste activities in Texas. Use this form to notify the TCEQ of wastes which are to be received for recycling by your facility. **This form is not appropriate for generators of materials to be recycled. Generators should use Form #TCEQ-0525.**

All information is required for a complete notification, unless otherwise indicated.

TCEQ ID: 3 0 9 0 0 *(if assigned)*

INDUSTRIAL OR HAZARDOUS WASTE PERMIT NUMBER: 3 9 0 4 9 *(if assigned)*

COMPANY NAME: CES Environmental Services, Inc.

CONTACT PERSON: Jay Baker TELEPHONE NUMBER: 281-701-8511

Skip to 1 if a TCEQ ID, or Permit Number has been assigned to your facility.

PHYSICAL ADDRESS: _____

_____ TX _____

MAILING ADDRESS: _____

_____ TX _____

1. **Describe the type of material to be recycled.**
Line flush from manufacturer of EVOH. Contains Vinyl Acetate, Methanol, water and methylene acetate as well as some Ethylene vinyl alcohol and ethylene vinyl acetate

2. **Describe any storage of the material prior to recycling. If no storage occurs, write "none."**
none

3. **A. Describe how the material will be recycled.**
Dual-stage ~~wate~~ solvent extraction to separate the vinyl acetate from methanol layer. Methanol and water phase will then be distilled to separate methanol and water. Methanol and vinyl acetate will be used as products.

B. Describe what purpose/function the material serves in the recycling activity. Water removed will be treated in accordance with federal, state, and city regulations.
Source of vinyl acetate and methanol

Storage of material prior to recycling may require a permit as described in Title 30 Texas Administrative Code (TAC) Section (§)335.2 For more information on permitting requirements you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6595.

Any waste generated from recycling processes which involve industrial and/or hazardous waste is subject to all applicable requirements of 30 TAC Chapter 335. For information on waste notification forms, you may contact the Industrial and Hazardous Waste Permits Section at (512) 239-6412.

Please note that deed recordation as outlined in 30 TAC 335.5 is **not** required for the legitimate reuse/recycling of nonhazardous materials, even if land applied.

For additional information on recycling, please refer to 30 TAC 335.24 and/or Subchapter H.

Materials which are recycled remain subject to the General Prohibitions of 30 TAC 335.4. As described in this Section, recyclable materials may not

1) threaten the waters of the state, or

2) cause a nuisance, or

3) endanger human health and/or welfare.

Sign each form submitted or you may submit a cover letter with an original signature.

Authorized Representative:

Name: Joy Baker

PLEASE TYPE OR PRINT

Signature: Joy Baker Date: 11/6/08

Telephone Number: 281-701-8571 Fax Number: 713-748-8664

Return this form to:

TCEQ,
Industrial and Hazardous Waste Permits Division
Waste Permits Section, MC 130
P.O. Box 13087
Austin, Texas 78711-3087

Please be aware that the TCEQ may or may not require additional information after this form has been reviewed. TCEQ will contact you if additional information is needed.

TCEQ-0524 (Rev. 1/2005)

November 10, 2008

To: Firebird Bulk Carriers

From: CES Environmental Services

I, Brian WARD, picked up 3 drums from Tank Trailer 360 with the last contained "fuel oil" that was here at CES since 10/20/08.

Thank you,

Driver: Brian Ward

Witness: [signature]

Time: 1022

Date of Pickup: 10/10/08

Phoenix Oil, Inc. 43512
P.O. BOX 638
Humble, Texas 77347-0638
(281) 446-5029
TCEQ:A85264 • EPA: TXD490014149

1/10 20 08

Received CES Enviro Cust.* _____

Address Houston, TX

Deliver To Phoenix Oil, Inc
Humble, TX

60 with the last

Grav _____ Temp _____ BS&W _____

Factor _____ Weight 3

Gross Gals _____ Net Gals _____

Gross Bbls _____ Net Bbls _____

Quantity	Description	Amount
3 drums	dirt from cleanout of trailer 360	

Driver _____ Total _____

Truck # T-17 Trailer # _____

The customer warrants title to all oil sold and delivered and warrants that such oil shall be free from all royalties, liens, and encumbrances and that all taxes applicable shall have been paid. The customer warranties that the crude oil and/or fuel oil covered hereby meets the quality specifications set forth above and that said oil meets standard E.P.A. limits. The customer agrees to file all required federal, state and local reports. It is understood and agrees that title to above oil shall pass at the loading flange of buyers specified plant then at the plant unloading flange.

Signature _____

Marlin Moser

From: Matt Bowman
Sent: Friday, November 14, 2008 8:15 PM
To: Greg Bowman; Marlin Moser
Subject: FW: Data Request and Site Visit

From: Sharareh Rafati [mailto:SRafati@tceq.state.tx.us]
Sent: Friday, November 14, 2008 11:50 AM
To: Prabhaker Thangudu
Cc: Karl Guidry; Matt Bowman; Barbara Johnston; Billie Zaporteza; Nicole Bealle; Rama Yadav; pevans@wcmgroup.com
Subject: Data Request and Site Visit

Prabhakar,

I am planning to come site visit on Wednesday, November 19. I've listed some questions below about the PBRs and also have requested some records that I would like to review on Wednesday.

Oil Recovery PBR 83798
Application Dated January 2, 2008 [Certified with PI-7-CERT]

Page 3: Loading and unloading of hydrocarbons is vapor balanced to the storage tank.

oily water, base oil, mixed molecular wt hydrocarbons max 30/0 each, balance H2O

TCEQ Question (1-1): How does CES verify this claim?

operating procedure;

Attachment A – Emissions Summary table: The emissions summary table lists the emissions calculated from all activities in the Oil Recovery PBR and speciated by VOC component. CES stated that there are two process trains under this PBR. One process train is for the treatment of "Oily Water" which is waste lube oil from petroleum refineries that is contaminated with water, and contains various VOCs which are speciated in the calculations; a centrifuge is part of the separation process in the "Oily Water" process train. The second process train is for the treatment of "Base Oil" which is lube oil from "line flush" activities at petroleum refineries; "Base Oil" does not contain VOCs because it is basically un-used lube oil and has not been through combustion process in a combustion engine. Vacuum distillation is part of the separation process in the "Base Oil" process train.

may be a check list for operators

TCEQ Question (1-2): Why are the emissions from the centrifuge not speciated? - we do not run light ends thro' the centrifuge

CES Response (1-2): "The mixed molecular weight hydrocarbons are not emitted from this source. As described in the process description of the PBR registration, the aqueous mixed molecular weight hydrocarbon is transferred to tank TO-9 and the organic phase is decanted off the top and transferred to a tank truck for shipment. This stream is not processed in the centrifuge."

EPAHO119001422

TCEQ Follow-up question: If there are no "light ends" in the material processed in the centrifuge, how does CES explain the odors from the centrifuge? oil has an odor;

TCEQ Question (1-3): Is the material recovered in the centrifuge classified as hazardous waste? ~~Solids~~ NO. got analytical ready, TCLP tested as non-haz;

Records Request (1-a): Waste manifests for material recovered in the centrifuge. Goes with Class 1 waste as we are TSDF - look for centrifuge solids analytical

Attachment A – Transport Vessel Loading: The loading emissions are calculated based on LL emission factor determined from AP-42 [LL (lb/hr) = 12.46 SPM/T]. However, CES claims that the loading is vapor-balanced to the storage tank, and there are no loading emissions, and that emissions are only from cleaning the transfer pipe. The vapor pressure is from MSDS sheets which lists the vapor pressure from 0.01 to 0.1 psia. The emissions of storage tanks are calculated based on 0.01 psia, and the emissions from distillation operations are estimated based on 0.1 psia.

Records Request (1-b): MSDS or analytical data to verify vapor pressure. Talk to Philip

Attachment A – Tank Emission Calculations: The tank emissions are calculated by using 0.01 psia as the vapor temperature in the tank. However, on Page 3 of the application it is stated that "Because the oil handling tanks are heated to approximately 200 F, the higher vapor pressure of 0.1 psia is used."

TCEQ Question (1-4): Why 0.01 psia is used in all tank calculations? Aren't the tanks heated? Philip

TCEQ Question (1-5): Why only OT-9 is speciated for emissions? Philip

Attachment A – Vacuum Distillation calculations: The vacuum distillation is calculated from the exit concentration of VOCs in the vent and the flowrate to the exit gas. The vapor outlet concentration is calculated by: 0.1 psia/14.7 psia * 100 = 0.68%. The flowrate of vent stream is calculated by: 1.34 cu ft per min * 60 min/hr.

Attachment B – PBR Authorization By Equipment: The Centrifuge and Distillation are listed as having been authorized by storage tank PBR 106.472(1) but these sources do not qualify for this PBR.

Form PI-7-CERT: The number of employees in Section III of the form is listed as less than 100 employees, but according to Matt Bowman (President) on November 5, 2008, 150 people employed at the site. ✓

Records Request:

(1-c) List of dates on which "Oily Water" and "Base Oil" were processed in 2007 and 2008 under the Oil Recovery PBR as required by 106.8.

(1-d) Emission records that show compliance with the emission limits as represented for Oil Recovery PBR for 2007 and 2008 as required by 106.8

LIST OF LOADS

Ryan doing the list, Philip to calculate

↳ Ryan to send records to Philip

EPAHO119001423

Standard Permit 86272
Application Dated September 26, 2008

This Standard Permit is for the authorization of a regenerative thermal oxidizer (RTO) to be used for the control of all equipment in the Oil Recovery area.

Table 1(a): The emissions of VOCs are not represented on Table 1(a). CES claims that VOC emissions are authorized in the Oil Recovery PBR 83798. However, VOC emissions should be represented since only 95% of the VOCs are destroyed.

Records Request: (2-a) Obtain RTO records showing all records (showing compliance with 95% DRE) from beginning of operation to present date:

* inlet temperature,
* oxidation chamber temperature, and
* air flow rate.

GRAPH

Joe to give the graph to Prabhakar ✓

EPAHO119001424

Watewater Treatment PBR 84713
Application Dated April 16, 2008 [Certified with PI-7-CERT]

Page 1 – Process Description: CES states that "The wastewater mixture is received via tank truck or isocontainer and transferred into a 10,000 gallon wastewater treatment tank (T-1) using a tank-to-tank vapor exchange....The first stage is oxidation of the isobutylene and sulfides with a 10% solution of hydrogen peroxide." However, oxidation used in tank T-1 is a chemical reaction and therefore, 106.472 cannot be used.

Exemption 106.472 Checklist: CES answers "yes" to the second question on the checklist while an oxidation process takes place.

TCEQ Question (3-1): How is the "tank-to-tank" vapor exchange documented? A system in place to do it . 12 loads processed here

Records Request: (3-a) List of dates on which SIB wastewater was processed under the Wastewater Treatment PBR in 2007 and 2008 as required by 106.8 ✓

(3-b) Emission records that show compliance with the emission limits as represented for SIB PBR as required by 106.8

Ry can to formulate the list to martin to WCM

EPAHO119001425

Methylene Chloride Recovery PBR 83191
Application Dated October 19, 2008 [Certified with PI-7-CERT]

This PBR is for the authorization of Methylene Chloride Recovery through a physical separation process. All processing equipment in this PBR is routed to "diesel scrubber" tower where diesel fuel is used as the scrubbing medium and activated carbon system. The outlet of the carbon canisters is monitored at 100 ppm VOC to indicate breakthrough. The wastewater is sent to the on-site wastewater treatment process and the treated wastewater is routed to City of Houston POTW. CES claims that Methylene Chloride recovery is conducted on sporadic basis. CES states that the hose connections are drained to tankage before being disconnected.

In this PBR, the loading activities are represented at 125 ft from off property receptor and the distillation operation for the recovery of Methylene Chloride is represented at 200 ft from off-property receptor.

Records Request:

(4-a) The dates on which Methylene Chloride was processed in 2007 and 2008 as required by 106.8
not a D code ~~because~~ NO waste manifest documents

(4-b) Copies of waste manifests and log sheets for carbon canister change-outs on 9/5/08, 9/10/08, 9/18/08, 9/26/08, 10/1/08, 10/7/08. 10/9/08, 10/10/08.
None

(4-c) Scrubber maintenance logs on 10/11/06, 6/5/07, 11/29/07, 12/4/07, 1/17/08, 3/14/08, 4/22/08, 5/8/08, 5/10/08, 5/15/08, 5/15/08, 5/19/08, 6/5/08, 6/10/08, 6/11/08, 6/14/08, 6/17/08, 6/25/08, 7/3/08, 7/11/08, 7/16/08, 7/24/08, 7/25/08, 7/26/08, 7/27/08, 7/28/08, 7/29/08, 7/30/08, 7/31/08, 8/2/08, 8/7/08, 8/8/08, 8/11/08, 8/12/08, 8/13/08, 8/15/08, 8/16/08, 8/20/08, 8/23/08, 8/25/08, 9/3/08, 9/4/08, 9/5/08, 9/6/08, 9/23/08, 9/30/08, 10/1/08, 10/16/08, 10/18/08, 8/23/08, 8/24/08, 10/27/08, 10/28/08, 11/6/08.
No logs because it was not required.

(4-d) Emission records that show compliance with the emission limits as represented for Methylene Chloride PBR as required by 106.8

Ry can to formulate to Marlin to WCM

100 ppm break through methylene chloride

EPAHO119001426

Truck Washing Permit Exemption X-15980
Initial Authorization Granted on May 22, 1985

Authorization was initially granted on May 22, 1985 to Younger Brothers, Inc. for truck cleaning facilities, which authorized cleaning of empty tank trucks containing only materials listed in an "Approved Chemicals List" attached to the permit exemption. The approved chemicals included: Gasoline, Liquid Resins (e.g. Styrene), and Refinery Petroleum Products containing less than 10% Benzene. Chemicals not listed on the Approved Chemical List were required to obtain a separate authorization by the procedures listed in Attachment I of the exemption. Cleaning of odorous materials was to be conducted by routing the vapors through a caustic scrubber with a minimum pH of 12.0.

The following information is required by this exemption: Number of tank trucks cleaned, and Tank truck contents and date of cleaning.

TCEQ Question: (5-a) Which scrubber controls emissions from truck washing area? None

Records Request: (5-b) Scrubber log sheets from 1/1/2008 through 12/31/2008. None

(5-c) Number of tank trucks cleaned from 1/1/2008 through 12/31/2008. in access

(5-d) Contents of tank trucks and dates of cleaning from 1/1/2008 through 12/31/2008. in access

Sharareh Rafati
Field Operations, TCEQ - Region 12 Air Section
5425 Polk Avenue, Suite H
Houston, TX 77023-1423
713-767-3604 (Office)
713-767-3761 (Fax)
srafati@tceq.state.tx.us

EPAHO119001427

Scrubber #1 waste water
#2 oil process area

Vapor Balance

Breathing losses, evaporation losses

all applicable

① SOP copies for CES + Waste water operations ~~SOP~~ SOP

1-2 : MSDS for oil

② CES Fuels analytical – Speciation for the VOCs in %

③ Copy of permit for Truck wash – copy of PBR – Original Application – needs to see representation for truck wash

④ List of Shipments from truck wash water to outside facilities – manifest records of

⑤ Add to checklist Carbon change out dates

Eq

DOCUMENT REQUEST LIST
RCRA Compliance Evaluation Investigation

Ryan

General Procedure

The Compliance Evaluation Investigation (CEI) will consist of a **record review** and a **site investigation**. The records evaluation generally will proceed in two stages. First, the TCEQ Investigator will identify various records to be reviewed. Generally these records will date back three years from the present, but some of the records will be for specific time periods. Second, according to a schedule to be developed on-site, the investigator will review the records and request copies, as needed. Additionally, document copies may be requested at a later date for review at the TCEQ regional office. The investigator will have a camera onsite to document areas of concern during the field portion of the investigation. So that we may utilize the inspection time most efficiently, it is requested that you assemble and have available the following information, **if applicable**, on the date of the investigation:

1. Facility map or sketch showing location of all waste management units, including satellite accumulation areas. ✓

2. Brief description of facility operations and process areas, including simplified process flow diagrams. ✓

3. Current copy of Notice of Registration (NOR). ✓

4. List of tanks that manage wastes. Include the following for hazardous waste tanks: tank identity, NOR #, location, date/year put into service, whether or not tank has secondary containment, wastes handled; tank system assessment records. ✓

5. List of all container storage areas and satellite accumulation areas with their locations. Include the number and types of containers and their contents present at each location (at time of investigation). ✓

6. List of all closed or abandoned solid waste management units. Include date and closure documentation. ✓

7. List of primary off-site disposal/treatment/recycling facilities utilized. Waste Management, Republic, Rineco, Newpark

Ryan 8. Waste classification documentation.

9. All supporting data for land disposal restriction (LDR) determinations made using knowledge of waste, or waste analyses. – In the folders in Melba's office

10. Annual waste summaries (at least 3 years) and last Biennial Report. HSE office

11. Waste shipment summaries (out-of-state only) for at least 3 years. HSE office, part of Annual Waste Summaries

12. "Used oil and used oil filter" management records. Atlantic

13. Monthly waste receipt summaries. Disposal facility

14. Waste Analysis Plan. part of SOP

15. Notifications for any hazardous waste intended to be exported. not applicable

16. Waste shipping manifests, and LDR notices and certifications (past 3 years). Archive Room

17. Exception reports for any manifests not received back from designated TSD facilities. not applicable

18. Inspection schedule, inspection logs for all monitoring equipment, safety and emergency equipment, security devices, operating and structural equipment. – Access & Ryan's office.

19. Container storage area and tank inspection logs. Ryan's office; Loren

20. Employee training plan, training records for Hazardous Waste handlers, including job titles and descriptions, name of each employee, documentation of the type and amount of training each employee has received. – Access, Training Records

21. Current contingency plan and evidence it has been submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

22. Summary reports and documentation of all incidents that required implementation of the contingency plan (past 3 years). not applicable

23. List and description of all emergency response equipment onsite with their locations. Karl

24. Arrangements with police, fire departments, hospitals, and emergency response agencies. Karl
Memrial Herman Hospital – occupational Health Dept

n/a 25. Unmanifested waste reports for any hazardous waste received from off-site without accompanying manifests.

26. Reports for any releases to the environment (reportable and nonreportable). HSE office

27 Source Reduction and Waste Minimization Plan (Pollution Prevention Plan) and annual progress reports. Karl & HSE

n/a 28. Deed recordation documents for closed solid waste land disposal units.

Ryan 29. Notification forms for recycled hazardous or industrial wastes.

30. Air and wastewater permit numbers, if any. HSE & WCM

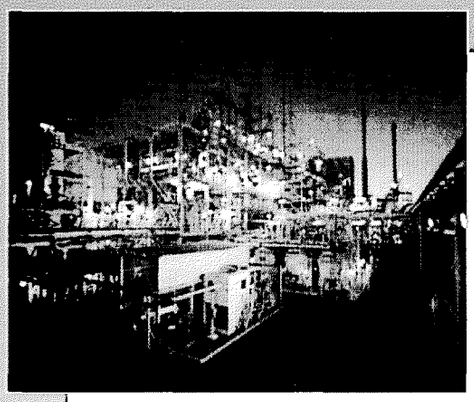
31. Financial Assurance documentation. HSE office

n/a 32. Information on RCRA groundwater monitoring status.
- Site map locating each monitoring well and associated waste management unit
- Changes to the RCRA Monitor Well System since the last Groundwater Monitoring Inspection or facility RCRA Compliance Evaluation Inspection
- Sampling and Analysis Plan

ENTECH Engineering Inc.

Quality Air Emissions & Combustion Performance Testing

www.entechengineeringtexas.com



Environmental Services

Entech Engineering comprises a group of air emission and combustion specialists involved in reducing air emissions and improving performance on a wide variety of processes.

Online Pollutant Analysis by CEMS

- Sulfur Dioxide (SO_2) - RM 6C
- Nitrogen Oxides (NO_x) - RM 7E
- Carbon Monoxide (CO) - RM 10
- Volatile Organic Compounds - RM 18
- Total Hydrocarbons (THC) - RM 25A
- Excess Oxygen (O_2) &
- Carbon Dioxide (CO_2) - RM 3A

Grab-Sample Pollutant Sampling

- Total Particulate (TSP or PM) - RM 5
- Sulfur Oxides (SO_2/SO_3/etc.) - RM 8
- Hydrogen Sulfide (H_2S) - RM 11
- Halides/Halogens (HCl/etc.) - RM 26
- Multi-Metals - RM 29

Volatile Organic Compound Sampling

- Gaseous Organics - RM 18
- Volatile Organics - EPA Method 0030
- Modified Method 5 for Semi volatile Organics - EPA Method 0010
- Dioxins / Furans - EPA Method 0023

Ambient Air Testing

- Sulfur Dioxide (SO_2) - Part 50, Apx. A
- Total Suspended Particulate (TSP) - Part 50, Apx. B
- Ozone (O_3) - Part 50, Apx. D
- PM_{10} - Part 50, Apx. J

ENTECH Engineering Inc

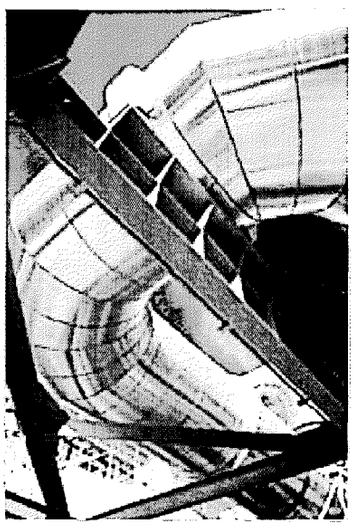
Entech Engineering is an engineering consulting firm established in Houston's Clear Lake Area to serve the chemical, petrochemical, utility, paper, cement and other industrial clients both nationally and internationally. Entech brings to its customers more than a century of combined experience in air emission and combustion performance testing. With areas of expertise ranging from NO_x reduction, air pollution abatement, Continuous Emission Monitoring Systems (CEMS) certifications, to numerous other environmental services, Entech Engineering has customized solutions to fit the needs of individual clients worldwide. Entech Engineering's general areas of expertise include:

- **Compliance Testing**
- **CEMS Certifications**
- **NO_x Evaluation & Abatement**
- **Trialburn, Riskburn, 40CFR63EEE CPT, 40CFR266 BIF**
- **Fenceline & Perimeter Testing**
- **Combustion Performance & Guarantee Testing**
- **Wide Variety of Organic Compound Testing**
- **HRVOC Vents, Flares, & Cooling Testing**
- **Contingency Response Sample Collection & Laboratory Analyses**

Data Quality Objectives

Entech's Data Quality Objectives (DQOs) are guidelines for obtaining quality data that are representative and indicative of the source being tested. Prescribed procedures are strictly adhered to and are intended to ensure that adequate DQOs are set and achieved.

- **Precision**
- **Accuracy**
- **Representativeness**
- **Comparability**
- **Completeness**



408 East Main Street • League City, Texas 77573 USA
281.332.3118

ENTECH Engineering Inc.

– Client List –

Chemicals & Petrochemicals

BASF Corporation
BASF FINA Petrochemical Corporation
Bayer Corporation
Chevron Phillips Chemical Company
ConocoPhillips
Enterprise Products Company
Equistar Chemicals LP
Exxon Mobil Chemical Company
Formosa Plastics Corporation, Texas
Huntsman Corporation
Koch Industries
Linde Gas Company
Lyondell Petrochemicals, Inc.
Pfizer Corporation (Pharmacia Corp.)
Praxair Inc.
Rhodia Inc.
Zeon Chemical Inc.

Cement, Metallurgical & Rare Earths

Holcim (US) Incorporated
Walbar Metals (A BF Goodrich Subsidiary)

Utilities

Reliant Energy
AES Deepwater Inc.
Jamaica Energy Partners
Mirant Corporation
Wartsila NSD Nederland B.V.
Jamaica Public Service Company

Other Companies

Chambers County Solid Waste Department
LBC Houston, LP
ODFJELLS Terminals Baytank Inc.
Waste Management Of Texas Inc.
KM Liquids LLC
Kirby Inland Marine
EOG Resources

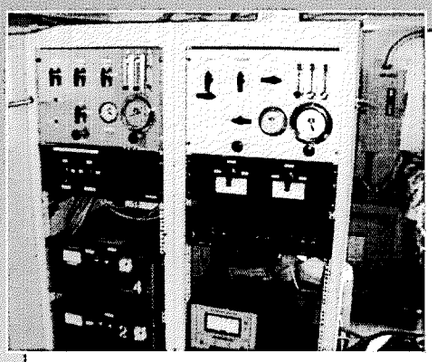
QUALITY • ACCURACY • RELIABILITY

ENTECH ENGINEERING INC.

Air Emission & Combustion Performance Testing

BILLY T.Y. LEE, P.E.
President

P.O. Box 890746
Houston, Texas 77289-0746
(281) 332-3118
Fax (281) 332-4035
blee@entechengineeringtexas.com



Entech Engineering Inc.

408 East Main Street
League City, Texas 77573 USA
281.332.3118

Professional Testing Services

Entech Engineering has conducted emission performance test, NSPS emission compliance tests and Continuous Emission Monitoring (CEMS) tests nationwide. Entech is thoroughly familiar and trained in all EPA / State environmental sampling methodologies and performs the associated emissions testing. Entech is accredited by the Louisiana Department of Environmental Quality (LDEQ) in field testing and laboratory analysis and Texas NELAC on air emissions laboratory analysis. Entech has also assisted many clients in formulating sampling procedures and proper testing methodologies to obtain accurate and representative emissions data and performs the following source sampling:

- EPA / State Compliance Tests
- CEMS Selection & Certification
- Trial Burn Testing
  (RCRA Incinerator Testing)
  (BIF Testing)
  (40CFR63EEE CPT)
- Emission Inventories & Abatement

Knowledge

Experience

Excellence

To find out more about our services, to request a consultation, or to review a statement of qualifications please contact Entech Engineering directly at 281.332.3118 or visit us online anytime!

www.entechengineeringtexas.com

State Of The Art Equipment

Entech Engineering operates state of the art equipment in their mobile emission laboratories using online analyzers and sampling trains to measure air emissions. These mobile emission laboratories are custom built by Entech personnel to provide flexibility and versatility in conducting combustion performance tests and in establishing emission profiles for compliance. The emissions laboratories have been proven extensively in the field on a wide variety of study and compliance test programs for governmental and industrial clients. Entech Engineering routinely performs real time source emission sampling of the following:

- NO_x, NO_2, NH_3, SO_2, CO, O_2, VOC, H_2S, TRS, THC, HCl, Cl_2, Multi-Metals, Particulate, PM10, Sizing, Carbon, Toxics, Hazardous Waste
- Volatile Organic Sampling Train (VOST), Modified Method 5 (MM5)
- Online Gas Chromatography
- Laboratory Analysis

Q7

Attachment "C"

RASGAS

Tender Response Requirements

Question 7

Environmental Audit Program

Q7

ENVIRONMENTAL AUDIT PROGRAM

CES Environmental Services, Inc.

June 2007

Environmental Management Plan
June 2007

Written by Karl Guidry
HSE Manager

Q7

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ENVIRONMENTAL AUDIT PROGRAM
CES ENVIRONMENTAL, INC.

1.0 INTRODUCTION

The management and personnel of CES Environmental, Inc. (CES) realize and acknowledge the importance of preventing environmental excursions and incidents from occurring as it relates to the navigable waters of the United States and preventing any harmful effects of our facility operations to the environment. The following Environmental Management Plan is designed to serve two purposes to help protect the environment.

- First, it provides the facility management guidelines which will be used to prevent environmental excursions and incidents from occurring.

- Second, should a excursions or release occur, it describes the actions to stop the excursions and minimize any harmful effects, including notifications of appropriate government agencies as required under federal and state regulations.

Management is committed to ensuring that CES Environmental, Inc. maintains the manpower, equipment and materials required to expeditiously control and remove any quantity of product that may be discharged by the facility. This commitment is to ensure the safety of personnel, prevent any discharge to any navigable waters and to protect human health and the environment.

For the purpose of handling excursions responses effectively, this ENVIRONMENTAL MANAGEMENT plan provides: the location of product storage areas; proper storage and usage management procedures to be followed; equipment available; and available outside resources.

This ENVIRONMENTAL MANAGEMENT plan was developed in accordance with the requirements of Title 40 CFR Part 112, and the applicable requirements of the TCEQ. This facility is not considered a "Substantial Harm" facility as defined in 40 CFR 112. This determination is based on the product storage and transfer activities conducted at the facility.

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1.1 Management Approval

This ENVIRONMENTAL MANAGEMENT Plan, required under 40 CFR Parts 112, amended April 2003 will be implemented as described herein, and is approved by:

_____ Date:

Mr. Matt Bowman
President
CES Environmental, Inc.

A. Purpose

This environmental management system summarizes the requirements of internal environmental audit protocols and practices to be conducted by CES Environmental Inc. The audit team members will consist of a cross section of facility personnel ranging from HSE Managers, Operations, Maintenance and Administrative).

B. Objectives:

The compliance status of the plant with respect to applicable federal, state, and local laws and regulations;

The plant's conformance with internal environmental policies and procedures as established by CES Environmental; and

The environmental management systems which currently exist at the plant.

The objective of this report is to communicate our audit findings and recommendations to CES Environmental management, the Office of the President of CES Environmental, Inc. It is not meant to imply legal certification of compliance or noncompliance.

C. Scope

The scope of the audit will include issues within each of the following functional areas:

Water Pollution Control

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Solid and Hazardous Waste Management
Spill Control and Emergency Planning

Special attention will be given to the issues noted in an audit completed prior to June 2007 by the Environmental Task Force. The findings of previous audits are to be addressed individually within the final report, and a summary list of those findings is to be included as Appendix 1 in the final report.

D. Approach

The field work of the audit is to be completed within a four day period, preferably a Monday – Friday schedule. The period under review should be determined in January of the operating year. The audit should be based on:

Physical inspections of the plant;

Examination of environmental operating records and documentation;

Interviews and discussions with key plant people; and
Verification procedures designed to assess the plant's application of, and adherence to environmental laws and regulations, and plant policies and procedures.

The process by which this audit is to be conducted is consistent with the general state of the art of environmental auditing and the best professional judgment of the audit team members. The audit will follow an audit protocol provided by HSE Managers, Mr. Karl Guidry and Prabhakar Thangudu which was developed for the CES Environmental audit. It should be understood that the audits will consist of evaluating a sample of the total information available and will be conducted in a short span of time relative to the review period. The audit will be directed at following up on previously noted issues and sampling major facets of environmental performance during the period under review. This method is intended to uncover major deficiencies identify any and all potential problems.

E. Report Format

The report will focus on the current status of issues noted in the audit to be completed by the CES Environmental Task Force and new issues identified by the audit team. Where exceptions to regulatory standards are identified, specific references to laws and regulations are provided. In other cases the Audit Team will identify situations that do not relate to specific regulatory requirements but which deviate from company policy or, in the opinion of the audit team, from good

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environmental management practices and present potential liabilities. The report will also include recommendations for managing identified problems.

Section II includes the overall audit teams' opinion and specific audit findings by functional area. Within each functional area this report will provide information on the current status of noted issues, findings, observations and exceptions from the current audit, and recommendations. All exceptions include a recommendation specific to that exception. The audit findings also will include observations of other items that, in the opinion of the audit team, meet or exceed good management practices or regulatory requirements; these items will be identified as "Observations." Finally, each exception includes the response of Company Officers to the exception.

1.2 Engineering Certification

No technical changes have been made in this June 2007 version of the CES Environmental, Inc. Environmental Management Plan.

Responsibility for Discharge Prevention

Mr. Karl Guidry and Mr. Prabhakar Thangudu are the facility Environmental Managers and are responsible for discharge prevention as required under 40 CFR 112.7(f)(2).

Plan Amendment

In the event this facility has discharged (as described in CFR 112.1(b)) more than 1000 US gallons of product in a single discharge or discharged more than 42 US gallons of product in each of 2 discharges occurring within any 12 month period, CES Management will report the information per 112.4, review the circumstances causing the event and amend this plan as necessary. Every five years the Environmental Management plan will be reviewed for completeness by CES Management and amended as necessary. Further, all future modifications and changes in operations at the CES facility which materially affect this plan will be incorporated into a revised plan within 6 months after such changes occur per 40 CFR 112.5.

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2.0 FACILITY EXCURSIONS PROTECTION

2.1 Facility Layout Description 40 CFR 112.7(a)(3)

CES Environmental Services, Inc. provides compliant, safe, innovative and cost-effective hazardous and non-hazardous waste management solutions for the petrochemical, manufacturing, and other industries, as well as municipalities in the Houston, TX area. The company started in 1999 with the goal to provide excellent service and competitive pricing in the environmental services industry. Their services include hazardous and non-hazardous waste sampling, analysis and classification, packaging, transportation and disposal, recycling alternatives, tank and sump cleaning services, remediation services, pressure washing services, chemical cleaning services, small scale emergency response, small scale demolition services, fuel filtration, training, and regulatory assistance.

The CES plant is located at 4904 Griggs Road in southeast Houston, Texas. The nearest navigable water body is the Macgregor Bayou which is located to the northwest of the facility. Macgregor Bayou discharges into the Houston Ship Channel and thence to Galveston Bay.

The facility is constructed to contain precipitation which falls within the areas which have product storage as well as any equipment that uses petroleum products in the normal course of operations. Storm water may flow off of the property uncontrolled from parking areas and plant entrances. In the event of a product excursions or release, it is possible that product may be carried off-site with storm water but highly unlikely due to the construction of the plant site drainage system and the product control procedures employed at the site.

Based on review of the Texas Commission for Environmental Quality (TCEQ) Coastal Region Excursions Response Map series, there are five water intakes within 5 miles downstream of Macgregor Bayou entrance into the ship channel. No other environmentally sensitive areas were identified within 5 miles downstream of the facility.

Petroleum based materials which may be stored at the facility include:

- Diesel Fuel
- Light Ends
- Lubrication Oil
- Oily Wastewater
- Used Oil
- Lubricating Oil
- Filter Press Cake.

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2.2 Storage Areas

Product is stored in fixed tanks, portable tanks and in drums in several locations throughout the site. All fixed product storage tanks are steel vessels constructed on concrete or gravel pads with concrete curbs or walls or earthen containment dikes. Portable tanks and drummed materials are stored on concrete pads equipped with containment curbs or collection troughs. Process water and areas of potentially contaminated storm water are discharged from this facility after receiving appropriate treatment and thence to a publicly owned wastewater treatment facility (POTW). Storm water runoff from some areas of the facility discharges to drainage ditches and thence to navigable waters and is the most probable route, though still a remote possibility, that would result in the release of petroleum based products to the environment from the facility.

The product storage tanks at the facility are identified in the following table. This table includes the location and storage capacity of each tank as well as the type of secondary containment used to prevent potential releases to the environment.

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TABLE 2-1

PRODUCT STORAGE AREA SUMMARY

STORAGE UNIT	LOCATION	CAPACITY (Gallons)	DATE OF SERVICE	MATERIAL	SECONDARY CONTAINMENT
Waste Mgmt Unit 101		2000	2002	Welded Steel	Concrete Curb
Waste Mgmt Unit 108	CWT	6500	2005	Welded Steel	Concrete Curb
Waste Mgmt Unit 110	CWT	6500	2005	Welded Steel	Concrete Curb
Waste Unit Mgmt 111	CWT	6500	2005	Welded Steel	Concrete Curb
Waste Mgmt Unit 112	CWT	6500	2005	Welded Steel	Concrete Curb
Waste Mgmt Unit 113	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 114	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 115	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 116	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 117	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 118	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 119	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 120	CWT	6500	2005	Welded Steel	Concrete Building Wall
Waste Mgmt Unit 121	CWT	6500	2005	Welded Steel	Concrete Building Wall

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Waste Mgmt Unit 122	CWT	6500	2005	Welded Steel	Concrete Building Wall

[1] Precipitation volumes are based on 8.5 inches of rain

[2] Precipitation volume and containment capacity will be determined during modification of secondary containment system; see compliance schedule.

2.3 Discussion of Site Product Prevention

Prevention of product discharge due to excursions from product storage areas at the facility are accomplished at the various storage locations as described below:

- Diesel Fuel Tank and Unleaded Gasoline Tank - These two tanks are elevated horizontal steel tanks each having a attached hose and nozzle used for delivery of fuel to vehicles, machinery and/or portable tanks. Both tanks are 500 gallon capacity and are supported on independent steel frames. These are stand alone tanks and the only way to fill these tanks is through a filling nozzle at the top of each tank from a bulk diesel fuel delivery truck. The fueling nozzles are placed into overhead hangers when not in use which are inside the containment area. The diesel fuel storage tanks are contained in a concrete secondary containment system designed to contain any diesel fuel excursions from these tanks. Level indication is by line of sight as the tanks are being filled, the filling operator must physically place the filling nozzle into the tank filling port and visually verify the container level through this port as it is filled.

  Operating personnel are present the entire time the tanks are being filled from a bulk diesel fuel delivery truck and can immediately stop the tank filling if there are any leaks from the tanks or the delivery truck. Any tank leaks or excursions are contained by the secondary containment system that the tank is located in. Any tank loading or offloading activities that would result in leaks or excursions will be contained by portable excursions containment materials that will be available at the loading site during any offloading or loading activities. Operating personnel are present during any plant equipment tank filling activity. A large excursion outside of the containment area will be contained by blocking the area drain that directs area runoff to the retention ponds and cleaned at the local excursions site. As a final protective barrier any excursions of diesel fuel that escaped the immediate area will be contained where it can be disposed of with the use of absorbent materials.

  A floating product retention boom will be maintained across the surface of the spill

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Waste Mgmt Unit 122	CWT	6500	2005	Welded Steel	Concrete Building Wall

[1] Precipitation volumes are based on 8.5 inches of rain

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  Operating personnel are present the entire time the tanks are being filled from a bulk diesel fuel delivery truck and can immediately stop the tank filling if there are any leaks from the tanks or the delivery truck. Any tank leaks or excursions are contained by the secondary containment system that the tank is located in. Any tank loading or offloading activities that would result in leaks or excursions will be contained by portable excursions containment materials that will be available at the loading site during any offloading or loading activities. Operating personnel are present during any plant equipment tank filling activity. A large excursion outside of the containment area will be contained by blocking the area drain that directs area runoff to the retention ponds and cleaned at the local excursions site. As a final protective barrier any excursions of diesel fuel that escaped the immediate area will be contained where it can be disposed of with the use of absorbent materials.

  A floating product retention boom will be maintained across the surface of the spill

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area to prevent any petroleum products that have been allowed to bypass the secondary containment systems and portable absorbent retention systems employed during routine operations and maintenance activities. This boom will be designed to prevent any product from being leached to the off site POTW facility from a product leak that was not immediately discovered. Operating personnel secure the retention booms immediately upon the discover of any product leak to contain any product that may have been able to enter the public storm water drains..

- Waste Product Tank - This steel walled storage tank is a stand alone tank with a capacity of 2000 gallons and is interconnected with Tank Wash plant systems. Tank level is controlled manually by the operating personnel directly at the tank location. The only way to get contents in is through the fill opening on the top of the tank itself. It is a self contained system which is also used to provide secondary containment for drums of used product. The area is located in a covered building which prevents all volume of rainwater from entering the containment system. The tank is emptied to a third party waste product service bin periodically for disposal.

- Drum Storage Area - South Plant - This drum storage area has a capacity of 400 drums (22,000 gallons). The area has a concrete base with curbs on three sides and is sloped toward a drainage trench which directs any fluids to the waste water treatment system handling tanks, each having a capacity of 6,500 gallons. The drum facility is covered; therefore no volume of storm water is expected to enter the trench or sump.

- Drum Cleaning Product Storage Tank – This tank is a steel walled tank with a capacity of 5,000 gallons. It is used for the retention of drum cleaning process effluent. It is enclosed in a building which has concrete floors and walls and a built in a sump to contain excursions and leaks of effluent.

  A pump and piping interconnect this tank to the facility Centralized Wastewater Treatment system which provides the capacity to absorb the entire contents of this tank in the event of catastrophic failure.

  This system is normally in service during daily operations; it is also used during a neutralization process and is monitored continuously by operations personnel at any time it is in use. Prior to using the transfer system to transfer product a pre job safety and operational analysis will be conducted by the operating personnel and the Drum Facility Manager, which will include the review of the system layout and transfer procedure.

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Any tank loading or offloading activities that would result in leaks or excursions will be contained by portable excursions containment materials that will be available at the loading/unloading site during any loading/unloading activities. Operating personnel are present during any loading/offloading activity. All safety precautions will be adhered to as if it were a chemical offloading with the exception of the protective chemical PPE and dilution water availability per the CES Environmental, Inc. chemical offloading procedure.

A large excursion outside of the containment area will be contained by blocking the area drain that directs area runoff and cleaned at the local excursions site. As a final protective barrier any spilled product that escaped the immediate area will be contained where it can be disposed of with the use of absorbent materials. Small amounts of product may be stored in other areas within the facility. Storage at these other locations is generally only temporary storage related to ongoing maintenance activities.

Maintenance personnel are also directly responsible for conducting maintenance activities involving any product based activities in accordance with the Environmental Management Plan. Spill kits and absorbent materials and drain blockage pads are required to be in the immediate area of the maintenance activity for the exclusive use of stopping and minimizing the spread of any product excursions that may occur during the maintenance work. All maintenance activities will be communicated to the area operator prior to the work commencing.

3.0 SECURITY MEASURES 40 CFR 112.7 (g)

3.1 Security

The entire CES facility is enclosed by a six foot high hurricane fence with barbed wire across the top. Operations personnel provide daytime surveillance and control access to and from the facility. During other times, access is limited to plant personnel by card readers or by remote access from the Administration Building. In addition to Operations personnel, surveillance cameras are located within sensitive areas of the facility and entrances to specific portions of the facility. Because entry into the entire facility is restricted and is manned 24 hours a day and all areas of the plant are inspected several times daily, locks on individual drain valves and other excursions control devices have not been installed and is a deviation from 40 CFR 112 (g). The 24 hour operations and positive control of all product systems by operating personnel provides equivalent protection for requirements of 40 CFR 112 (g) and provides reasonable certainty that excursions will not occur from unauthorized operations. The plant has been operating for 5 years at its present location and has not had any incident due to any security breach that would have had the potential of an product discharge.

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3.2 Lighting

The operational areas, including facilities with product and waste storage, of the CES facility are adequately lit at night, to detect excursions or leakage.

3.3 Excursions Containment Devices

All significant product storage areas have dikes enclosing the tanks or drums. Diked areas used to store product or hazardous material have outlet piping with valves or sumps with manually activated pumps to allow drainage of rainwater. The valves are kept closed and the pumps turned off except to remove rainwater. Removal of accumulated rainwater from diked areas is allowed only after a trained individual has inspected the containment area and determined that no product or hazardous materials are present. Before approval, this trained individual will visually inspect this diked area to be drained. Drainage will only be allowed if no remedial action is necessary. Accumulated storm water is to be removed to the facility waste water treatment system. Records of any discharges from the secondary containment areas will be kept in accordance with 40 CFR 112.12 (c)(3)(iv).

4.0 FACILITY INSPECTIONS

4.1 Inspections

Each of the facility's above ground storage tanks, collection sumps and containment systems will be visually inspected as well as using non destructive testing on storage tanks annually. This inspection will include at the minimum the following:

- Evidence of leaks or excursions (ie. product sheen)
- Rusted areas on tanks and piping
- Structural integrity of tank and containment system
- Breathing vent condition
- Hoses and associated connections
- Valving
- Condition of paint
- Condition of tank supports
- Integrity of joints in containment system

The inspectors observations will be recorded on the "Annual Tank Inspection Form" provided in this section. Corrective action for potential problems detected during the inspection will be taken as necessary and will be recorded on inspection forms.

The above ground storage tanks will be inspected with non destructive testing methods on an annual basis in accordance with 40 CFR 112.8 (c)(6). The results of these inspections are to be kept in the facility records and compared each year for any signs of deterioration.

Facility area operations personnel are directly responsible for excursions prevention in their areas as well as complying with the Environmental Management and Storm Water Pollution Prevention plans implemented at CES Environmental, Inc. Operations personnel are responsible for making visual inspections of their areas

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during normal daily rounds, these inspections fulfill the requirement of frequent inspections required under 40 CFR 112.8 (c)(6). The daily inspection will include the following:

- o Evidence of excursions or leakage
- o Condition of excursions containment system
- o External tank appearance
- o Integrity of containment dikes
- o Contents (if any) of diked areas
- o Adequate aisle and work space in storage areas
- o Condition of facility drainage and diversion structures
- o Supply of excursions control supplies and equipment

Daily inspections will be performed during normal operations area equipment monitoring rounds by the operations personnel. Any leaks or abnormal conditions are to be noted in the operations logs and any corrective actions required are to be taken immediately upon discovery of the condition. All actions taken should be in accordance with this Environmental Management plan. Areas are inspected at least once during an operating shift, normally having 2 operating shifts in a 24 hour period.

5.0 PERSONNEL TRAINING

Product Handling Personnel at the CES facility will receive training from the Environmental Manager of the CES facility to familiarize them with the Environmental Management plan. The Environmental Manager will periodically review the product handling practices and procedure with the product handling personnel as well as the Environmental Management plan requirements at a minimum annually.

6.0 PRODUCT EXCURSIONS RESPONSE PLAN

This portion of the plan provides the response procedures and those responsible to ensure they are carried out for any product excursions event or release to limit the harmful effects of a excursions to the environment. Response will vary during each excursions or emergency event, since each event is unique. As such, no one plan can specifically address all of the different scenarios that can occur during or after a excursions or release of product or waste at this facility, however, based on the product secondary containment systems and the drainage of the site to the city storm water drains, the following procedure would be adequate for all likely excursions events that could occur during normal operations at the facility. Generally, the CES facility could have four types of excursions events:

1) Contained Excursions - excursions inside bermed areas and all material is contained.

2) Contained Small Excursions - excursions outside bermed areas but is small enough not to spread off-site.

3) Uncontained Excursions - that is, a excursions of product or waste large enough to exceed bermed capacity (possibly due to rainfall or fire fighting water) or the excursions is outside of bermed area, and the excursions goes off site.

4) Reportable Excursions - the excursions leaves the property, is over 1,000 gallons, or the reportable quantity for any material has been exceeded.

Personnel safety is still the first priority in any excursions or emergency situation. Safety regulations and precautions must be observed at all times during a excursions response.

6.1 Objectives

The TCEQ regulation 30 TAC 327.5 requires that the following actions must be taken during any excursions event. They are:

1. initiating efforts to stop the discharge or excursions;
2. minimizing the impact to the public health and the environment;
3. neutralizing the effects of the incident;
4. removing the discharged or spilled substances; and
5. managing the wastes

6.2 Equipment Location

The facility keeps emergency excursions kits at the following locations;

- Product excursions kits are located in several places;
  - One in Water Treatment Building
  - Several kits positioned on the tanker line
- Chemical excursions kits are located in several places
  - One in Water Treatment Building
  - Several kits positioned on the tanker line

Extra supplies of absorbent product pads are kept in the stores warehouse in the Administration Building.

6.3 Excursions Response

The following procedures apply to excursions of product at the facility.

INITIAL EXCURSIONS RESPONSE

A. The person who first detects an product excursions will:

1. Immediately notify the Facility Yard Manager by phone or other available means
2. Immediately stop any operations or maintenance activity that is contributing to the cause of the excursions
3. Take all action that can be accomplished safely to stop the excursions at the source of the

excursions

4. Take all action that can be taken safely to stop the spread of the spilled material, this is to include stopping the spill at the entry to the site drainage system as quickly as possible, drain blocker pads should be available with the excursions kits.
5. With the exception of retrieving spill control materials stay at the site of the spill until it is cleaned up or others have arrived to help with the spill.
6. Isolate the spill area to prevent any spilled material from being tracked outside of the initial spill area
7. Determine if the spill has entered the retention area and contaminated the storm water, if it has entered the storm drain ,place booms around the storm drains
8. Begin the process of cleaning up the spill from the facility by using product absorbent materials
9. Care must be taken to dispose of oily water as used product and to properly dispose of absorbent materials in a manner that does not spread product contamination ie; placing all used materials in plastic bags at the scene
10. Properly dispose of all spilled materials as waste product and recycle or dispose of any absorbent materials after the absorbed product has been wrung out into the waste product tank
11. An incident report must be filled out within 24 hours of discovery of the excursions

B. Facility Yard Manager Actions

1. When notified of a excursions on site immediately alert all plant personnel by way of PA System
2. Note time of start of excursions in facility log book
3. Shut down any equipment requested by the area operator where the excursions has occurred
4. Take all necessary actions to protect the plant and plant personnel as dictated by the excursions incident
5. Assist in getting all required help to the excursions site
6. Regularly keep in contact with the personnel responding to the excursions and request status updates during the excursions incident
7. Determine if the excursions requires immediate notification to the President or Environmental Manager, small excursions that were easily contained and cleaned up with no damage to equipment or discharge out of the immediate area of the excursions and had no storm water contamination and no personnel injuries do not have to be immediately reported. All other excursions must be immediately reported to a Vice President or the President
8. After the excursions is contained and the excursions clean up is under control and all plant operations and personnel are out of any danger gather your shift personnel together for information gathering to be used in the incident report
9. It is the Facility Yard Manager's responsibility to ensure an incident report has been filled out within 24 hours of the incident

C. Environmental Manager and Vice President Actions

1. Upon notification of a excursions ask if product procedure in Environmental Management plan is being followed
2. Gather as much information about the situation as possible with known facts
3. Ask if operations team feels they need outside assistance or if it can be handled by on site personnel
4. Ask if there are any personnel injuries
5. Ask if the excursions has been contained on site

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6. If being notified off site make determination based on above information if supervisory presence is required on site and take any appropriate actions based on information gathered
7. If on site go to excursions scene to evaluate
8. Assist in incident investigation
9. Ensure proper disposal of all excursion materials and clean up materials
10. Determine if excursions is reportable, if so ensure all reports are made to TCEQ and EPA authorities within 24 hours of incident

6.4 Other Considerations

6.4.1 Drum Leaks - If a leaking drum is detected, the contents remaining in the drum can be transferred to an intact drum if this can be done safely and in a timely manner. Be sure that the drum materials are compatible before transferring any contents. If the leaking drum is not in a containment area and it is sitting next to one, place the drum in the containment area as soon as possible to contain any further leaks.

6.4.2 Clean up Materials Use of proper absorbent and materials for product cleanup and the minimization of the generated waste is an important consideration in a product excursions clean up. EPA guidelines are provided in this section of this plan to help determine proper material selection. Cleanup Guidelines are provided in the Proper Waste Disposal section.

7.0 REPORTING

7.1 Excursions

When a discharge of diesel, product or any other product leaves the property or the Reportable Quantity (RQ) of any material has been spilled/released at the facility; a REPORTABLE excursion has occurred. The person discovering the excursions along with the Environmental Manager or Area Vice President will evaluate the situation to determine if the excursion is a reportable excursion. EPA and state guidelines are provided in this section to aid you in the proper determination for a reportable excursion as well as follow up actions in the event the excursion is reportable.

If the excursion is a reportable event, the Facility Yard Manager or the Environmental Manager or the Vice President of the area will call National Response Center and the Texas Commission On Environmental Quality to notify them as soon as possible but no later than 24 hours after discovery of the excursions by phone, according to regulatory requirements. Attachment No. 5 in this section includes the information normally requested by the receiving agency.

The EPA requires that whenever the facility has "discharged more than 1,000 gallons off property in a single excursions event or discharged harmful quantities, as defined in 40 CFR 110, in two excursions events occurring within any twelve month period..." the owner or operator of the facility must file a written report of the incident and include a copy of the facility's Environmental Management plan.

The TCEQ requires that any excursions of 25 gallons or more of petroleum product to the land be reported to them. Any excursions of petroleum product which creates sheen on the water must also be reported.

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Product Excursions Notification Procedures

In general the requirements for excursions response and agency notification consists of contacting the EPA and TCEQ, the specific requirements are contained in the regulations provided in this section and need to be reviewed to ensure all required reporting has been made. :

The following contact information can be used to notify the Texas Commission On Environmental Quality and EPA.

- Local Police and Fire Departments if evacuation is required **(911)**,
- Texas Commission On Environmental Quality **(800) 832-8224**
- National Response Center (**1-800-424-8802**)

If outside assistance is needed for any cleanup activities a list of companies is provided in Attachment 3 in this section with contact information.

Instructions for Form TNRCC-10360-xx

Upset or Maintenance (U/M) Notification Form for Reportable Events

INTRODUCTION

Use of this form is optional
The purpose of this form is to help companies ensure that all necessary information is included when reporting a *reportable upset* or maintenance/startup/shutdown (M/S/S) event, as defined in 30 TEX. ADMIN. CODE Chapter 101, General Rules ('the rules'), to the Texas Natural Resource Conservation Commission (TNRCC, or 'Commission'). This form can also be used to report the event to a local air pollution control program with jurisdiction where appropriate.

Rules Relating to Upset and Maintenance

It is strongly advised to always refer to the most current version of the applicable rules when preparing and submitting any required information.

These instructions are for guidance only. Always follow the rules relating to upset and maintenance reporting which are found in the following sections of Chapter 101:

- §101.1, relating to Definitions,
- §101.6, relating to Upset Reporting and Recordkeeping Requirements,
- §101.7, relating to Maintenance, Start-up and Shutdown Reporting, Recordkeeping, and Operational Requirements, and
- §101.11, relating to Demonstrations.

These rules are available for download from the TNRCC Web site as follows:

http://www.tnrcc.state.tx.us/oprd/rules/indxchap.html#101

How and Where to Report

The rules require that a report be made for reportable upsets and maintenance activities, but they do not mandate a specific method of making those reports.

A complete report should be submitted to the TNRCC regional office whose jurisdiction includes the site experiencing the event.
The agency preferred way to report an event is by fax utilizing this form. A faxed report form is fast and provides a hard copy record of the report for both the sender and recipient.

Upset/maintenance (U/M) notifications may also be

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made by e-mail or telephone or by other means of communication selected by the sender. The sender should be aware that whatever method is selected, it should meet the requirements of the rules.

A U/M reporting form has been tailored for each region with the region specific contact information in the form header. You can always get an up-to-date listing of the regional offices, including their mailing addresses, fax numbers and e-mail addresses, at the agency Web site:

http://www.tnrcc.state.tx.us/admin/directory/region/reglist.html

Accuracy and Completeness are Important
Regardless of the method of reporting selected, providing all the information on this form will help Upset emissions may be exempted from compliance with air emission limitations established in permits, rules, and orders of the Commission, or as authorized by the TEX. HEALTH & SAFETY CODE §382.0518(g) provided an adequate demonstration is met. For upsets one of the criteria in such a demonstration is compliance with the reporting requirements related to 30 TEX. ADMIN. CODE §101.6. For maintenance/start-up/shutdown events the reporting requirement is found in 30 TEX. ADMIN. CODE §101.7.

When to Report

Companies experiencing reportable upsets are required to submit an initial report within 24 hours of the discovery of the upset. In some circumstances, a final report is required to be submitted within 2 weeks after the end of an upset. See 30 TEX. ADMIN. CODE §101.6 for the exact requirements.

Companies planning maintenance, startup or shutdown events that may cause the release of unauthorized emissions above the reportable quantity are generally required to submit a notice at least 10 days prior to the planned event. There are exceptions to this deadline as well; however, notification is always required prior to initiation of the event. Consult 30 TEX. ADMIN. CODE §101.7 for exact requirements.

COMPLETING THIS FORM

General Directions for the Form

- Be as specific as you can. It will help reduce the need for additional requests for

assure that the agency can:

- attribute the event to the proper site and process/emission unit at that site.
- understand the nature, duration and magnitude of the event in terms of air contaminants involved.
- understand the steps the company has/is taking to minimize the impacts and/or correct the situation.
- know who to contact for additional information, should that be necessary.

Benefit to the Company

information.

- If a field on the form does not apply to the specific situation at hand, mark it N/A.
- The form is designed to serve as an initial or final report for an event that has occurred (upset) or as a notice that one is planned to occur (maintenance, startup, or shutdown). Please complete it according to the relevant timing and event situation.

Field Specific Instructions

Each field on the form is described below.

Company, Site, Account and Contact Information

Please provide the company name, site name, and account number for the site where the event has occurred, or in the case of a M/S/S event, is expected to occur. In addition, list the name and phone number of the person making the notification and the name and phone number of the person that should be contacted for additional information about this event.

Does this notice constitute the final record for this event?

In some cases, it is necessary for the company to submit several reports related to an U/M event. By placing an 'x' next to the appropriate answer, the company is letting the agency know how to interpret the notification. By placing an 'x' next to the 'yes'

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option, the agency will assume that the submitted report constitutes the 'final record' (as defined in the rules) of the event.

A general note on identifying process units and equipment

The rules require that the process and equipment involved in the event be identified in the report. The more specific the identification, the better.

Name of the Facility/Process Unit Involved in the Event

It is always preferable, where possible, to refer to units involved in the event by both their common names (i.e., as the device is known commonly to the facility employees) and to their agency-known identifiers for those same units. Agency known identifiers are typically assigned during the
If the site is subject to the emissions inventory requirements of 30 TEX. ADMIN. CODE §101.10 and if the process unit involved in the event is listed in the emissions inventory for the site, please provide the FIN or the EPN, whichever is the more specific for that point of origin for the emissions. If the unit involved in the event does not have an agency identifier (either by virtue of having a permit that includes the unit or being subject to the emissions inventory) then put N/A.

The person responsible for conducting the emissions inventory for the company site can provide the agency known identifiers. The Industrial Emissions Assessment Section of the TNRCC at (512) 239-1773 can answer general questions about the emissions inventory requirements. Their Website is as follows:

http://www.tnrcc.state.tx.us/air/aqp/psei.html

Examples of identifying a source involved in an event follow:

Example 1:

Say a site, subject to emissions inventory requirements, with a coatings line commonly known as 'line a' is listed in the air permit number 12345 as "Process A Coatings Line" and in the emissions inventory for that site has a FIN of "LINEA" and an EPN called INCINA. If an upset occurred related to this site and involved emissions from this process due to incinerator malfunction then the:

permitting or emissions inventory processes, based on company desires for those names. Not every unit has agency-known identifiers.

If a source is subject to emissions inventory requirements, the use of the Facility Identification Number (FIN) or Emission Point Number (EPN) is really helpful in clarifying which units are involved in the event. Using these agency identifiers can help in the review of the event by allowing the agency to draw on information previously submitted by the company about the physical and operational characteristics of the units involved. The more the agency can make use of information already in its records, the less the agency will have to ask of the facility in the form of additional information requests.

Facility Identification Number (FIN) or Emission Point Number (EPN)

Process Unit Name:	Line A
Emission Point Name:	Incinerator 2
FIN:	LINEA
EPN:	INCINA

Note that since the FIN has a labeled EPN from which the emissions are eminating, then the appropriate identifier for use on the form would be the EPN.

Example 2:

Say a site *not* subject to emissions inventory requirements has a compressor engine, Engine 4, that has been operating in a consistent manner since 1968. If that unit fails due to a unavoidable and unforseen mechanical problem and the event becomes a reportable event, then the company would identify that unit as follows:

Process Unit Name:	Engine 4
Emission Point Name:	Blowdown vent
FIN:	N/A
EPN:	N/A

Event Attributed to

Please indicate what type of event is being reported by placing an 'x' appropriately.

Date and Time of the Event

For upsets: Enter the date and time the incident was discovered.

For M/S/S: Enter the date and time the activity is

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anticipated to begin.

Use the 24 hour clock (military time) to mark when the event began.

The Event was Ongoing (or is Anticipated to be Ongoing) for an

Please place an 'x' appropriately to indicate whether the duration information provided is "estimated" or "actual" for the event. In addition, provide the total duration in hours and minutes for the event.

Example 1.

If an upset event was discovered at 13:00 hrs on one day and ended at 14:30 hrs on the next day, that event would be indicated as an actual duration of 25 hours and 30 minutes.

Example 2.

The company was planning to take a process unit off line for maintenance. The company expects the maintenance to take approximately 2 days. The maintenance event would be noted here as having an estimated duration of 48 hours and 0 minutes

Name of Compounds Released (or Expected to be Released) as a Result of the Event

Note that these are the compounds listed in the definition of reportable quantity (RQ), 30 TEX. ADMIN. CODE §101.1(82), that have been released (or are anticipated to be released) by or through the process unit/emission point noted previously in the report.

A report that constitutes an 'Initial Notification' under the rules requires that **all** air contaminant compounds that were released in amounts ***above the reportable quantity*** must be reported in terms of total quantity released.

A report that constitutes a 'Final Report' under the rules requires that ***all* compounds released to the atmosphere, regardless of the RQ** must be reported in total amount released.

If the event involved visible emissions, note that fact in this section (see "Special Notes on Events Involving Opacity" below). Use the number of lines you need, leaving any unused lines blank.

List the compounds by their names as listed in the rules. For events that create visible emissions, use the term "Opacity" as the compound name.

Estimated Quantity Released

When addressing emissions of any materials (including opacity or visible emissions) report the total quantity of materials estimated to have been released (or anticipated to be released) due to the event. When estimating emissions, one should use the most accurate means of estimation available. Actual monitored values of emissions are preferable when available. Where actual monitored data are not available, then estimation techniques consistent with that used in current emissions inventory guidance is preferred. In all cases, good engineering methodology is expected.

With the sole exception of opacity, these air contaminant compounds must be reported in pounds of unauthorized emissions.

When addressing "Opacity" or visible emissions report the estimated opacity numeric value, but do not include the percent(%) sign. (e.g., 20, not 20%). Note that opacity is generally measured in terms of percent of light blocked by (i.e., not allowed to transmit through) the emissions plume due to the non-moisture related air contaminants in that plume. A perfectly clear plume would normally have "0" % opacity, where as a completely opaque plume (i.e., no light getting through the plume) would have an opacity of "100" %.

Note that the quantity value requested to be reported is quantity above zero, not the quantity above any regulatory limit that may be imposed through rule or permit.

Special Note on Events Involving Opacity

- *Estimating opacity for purposes of reporting under these rules does not require a certified opacity reader to make the estimate.*

- Events that involve opacity must also ordinarily report the other speciated air contaminant compounds

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that were emitted during the event. The rules provide for special opacity reporting requirements for certain types of emission units. See the definition of *reportable quantity* in 30 TEX. ADMIN. CODE §101.1 and special consideration provisions for some boilers and other type units in 30 TEX. ADMIN. CODE §101.6 and 30 TEX. ADMIN. CODE §101.7.

Examples:

For this example, consider that nitrogen oxides (NO_2) has a RQ as defined in 30 TEX. ADMIN. CODE §101.1 of 10 lbs. If a source is normally authorized by permit to emit 160 lbs/hr of NO_X, but during an upset event, emits 175 lb/hr for two hours, then the report would list 350 lbs as the estimated quantity of air contaminant compound released.

Recapping:

Authorized limit: 160 lb/hr NOx
Upset related release: 175 lb/hr NOx for 2 hours
RQ for NO_2: 10 lbs
Unauthorized emissions to report: 350 lbs.

To expand on the above example, say that the same emission unit was limited to 15 % opacity by a limit set in either the permit or in 30 TEX. ADMIN. CODE §111.111. Further, let's say that during the same event where excess NO_2 was emitted, the unit operator estimated that opacity was approximately 55% coming from the compressor. The company would report 55% as the quantity value released for opacity.

In summary: For this example reporting the total amount of NO_X released and Opacity experienced is required. NOx would be reported in pounds while opacity reported as percent opacity.

Cause/Reason for Event:

Required for initial reporting of upset/m/s/s events if know. Must be reported with final reports. The description should be concise but descriptive of the cause of the event. A good description may help avoid additional requests for information from the agency.

Corrective Actions Taken to Minimize Emissions:

This section is required for maintenance events only. Once again, these should be as detailed as possible.

Action Taken to Correct the Upset:

This section is for upsets only. Give as much specific detail as possible. Provide explicit information on how the company brought the unit back into compliance and how unauthorized emission were controlled.

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Texas Natural Resource Conservation Commission Air Program 5425 Polk Ave., Ste. H Houston, Tx 77023-1486Phone	**Submit Completed Report via :**	**Fax** *(preferred)*	(713) 767-3799
		Email	upset12@tnrcc.state.tx.us

Upset or Maintenance (U/M) Notification Form for Reportable Events

Company Name		**TNRCC Account No.**	
Site Name *(if different)*			
Person Making this Notification		**Phone**	
Contact for this Event *(if different)*		**Phone**	
Does this notification constitute the final record for this event? *(x)*		Yes	No

Common Name of Facility/Process Unit involved in the Event		**Emission Point Number (EPN) or Facility Identification Number (FIN)** *(from Site Emissions Inventory or Permit, if any)*	

This Event is attributed to *(Indicate one)*		**Upset**	**The Event Was Initially Discovered (or is anticipated to begin) on**	*mm*	*dd*	*yyyy*	**at**	*hh*	*mm*	*military time: e.g. 13:00 rather than 1:00 pm*		*AGENCY USE ONLY*
		Maintenance										*E#*
		Startup	**The Event was ongoing (or is anticipated to be ongoing) for an** *(Indicate one)*		**Actual**		**time of**			**and**		*U#*
		Shutdown			**Estimated**			*hh*	*mm*			*AGENCY USE ONLY*

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Name (s) of Air Contaminant Compound(s) actually or expected to be released as a result of the Event *See instructions for reporting air contaminant compounds.*	**Estimated Quantity Released** *(report in pounds or percentage only)*

Cause of the Event	
Actions taken to minimize emissions related to the Event	
For upsets only: **Actions taken to correct**	

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Texas Natural Resource Conservation Commission
Texas Federal Operating Permit Form
PCC
Permit Compliance Certification
(Part 1)

Company Name			**Account No.**	
Area Name			**Op Permit No.**	
Certification Period Began on		**And Ended on**	**Report Submittal Date**	

I. Certification of Continuous Compliance with Permit Terms and Conditions **(Indicate response by placing a 'x' in the appropriate column for each of the following questions)**	**Response** **Yes**	**No**
With the possible exception of those permit terms and conditions identified in the 'Summary of Deviations' found using, at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information, was the company in continuous compliance with all the terms and conditions of the permit over the Certification Period?		

II. Summary of Deviations **(Indicate response by placing a 'x' in the appropriate column for each of the following questions)**		**Response** **Yes**	**No**
A.	Were there any deviations from any terms or conditions of the permit during the Certification Period that have *previously* been reported to the agency? If the answer to this question is 'Yes', please complete Part 2, and attach Part 2 to this page. *Important Note:* If previously submitted reports did not contain specific information on monitoring methods, frequency and the total number of deviations experienced over the		

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	entire certification period, then use Part 3 to provide that information.		
B.	Were there any deviations from any terms or conditions of the permit during the Certification Period that are *currently* being submitted to the agency? If the answer to this question is 'Yes', please include the relevant reports along with this page.		

NOTE: The Responsible Official must certify the information reported in conjunction with this form in accordance with 30 TAC 122.143(16) utilizing form OP-CRO1 (Certification by Responsible Official). Therefore, complete an OP-CRO1 and attach it to this Compliance Certification package and submit the package to the appropriate TNRCC Regional Office.

Texas Natural Resource Conservation Commission
Texas Federal Operating Permit Form
PCC
Permit Compliance Certification
(Part 2)

Company Name			**Account No.**	
Area Name			**Op Permit No.**	
Certification Period Began on		**And Ended on**	**Report Submittal Date**	

Identification of Deviation Reports Submitted During the Certification Period (Note: All reports must be certified to truth, accuracy, and completeness by the Responsible Official)			
Report Date	Report Description (Name of unit, Name of Rule, Driver for report, etc)	Report Submitted To	Report Previously Certified? (Y/N)

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Identification of Deviation Reports Submitted During the Certification Period (Note: All reports must be certified to truth, accuracy, and completeness by the Responsible Official)			
Report Date	Report Description (Name of unit, Name of Rule, Driver for report, etc)	Report Submitted To	Report Previously Certified? (Y/N)

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Texas Operating Permit Deviation Summary Report Form

Form PCC (Part 3)

Company Name			Account No.	
Area Name			Op Permit No.	
Certification Period Began on		And Ended on	Report Submittal Date	

ID Number (Rq'd if Applicable)		Permit Provision No. (Rq'd If Applicable)	Pollutant (Rq'd if Applicable)	Regulatory Requirement (Citation Rq'd if Applicable)	Type of Requirement (Rq'd)	SOP or GOP Index Number (See Instructions)	Monitoring Requirements (Rq'd as Applicable)		Total Number of Deviations (Rq'd)
Unit ID	Group ID						Citation	Frequency	

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Texas Operating Permit Deviation Summary Report Form

Form PCC (Part 3)

Company Name		**Account No.**	
Area Name		**Op Permit No.**	
Certification Period Began on	**And Ended on**	**Report Submittal Date**	

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Texas Operating Permits Monitoring Options Specification Report

Form PCC (Part 4)

Company Name				Account No.	
Area Name				Operating Permit No.	
Report Period Began on		And Ended on		Report Submittal Date	

ID Number (Rq'd if Applicable)		Regulatory Requirement (Rule or Permit No. and Prov.)	Pollutant(s) Monitored	SOP or GOP Index Number (See Instructions)	Monitoring Option Used	Dates		Description/Comments
Unit ID	Group ID				Citation	Begin	End	

TNRCC-10490 (Rev. 03/01/02)

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CES ENVIRONMENTAL SERVICES, INC.

4904 Griggs Road
Houston, Texas 77021

MARCH 3, 2005

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Waste Treatment, Storage & Disposal Facility Audit

I. CORPORATE DATA

II. SITE DATA

a. General Site Data
b. Site Financial/Insurance Factors
c. Site Environmental Factors
d. Site Management Factors
e. Site Permits and Regulatory Factors

III. GENERAL FACILITY STANDARDS

a. Security
b. Safety
c. Emergency Response
d. Laboratory
e. Monitoring
f. Environmental Monitoring
g. Transportation
h. Waste Receipt and Shipping
i. Waste Acceptance

IV. FACILITY CAPABILITIES AND CAPABILITY SCHEDULES
(check attached schedules)

X	a.	Container Storage
X	b.	Tanks
	c.	Waste Piles
	d.	Surface Impoundments
	e.	Solvent Recovery
	f.	Carbon Regeneration
X	g.	Resource Recovery
	h.	Incineration
X	i.	Special Waste Physical/Chemical/Biological Treatment
X	j.	Facility Wastewater Treatment
	k.	Landform
	l.	Sanitary Landfill
	m.	Secure Chemical Landfill
	n.	Deep Well Injection
X	o.	Other Facility Capabilities (i.e., Solidification/fixation of incoming waste containing free liquids)

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PART "A" SITE PERMIT REQUIRED

BY

II. SITE DATA

e. SITE PERMITS

AND

REGULATORY FACTORS

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Mail to:
Texas Commission on Environmental Quality
Attn: Waste Permits Division
Industrial and Hazardous Waste Permits Section
PO Box 13087 MC 130
Austin, Texas 78711-3087

APPLICATION FOR PERMIT TO STORE, PROCESS, OR DISPOSE OF
NONHAZARDOUS INDUSTRIAL SOLID WASTE

1. Applicant: **CES Environmental Services, Inc.**

Address: **4904 Griggs Road**

City: **Houston**, State: **Texas** Zip: **77021**

Telephone Number: **713-676-1460**

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of Secretary of State for Texas.

Charter Number 01520431 on January 19, 1999.

2. (a) List those persons or firms, to include a complete mailing address and telephone number, authorized to act for the applicant during the processing of the permit application.

Matt Bowman
4904 Griggs Road
Houston, Texas 77021
713-676-1460

Sean Easton
4904 Griggs Road
Houston, Texas 77021
713-676-1460

Currently, Mr. Matthew Bowman is 100% owner of CES Environmental Services. Neither Mr. Bowman, nor CES Environmental Services, has ownership in any other facility in the State of Texas.

(b) If the application is submitted by a corporation or by a person residing out of state, the applicant must designate an Agent in Service or Agent of Service and provide a complete mailing address for the agent. The agent must be a Texas resident.
NA

3. List the individual who will be responsible for causing notice to be published in the newspaper and his/her mailing address, telephone number and fax number. If e-mail is available please provide an e-mail address.

Sean Easton
CES Environmental Services
4904 Griggs Road
Houston, Texas 77021
713-676-1460/713-676-1676 fax
cesenvironmental@sbcglobal.net

4. For applications for new permits, renewals, major amendments and class 3 modifications a copy of the application must be made available at a public place in the county where the facility is, or will be, located for review and copying by the public. Identify the public place in the county, including the address where the public will make the application available for review and copying.

TCEQ-Region 12 Office
5425 Polk Ave
Houston, Texas 77023

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5. Type of Permit for Which Application is submitted:
a. Original _____X_____ Permit Number _____
b. Amendment _____ of Permit Number _____ Page Number_____
c. Class 1_____Class 2_____ Class 3 _____

6. List any other permits, existing or pending, which pertain to pollution control activities conducted by this plant or at this location.

Permit by Rule Number 15980, City of Houston Sanitary Industrial Wastewater Discharge permit to the Publicly Owned Treatment Works

7. Plant or disposal site information:

Ownership Status
Federal _____ State _____ Private _X_____ Public _____ Other _____

Plant Name: **CES Environmental Services, Inc.**

Street Address, if available: **4904 Griggs Road, Houston, Texas 77021**

County: **Harris**

Are your waste disposal operations within the incorporated limits or extraterritorial jurisdiction of a municipality? **YES** If so, what municipality? **Houston**

Is your industrial solid waste disposal or processing operations in an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste? YES_____ NO___X_____

Is the facility located on Indian lands? Yes ___ No ___X_

Is the facility within the Coastal Management Program boundary? YES ___ NO ___X_____

Give a verbal description of the plant or disposal site location with respect to known or easily identifiable landmarks.

The property is located approximately one mile north of South Loop 610, exiting S Wayside Road. It is located approximately one mile north of the 610/Wayside intersection on Griggs Road past the railroad tracks.

8. If there will be a discharge of either process water or storm water, describe the effluent route to the nearest identifiable watercourse.

All process waters will be sent to an approved Treatment Storage and Disposal Facility (TSDF) off-site for processing. All storm water that is collected in the permitted area will also be sent to a permitted TSDF for treatment. Any storm water that falls outside the permitted area will be discharged through the storm sewer and sent to the City of Houston's Municipal Separate Storm Water System. This ultimately discharges into the Houston Ship Channel.

9. Waste Management Units (list each major waste management unit indicating its function [storage, processing, and disposal] and capacity:

There will be three waste management units (WMU) for the permitted activities. They will be WMU #106 (storage), #107 (processing and storage - solids), and #108 (processing and storage – liquids). All WMUs will be located inside a completely enclosed warehouse building.

WMU #106 will be in a completely enclosed area for unloading, staging and storage of drums and other small containers to be processed. This area will have adequate isle spacing, curbing,

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containment and diking to contain any potential spills. WMU #106 will have the capacity to store up to 200 drums of material per day.

WMU #107 will be in a completely enclosed area for processing the like solid materials out of the drums or small containers into 25 yd^3 roll-off boxes. This area will have the space to store up to 4, 25 yd^3 roll-off boxes prior to shipment offsite to an approved treatment, storage and disposal facility. Free liquids will be vacuumed from containers into the 6,500-gallon poly tank located in WMU #108. This area will have adequate isle spacing, curbing, containment and diking to contain any potential spills.

WMU #108 will be in a completely enclosed area for processing the like liquid materials out of the drums or small containers into a 6,500-gallon poly tank. This 6,500-gallon poly tank will have the capacity to store the material until shipment offsite to an approved treatment, storage and disposal facility. This area will have adequate isle spacing, curbing, containment and diking to contain any potential spills.

10. What estimated date will waste management operations begin; or if operation have begun, what date did waste management operations begin at the site described by this application?

Waste management operations will not begin until the Texas Commission on Environmental Quality approves this permit.

11. Submit an application map or drawing, (Attachment A,) with appropriate scale of this site, which includes the following information:

a. The approximate boundaries of the tract of land on which the waste management activity is or will be conducted.

b. The location of the areas of storage, processing, or disposal.

c. The general character of the areas adjacent to the place or places of disposal; for example, residential, commercial recreational, agricultural, undeveloped, etc.

d. The boundaries of all affected tracts of land within a reasonable distance from the area of storage, processing, or disposal.

See Attachment A

12. Show on the application map or on a separate list property cross-referenced to item 10-d above, the names, and mailing addresses of all landowners that you have identified as being affected by the activities described by this application.

13. The names and mailing addresses of persons identified as affected parties, item 10 above, were obtained from:

Harris County Appraisal District web site

14. Provide listings of evidence of non-compliances concerning solid waste management by the permit holder in the preceding five years at the permitted site, listings of evidence of non-compliances concerning solid waste management in the preceding five years at any site owned, operated, or controlled by the applicant in the state of Texas, a summary of the attempts of the permit holder to correct the environmental violations, and an indication of whether the permit holder or applicant is indebted to the state for fees, payment of penalties, or taxes imposed by the Texas Solid Waste Disposal Act or by any rule of the Commission.

CES Environmental Services has not had any non-compliance violations for solid waste management activities in the preceding 5 years at this location or any other location in which they have occupied. They are not indebted to the state of Texas for any fees, fines or taxes.

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15. The TNRCC requires that a Core Data Form (Form 10400) be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number have been issued by the TNRCC and no core data information has changed. For more information regarding the Core Data Form, Call (512) 239-1575 or go to the TNRCC Web site at "http://www.tnrcc.state.tx.us/permitting/projects/cr"

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Signature Page

I, Matthew Bowman,

I, Sean Easton,

Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 6/6/03

Signature: _____ Date: 6/6/03

TO BE COMPLETED BY THE APPLICANT WHEN THE ABOVE STATEMENT IS SIGNED BY AN AGENT FOR THE APPLICANT.

I, _____ hereby designate _____ as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Solid Waste Disposal Act permit. I further understand I am responsible for the contents of this application, for usage statement given by my agent in support of the application and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Signature: _____ Date: _____

Title: _____

(Application must bear signature and seal of notary public)

SUBSCRIBE AND SWORN to before me by the said

Melissa T. Bowman On this 6TH day of JUNE, 2003.

My commission expires on the 16TH day of JANUARY, 2005.

Notary Public in and for

Melissa T. Bowman
Notary Public, State of Texas
My Commission Expires
JANUARY 16, 2005

HARRIS County, Texas

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CORPORATE DATA

1. Company Name and Mailing Address:

   CES Environmental Services, Inc.
   4904 Griggs Road
   Houston, Texas 77021

2. EPA ID No.: TXD008950461

3. Facility Representative: Facility Phone Number

   Marlin Moser (713) 676-1460

4. Parent Company: CES Environmental Services

5. Year Company Was Established: 1999

6. Owner Land: CES Environmental Services

7. Owner Facility: CES Environmental Services

8. Previous Facility Owner: Use

   Suttles Truck Leasing Transportation

9. Original Facility Owner: Use

   Younger Brothers Transportation

10. Original Owner Started Facility in: 1946

    Current Owner Purchased Facility in: 2002

11. Other Similar Facilities (with locations) Owner/Operated by Current Owner:
    None

12. Is waste management, the company's principal business? Yes
    If not, describe the Company's principal business (e.g., chemical manufacturing, formulating, distribution, etc.) _____

13. Estimated Percent of Interstate Business: 30 %
    Estimated Percent of Intrastate Business: 70 %

14. List names of major generator clients:
    PPG, Lubrizol, Atofina, Hydril, Shell, Calpine, etc.

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SITE DATA

A. General Site Data

1. Site Address and Location
(give detail on approach trucks would take to the site):

4904 Griggs Road, Houston, Texas 77021
Southeast side of Houston/inside 610 loop

2. Principal Contact at Site:

Name: Marlin Moser

Title: Business Manager

Telephone No.: (713) 676-1460

Total Site Size: 6.29 Acres

6.29 Acres Number of Acres under Permit

5 Acres Total Area Used Up

5 Acres Total Area In Use At Present Time

1.3 Acres Total Area Available For Expansion

3. Do operations in addition to waste treatment/disposal take place at the site?

YES X NO _____

If 'YES', list other operations:

- Transportation Services
- Tank Wash Facility
- Waste Transfer Facility Operations

B. Site Financial/Insurance Factors

1. Does the site have Worker's Compensation? YES X NO _____

Carrier: Texas Mutual Company

2. Does the site have general liability insurance? YES X NO _____

Carrier: AIG

3. Does the site have an Umbrella Policy coverage? YES X NO ____

4. Does the site have a funding instrument to cover the amount necessary to close the facility? YES __X__ NO _____

   Amount: $115,000

   Type of Instrument: Corporate Test

5. Does the site have a funding instrument for post closure?
   YES _____ NO __X__ (Not required for the type of operation permitted)

   Amount: _____

   Type of Instrument: _____

   ****ATTACH A COPY OF ALL CERTIFICATES OF INSURANCE****

C. Site Environmental Factors

1. Nearest neighbors to the site:

   Residential: 60%

   Agricultural: None

   Commercial: 20%

   Industrial: 20%

2. Do neighbors use wells for:

   Drinking water supply? YES _____ NO __X__

   Industrial water supply? YES _____ NO __X__

   Use municipal water? YES _____ NO __X__

3. Nearest water resource and its use (select closest stream, river, and/or lake; give distance in miles):

   Houston Ship Channel
   - 7 Miles
   - Water Transportation

4. Nearest water resource used for drinking water, (distance in miles):

   Inside City of Houston. City of Houston furnishes drinking water.

Q7

D. Site Management Factors

1. Site Employees

40	Total Number of Site Employees
8	Administration
0	Chemists
2	Engineers & Other Technical Professionals
1	Laboratory Technicians
17	Operational/Production Personnel
11	Transport
3	Sales

2. Training

Does the Company have a formal operator-training program?

YES X NO _____

If 'YES', are training records maintained? YES X NO _____

3. Self-Inspection

Does site perform self-inspections or audits? YES X NO _____

If 'YES', with what frequency?

Daily/Weekly

4. Site Management

3 Years	How long has current site manager been at this site?
6 Years	With the company?
12 Years	In the waste management business?

Q7

E. Site Permits and Regulatory Factors

1. Part "A" Status (attach copy of part "A"):

2. Permit for Industrial Solid Waste Management Site

Requested: _____ Submitted: 6/6/03
Permit Issued: 7/24/04 Provisions for Expansion: _____

3. Agency inspection during last year and/or previous ones unsettled: None

Last Inspection Date: _____ #2 Inspection Date: _____

Agency: _____ _____

Violations: _____ _____

Compliance Plan: _____ _____

Status: _____ _____

Restrictions: _____ _____

4. Federal, State, County, or local permits and/or licenses held by the facility or transporter (obtain & attach current copies):

Permit	Issuing Agency	Permit No's	Date Expires
Hazardous Matl Transp	DOT	869392 051203002006LN	6/30/06
Ind Solid Waste Mgmt Site	TCEQ	39048	7/27/14
Water Dischg (to POTW)	City of Houston	6806	1/14/07
Air Emissions	TCEQ	PBR	N/A
Used Oil Processor	TCEQ	A85775	N/A

5. Has the site had formal violation notices or fines? YES _____ NO __X__

6. How many violations in the last two (2) years? _____0_____

F. Site Permits and Regulatory Factors Continued

7. List violations and dates of issue: None

8. Is the site currently under a compliance agreement or other enforcement action from any environmental regulatory agency? YES ____ NO__X__

9. If so, summarize:

_____

10. In the Operator's opinion, what is the site's relationship (excellent, good, fair, etc.) with the surrounding community? Excellent

11. With the media? Excellent

Q7

GENERAL FACILITY STANDARDS

A. Facility Security

1. Is access to the facility controlled? YES __X__ NO _____

2. Visitor Passes? YES _____ NO __X__

3. Visitor Log Book? YES __X__ NO _____

4. Is the facility fenced in completely? YES __X__ NO _____

5. Is vehicular traffic controlled? YES __X__ NO _____

6. Is area lighted? YES __X__ NO _____

7. Is facility guarded? YES _____ NO __X__

If 'YES', when is it guarded? (24 hours per day, normal working hours, etc.)

_____

8. Does the facility have:

An internal communications or alarm system capable of providing immediate emergency instructions to facility personnel?.

YES __X__ NO _____

A device at the scene of operations capable of summoning emergency assistance from police, fire department, etc.

YES __X__ NO _____

B. Safety

1. Does the site have a safety plan covering all site operations?

YES __X__ NO _____

2. Is medical monitoring of employees conducted?

YES __X__ NO _____

C. Emergency Response

1. Is the following fire protection equipment available on site?

Pressurized hydrants/monitors YES _____ NO __X__

Fire Truck (Water Truck) YES _____ NO __X__

Chemical/Foam Extinguishers YES __X__ NO _____

Q7

2. How many miles to nearest outside emergency fire protection assistance?
5 Miles (Fire Station)

3. Does site have emergency response agreements with:

Local Hospital	YES __X__	NO _____
Police	YES __X__	NO _____
Spill Response Contractor	YES __X__	NO _____

D. Laboratory Services

1. Which of the following pieces of equipment does the laboratory have on hand?

Gas Chromatograph	YES _____	NO __X__
Atomic Absorption Unit	YES _____	NO __X__
Mass Spectrometer	YES _____	NO __X__
Pensky Martins Flash Tester	YES _____	NO __X__
Bomb Calorimeter	YES _____	NO __X__
Ventilation Hood	YES __X__	NO _____

Other: pH equipment, other test equipment for oil analysis, and wet chemistry lab

2. What is the laboratory operating hours? 8 a.m. – 8 p.m.

3. What certifications does the laboratory have? None

4. Name the principal chemistry contact on site? Clark Hickman

5. Where does the lab waste go? Off-site disposal (e.g., chemical waste landfill or thermal destruction

E. Environmental Monitoring

1. Ground Water Monitoring

a. Is ground water monitoring conducted on site?

YES _____ NO __X__

_____ Total number of monitoring wells

_____ Number of wells downgradient

_____ Age range of wells

Q7

b. Has monitoring indicated ground-water contamination?

YES_____ NO (**No contamination**)

If 'YES', describe:

_____

_____

_____

c. Frequency of Monitoring? _____

d. Parameters monitored: _____

2. Surface Water Monitoring

a. Does the site have a water discharge permit?

YES __X__ NO _____

If 'YES', list streams discharged by permit: Storm water, transportation equipment cleaning wastewater, and solid waste management site wastewater

b. Key parameters tested: TOC, TSS, pH, Oil & Grease, Cadmium, Chromium, Lead, Nickel, Zinc, TKN

_____

c. Has the site had a chronic or major violation(s) in reference to the discharge permit?

YES _____ NO __X__

If 'YES', describe:

_____

_____

_____

d. Does the site conduct any off-site monitoring of nearby rivers, streams, or waterways?

YES _____ NO __X__

If 'YES', is there any evidence of environmental damage caused by site activities?

YES _____ NO _____

If 'YES', describe:

_____

_____

_____

Q7

3. Sewer Discharge Monitoring

a. Does the site have a permit to discharge to an off-site treatment facility?

YES __X__ NO _____

If 'YES', describe:
Wastewater can be discharged to the City of Houston POTW.

b. Is the discharge monitored? YES __X__ NO _____

If 'YES', what are the key parameters?

Oil & Grease, pH, TSS, TOC, Cadmium, Chromium, Lead, Nickel, Zinc

c. How often are the samples collected? Quarterly

d. Does automatic, proportional flow sampler monitor discharge?

YES _____ NO __X__

If 'YES', are the composite samples kept chilled?

YES __X__ NO _____

e. Has the site had chronic problems in meeting sewer discharge standards?

YES _____ NO __X__

4. Air Monitoring

a. Does the site conduct air monitoring of specific sources?

YES _____ NO __X__

If so, list sources:
N/A

b. Is there an automatic shutoff in the event that regulated levels are exceeded?

YES _____ NO __X__

c. Does the site conduct ambient air monitoring?

YES _____ NO __X__

d. Has monitoring indicated any off-site pollution problems?

Q7

YES _____ NO __X__

If 'YES', describe:

_____

_____

F, Transportation

1. In-house trucking capability

__11__ Numbers of tractors

__33__ Numbers of trailers (total)

__27__ Vacuum trucks or bulk liquid trailers

__0__ Dumps

__2__ Vans

__2__ Roll-Offs

__2__ Flatbeds

__0__ Other _____

2. Are trucks rinsed out on site? YES __X__ NO _____

If 'YES', how is the rinse water handled? Water is pretreated and discharged to the City of Houston (POTW) under a discharge permit.

G. Waste Receipt and Shipping

1. Indicate number of each type of receiving/shipping facility:

__2__ Truck bulk loading/unloading racks

__0__ Rail car bulk loading/unloading racks

__2__ Truck drum docks

__0__ Rail car drum docks

__0__ Barge slips

__0__ Ship docks

__0__ Pipeline

2. Is there a scale to weigh vehicles? YES _____ NO __X__

Q7

3. Do impermeable materials underlie loading/unloading areas?

YES __X__ NO _____

If 'YES', what materials? Typical concrete slab/foundation construction

H. Waste Acceptance

1. Outline the procedures or sequence of events to accept a new waste:

Generator must submit waste profile data and a representative sample. CES will review the items submitted for determining if the management of the waste is allowed by the permit, if the waste is amenable to the treatment capabilities of the facility, and whether there are any potential safety problems with the waste. CES will conduct tests on the sample to verify waste profile data. The waste will be accepted or rejected based on the results of the review.

2. Does the site have a formal (written) waste analysis plan?

YES __X__ NO _____

If 'YES', what materials?

Plan evaluates incoming waste streams that are treated by CES.

3. What parameters are used to fingerprint incoming waste?
pH, visual appearance, compatibility testing, waste profile data, and general composition.

4. For a bulk load, how many samples are taken? For liquids – One composite sample.

Are these composite or analyzed separately?

YES __X__ (Composited) NO _____

5. For a drum load, how many samples are taken? Minimum 10%

6. How is the waste tracked at the facility?
Waste manifests and waste profiles using waste ID numbers assigned using TCEQ procedures

7. Are unloading facilities curbed and/or have collection sumps?

YES __X__ NO _____

8. Time required to accept a waste stream? 1 Week

Q7

FACILITY CAPABILITIES AND CAPABILITY SCHEDULES

(Check past and present waste management methods at this site)

		Current Practices	Past Practices
A.	Container Storage	X	X
B.	Tanks	X	X
C.	Waste Piles		
D.	Surface Impoundment		
E.	Solvent Recovery		
F.	Carbon Regeneration		
G.	Resource Recovery	X	X
H.	Incineration		
I.	Special Waste Physical/Chemical/Biological Treatment (Waste Fuel Burning)	X	X
J.	Facility Waste Water Treatment	X	X
K.	Land Farm		
L.	Sanitary Landfill		
M.	Secure Chemical Landfill		
N.	Deep Well Injection		
O.	Other Facility Capabilities		

For each current disposal/treatment method checked, attach the corresponding schedule.

Q7

CONTAINERS

1. Estimate the number and type(s) of containers:

   500 Drums

   10 Hoppers

   4 Roll-Off Boxes

   2 Other (Tank Trailers)

2. Describe container storage facilities (e.g., in/outdoors, covered or not, run-off/on control, etc.)

   Covered inside metal warehouse with run-on/run-off control

3. Are container(s) placed on an impermeable liner or concrete pad?

   YES X NO _____

   If 'YES', what?

   Containers are placed in a metal building on a concrete pad.

4. Is there a container decanting facility? YES X NO _____

5. What happens to empty containers?

   X Reused

   X Reconditioned

   _____ Landfilled

   _____ Other _____

6. Are fiber/plastic drums incinerated? YES _____ NO X

   If 'YES', what is the maximum size of drums incinerated? _____

Q7

7. For underground tanks, describe the following: None

_____ Number

_____ Capacity (range)

_____ Age (range)

_____ Contents (waste/fuel/other)

_____ Composition (fiberglass/steel/other)

_____ Construction (enclosed, open-top, prefabricated, constructed in place)

8. Do underground tanks have secondary protection or containment? None

YES _____ (Not Applicable) __X__

If 'YES', describe:

_____

_____

9. For all tanks, is a leak detection method used? YES __X__ NO _____

If 'YES', describe:
Visual. Tanks are located on concrete pad.

_____

10. Do tanks have interior protection? YES _____ NO __X__

If 'YES', describe:

_____

_____

11. Are tanks integrity tested? YES __X__ NO _____

If 'YES', describe:
Ultrasonic testing is conducted to determine tank thickness.

How frequently?
One per year.

12. Have there been any leaks or spills associated with the site's tanks?

YES _____ NO __X__

If 'YES', summarize the incident(s) and response(s):

_____

_____

Q7

WASTE PILES

1. What types of wastes are stored?

   Not Applicable

2. Describe the waste pile(s): None

   _____ Number

   _____ Size Range

   _____ Impermeable Underlayment

   _____ Covered

   Wind Protection: _____

3. Do the waste pile(s) have surface leaching controls?

   YES _____ NO _____

   If 'YES', summarize the incident(s) and response(s):

4. Is soil or ground water monitoring conducted?

   YES _____ NO _____

   If 'YES', describe the monitoring system:

Q7

SURFACE IMPOUNDMENTS

1. Surface impoundment(s) is/are used primarily for: Not Applicable – No impoundments

   _____ Storage How Many? _____
   _____ Treatment How Many? _____
   _____ Disposal How Many? _____

2. Are surface impoundment's to be closed with wastes in place or by removal?

   _____

3. Is there a surface water discharge from any of the impoundment's?

   YES _____ NO _____

   If 'YES', is it permitted? YES _____ NO _____

4. Is there a discharge to an off-site sewer system from the impoundments?

   YES _____ NO _____

   If 'YES', is it permitted? YES _____ NO _____

5. Is there a lead detection system? YES _____ NO _____

   If 'YES', describe:

   _____

   _____

6. Is there a leachate collection system? YES _____ NO _____

   If 'YES', describe:

   _____

   _____

   How much leachate is removed? _____

7. Briefly describe any history or present evidence of releases to the environment:

   _____

   _____

8. Do lagoons meet RCRA standards? YES _____ NO _____

9. Are the lagoon lines? YES _____ NO _____

10. What type of liner? _____

11. Liner thickness: _____

Q7

SOLVENT RECOVERY
(None – Not Applicable)

1. Incoming Waste Solvent

Is waste material received in drums? YES _____ NO _____

Drums are:

_____ New

_____ Used

_____ Combination New/Used

Average number of solvent drums on site:

_____ Full

_____ Empty

What happens to empty solvent drums?

_____ Reconditioned

_____ Landfilled

Give company/site name and location:

_____
_____
_____

2. How is water, which is gravity, separated from incoming waste solvent disposed?

_____ Total Recycle

_____ Sewer

_____ Evaporation Impoundment

_____ Hauled away from disposal. (Give site name and location):

_____
_____

Other, describe:

_____
_____

Q7

3. How are still bottoms disposed?

_____ On-Site Landfill

_____ Off-Site Landfill. (Give site name and location):

_____

_____

_____ On-Site Incineration

_____ Off-Site Incineration. (Give site name and location):

_____

_____

4. Outgoing Material

_____ Is reclaimed material re-drummed on site?

_____ Are new drums used?

_____ Are reconditioned drums used?

_____ Do drums meet specifications for transporting flammable liquids?

_____ Type (DOT Designation)

_____ Properly labeled?

_____ Is bulk liquid delivered directly into client's drums at client's plant?

5. Site reclaimed product meets the following specifications:

_____ Pharmaceutical Grade

_____ Government Spec. No.

_____ Semiconductor Grade

_____ Reagent Grade

_____ Commercial

_____ Industrial

_____ Other Grading _____

6. Is facility a member of a solvent recycling association?

YES _____ NO _____

7. Solvents recovered?

_____

Q7

8. Is operation batch or continuous? _____

9. What happens to recovered products?

_____

_____

Q7

CARBON REGENERATION
(No Carbon Regeneration)

1. Incoming Carbon

   a. Identify the criteria for accepting carbon for regeneration at this site:

   Acceptable Contaminants: _____

   Unacceptable Contaminants: _____

   Acceptable Grades: _____

   Any Other Criteria: _____

   Is custom regeneration available at this site? YES _____ NO _____

   Is preferred segregated storage available? YES _____ NO _____

   Is batch regeneration available? YES _____ NO _____

   How is incoming carbon QA/QC maintained?

   _____

   _____

   b. Segregation

   Is segregation of incoming carbon required? YES _____ NO _____

   What are the criteria for segregation?

   PCB's: _____

   Carcinogens: _____
   Ignitable: _____

   Reactive: _____

   Other: _____

   How is segregation maintained? _____

   c. Storage of Unprocessed Carbon

   Indicate type of storage:

   _____ Containers (see Containers Form)

   _____ Tanks (see Tanks Form)

   _____ Waste Piles (see Waste Piles Form)

Q7

Average storage time: _____

2. General Engineering Data

a. Prefeed Storage

PREFEED STORAGE	YES	NO	CAPACITY
Flow Bins			
Bags			
Drums			
Tanks			
Lines Sumps			
Unlined Pits/Ponds/Lagoons			
Slab Curbed			
Slab Flat			
Soil Surface			
Other			

b. Feed System

_____ Batch

_____ Continuous

Hopper YES _____ NO _____

Screw YES _____ NO _____

Conveyer Belt YES _____ NO _____

Other _____ YES _____ NO _____

Q7

c. Dewatering Facilities

_____ Type

_____ Capacity

Where does wastewater go?

_____

_____

What is maximum moisture content of carbon fed to furnace?

_____

_____

d. Furnace System

_____ Dimension of Kiln

_____ Carbon Feed Rate

_____ Expected Carbon Loss

	YES	NO	NUMBER	OPERATING TEMP	FUEL
Multiple Hearth					
Rotary Kiln					
Afterburner					

Average Residence Time:

_____

_____

Describe scrubber system:

_____

_____

Describe quench system, if any:

_____

_____

What is the percent of downtime for furnace system maintenance?

_____

_____

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Q7

3. Outgoing Material

Is reclaimed material re-drummed on site? YES _____ NO _____

Are new drums used? YES _____ NO _____

Are reconditioned drums used? YES _____ NO _____

Do drums meet specifications for transporting flammable liquids?

YES _____ NO _____

Type (DOT designation) _____ YES _____ NO _____

Properly labeled? YES _____ NO _____

Is bulk liquid delivered directly into client's drums at client plant?

YES _____ NO _____

4. Product Quality Control

Product Name/Number: _____

General Specifications:

_____ Activity (CCI)

_____ Apparent Density

_____ Hardness

_____ Moisture as Packed

_____ Iodine Number

_____ Ash Content

_____ Other Tests _____

Properties:

_____ Surface Area

_____ Pore Volume

_____ Specific Heat at 15°C

Q7

_____ pH of Water Extract

_____ Other Water Extract Analyses

Screening:

_____ Mesh Sizes Available

_____ Percent Variation

_____ Extra Charge for Screening

Is product make-up available? YES _____ NO _____

5. Off-Site Waste Disposal

Has the facility received a U.S. EPA Generator I.D. Number?

YES _____ NO _____

List Number: _____

What wastes/by-products are generated from the reactivation process? Also, indicate disposal method and location:

WASTE	DISPOSAL METHOD	LOCATION

Are these off-site facilities the end disposers? If not, what happens to those materials?

Q7

WASTE	END DISPOSERS	YES	NO	FINAL DISPOSER

EPAHO120000067

Q7

RESOURCE RECOVERY

1. Brief description of recovery process:
   Oil is recovered from oil-water mixtures using acid, heat, chemical, and other treatment.

2. Fate of recovered materials:
   Oil returned to a refinery, and sent to energy recovery

3. Ultimate disposal of residues:
   Sludge is landfilled in approved, permitted site. Water is treated and discharged to a POTW.

4. Process flow rates:
   15,000 gallons/day

5. Process monitoring controls:
   pH, level, testing, etc.

6. Percent process downtime: -- %

7. Raw material storage

   Storage method: Tanks

   Approximate quantity in storage: 15,000

   Process time equivalent (in days) for amount in storage: 1 to 2

INCINERATION
(No Incineration – Not Applicable)

NOTE: ATTACH INCINERATOR DIAGRAM TO THIS FORM, IF AVAILABLE

1. General Engineering Data

   _____ Capacity BTU/Hr

   _____ Destruction Efficiency (percent)

   _____ Waste Feed Rate Liquids

   _____ Waste Feed Rate Solids or Sludges

   _____ Maximum Size Package for Kiln

   _____ Maximum Solids Content for Liquid Waste

   Is there a shredder on site? YES _____ NO _____

   Is the vapor recovered? YES _____ NO _____

2. Type: _____

3. Residence Time: _____

4. Method of Injection: _____

5. Process Equipment & Operating Capabilities

   A. Primary Chamber: Rotary Kiln/Liquid Boiler/Process Furnace
   Other: _____

   Retention Time: Gasses_____seconds; Solids_____minute

   Start-up Fuel: Natural Gas/Oil/Coal/Supplemental Fuel/
   Other: _____

   Operating Fuel: Natural Gas/Oil/Coal/Supplemental Fuel/
   Other: _____

   Normal Operating of Main Section: _____

   Operating Range: _____

   Oxidation/Reduction Atmosphere: _____

EPAHO120000069

B. Secondary Chamber: Rotary Kiln/Liquid Boiler/Process Furnace/Other:

_____

_____

Retention Time: Gases_____seconds: solids_____minute

Start-up Fuel: Natural Gas/Oil/Coal/Supplemental Fuel/Other:

_____

_____

Operating Fuel: Natural Gas/Oil/Coal Supplemental Fuel/Other:

_____

_____

Normal Operating of Main Section:

_____

_____

Operating Range:

_____

_____

C. Steam Generation: YES _____ NO _____

Steam Utilization: Process/Heat or Cool/Power Generation:
Used On Site: _____%
Sold Off Site for Use: _____

D. Air Pollution Control: Wet Scrubbers/Dry Scrubbers/Precipitators/Other:

_____

_____

E. Effluent Control: From scrubber quench to

_____

_____

F. Computer Controlled: YES _____ NO _____

Monitored functions: Waste or Fuel Feed/Air Flow/Temperature/Stack Emissions/Other

_____

_____

Automated Emergency Shutdown: YES _____ NO _____

Caused By:

_____

6. Bulk Storage/Receiving Storage Capacity

_____ Tank Storage Capacity

_____ Ponds/Lagoons Storage Capacity

7. Drums Storage/Receiving

_____ Storage Capacity

Drum Decant Facility YES _____ NO _____

Are fiber drums received/required? YES _____ NO _____

Are small containers received? YES _____ NO _____

8. Incinerator Associated Wastes

Describe treatment and/or discharge scrubber water:

_____

_____

_____

Where and how is ash disposed of?

_____

_____

_____

How are empty drums handled?

_____

_____

_____

Percent downtime for refractory liner replacement, etc?

_____

_____

_____

Q7

PHYSICAL/CHEMICAL/BIOLOGICAL TREATMENT OF SPECIAL WASTE CATEGORIES

Future Operation – Startup May 2005, Permit No. 9558 City of Houston Under 40 CFR 43 – Centralized Waste Treatment Facility

1. Brief description of waste streams treated (e.g., cyanide waste, heavy metals, organic wastes):
   Heavy metals, oil-water streams, and organic streams.

2. Is treatment continuous or batch?

   _____ Continuous

   ___X___ Batch

3. Describe physical/chemical/biological processes employed:
   Heavy Metals Treatment System – Primary chemical precipitation, liquid-solid separation, secondary chemical precipitation, clarification, and filtration.
   Oil-Water Streams Treatment System – Primary gravity separation, acid treatment, heat treatment, emulsion breaking treatment, and secondary gravity separation.
   Organic Wastewater Treatment System – Equalization, clarification, bio/chemical oxidation, and clarification.

   Then, all three system discharges are bio-treated and clarified in a large City of Houston POTW.

4. What is the process flow rates?

Oil-Water Streams	15,000 gallons/day
Heavy Metal Streams	5,000 to 10,000 gallons/day
Organic Streams	5,000 to 10,000 gallons/day

5. Briefly describe process monitoring controls:
   pH, level measurement, pump flow rates, etc.

6. How are treated waste stream and residues ultimately disposed of?
   Sludges/solids – sent off-site to landfill.
   Oil recovered.
   Wastewater to City of Houston POTW

FACILITY WASTEWATER TREATMENT

1. Types of treatment:
   Equalization and solids settling, oil/water separation, pH adjustment, and discharge to a POTW to remove dissolved organics and TSS.

2. Is treatment batch or continuous?

   _____ Continuous

   __X__ Batch

3. How is resulting sludge disposed?
   Sludge is sent off-site to a commercial industrial landfill.

4. Is treated waste discharged to sewer system or surface water?

   Yes __X__ No _____

   If 'YES', has a permit been obtained? Yes __X__ No _____

   Treated wastewater is discharged to the City of Houston sewer system under a discharge permit no. 6806.

Q7

LANDFARM
(No Landfarm – Not Applicable)

1. Types of waste landfarmed:

   _____ Oily Wastes

   _____ Biological Pond Sludges

   _____ Metal Sludges

   _____ Sanitary Waste Sludge

   _____ Other (describe) _____

2. Is soil monitoring performed to prevent excessive metal loading?

   Yes _____ No _____

3. Describe waste application methods:

   _____

   _____

   _____

4. Is application rate controlled: Yes _____ No _____

5. How is runoff managed?

   _____ Impounded (see Surface Impoundments)

   _____ Channelized

   _____ Total Retention

   _____ Treated on-site for discharge (see Facility Wastewater Treatment)

   _____ Sewered for off-site treatment

   _____ Other (describe) _____

6. Excess waste storage capacity during inclement weather:

   _____

   _____

   _____

QT

SANITARY LANDFILL
(No Sanitary Landfill – Not Applicable)

1. Landfill primary liner is

   _____ Natural, in-place soil

   _____ Recompacted clay liner

   _____ Synthetic liner

   _____ Combination liner (describe) _____

2. Does the landfill have a leachate collection system? Yes _____ No _____

   If 'YES', where and how is leachate disposed of or treated?

   _____
   _____
   _____

3. Describe vector controls:

   _____
   _____
   _____

4. Does site have methane collection system? Yes _____ No _____

   If 'YES', briefly describe:

   _____
   _____
   _____

5. Are hazardous wastes co-disposed? Yes _____ No _____

6. Are incoming wastes chemically/physically tested? Yes _____ No _____

   If not, is any other screening performed? Yes _____ No _____

   Briefly describe:

   _____
   _____
   _____

7. How wet can the material be before being unacceptable?

   _____
   _____
   _____

Q7

8. Who performs the review of waste approvals?

_____

_____

9. Is there any State approval required for special waste? Yes _____ No _____

10. Do they perform any analysis or verification upon acceptance?

Yes _____ No _____

11. Will they accept crushed drums in the dirt or filter cake loads?

Yes _____ No _____

12. Is there any problem with debris in the loads?

Yes _____ No _____

13. Are there special waste regulations in this State?

Yes _____ No _____

14. Will they sign a Certificate of Disposal provided by Republic Environmental Systems, Inc. with each load?

Yes _____ No _____

15. How many acres is the facility comprised of?

_____

_____

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Q7

SECURE CHEMICAL LANDFILL
No Chemical Landfill – Not Applicable)

1. Design & Geology

a. Cell(s) in use have single/double liner(s)?

Yes _____ No _____

Liners Description:

_____	Inches of compacted _____Clay:	On bottom/on sides/___ cap;
_____	Miles of _____ (synthetic):	On bottom/on sides/ ___cap;
_____	Inches of compacted _____ Clay:	On bottom/on sides/ ___ cap;
_____	Mils of _____ (synthetic):	On bottom/on sides/___ cap;

Other:

_____

_____

b. Closed cells have single/double liners?

Liners Description:

_____	Inches of compacted _____ Clay:	On bottom/on sides/___ cap;
_____	Miles of _____(synthetic):	On bottom/on sides/___ cap;
_____	Inches of compacted _____ Clay:	On bottom/on sides/___ cap;
_____	Mils of _____ (synthetic):	On bottom/on sides/___ cap;

Other:

_____

_____

c. Closed cell(s) have leachate collection? Yes _____ No _____

If 'YES', describe:

_____

_____

d. Cell(s) have leachate collection? Yes _____ No _____

If 'YES', describe:

_____

_____

e. _____ Cells under construction

With leachate collection? Yes _____ No _____

If 'YES', describe:

_____

_____

f. Lower cell liner

_____ Feet to surface

_____ Feet to groundwater

_____ Feet to useful aquifer/bedrock

g. Type of soil(s) beneath the site (including permeability's):

_____

_____

h. Special design features:

_____

_____

i. Run-off control; within cell(s)

_____

_____

Around each cell _____

Around site perimeter _____

j. Attach sketch of cell layout, existing & planned

2. Are drummed wastes landfilled? Yes _____ No _____

Placed in segregated areas? Yes _____ No _____

Empty drums crushed? Yes _____ No _____

Q7

3. Solidification provided on-site? Yes _____ No _____

If 'YES', (use Appendix A)
Maximum delay, acceptance to placement in cell? _____ Hours

4. Daily Cover:

_____ Inches of cover for every;

_____ Inches/Feet of Waste, Cover Material

_____

_____

From on site? Yes _____ No _____

5. Interior access roads: Dirt/Gravel/Paved

Wheel Wash? Yes _____ No _____

6. Estimated remaining life of facility?

Part A _____ Years

Part B _____ Years

Adjacent land owned/optioned for expansion? Yes _____ No _____

If 'YES', how many acres? _____

7. Operational provisions for adverse weather conditions?

Yes _____ No _____

If 'YES', covered cell/reduced/operations/stop operations/use alternate site other:

_____

_____

8. Is waste segregated and/or classified?

_____ Segregated

_____ Classified

9. Is there a price reduction based on volume? Yes _____ No _____

If 'YES', please define:

_____

_____

Q7

DEEP WELL INJECTION
(No Deepwell – Not Applicable)

1. _____ Age of well

2. Is well designed for disposal or converted?

   _____ Designed for disposal

   _____ Converted

3. _____ Depth of well

4. _____ to _____ Depth interval(s) of injection zone(s)

5. Is mechanical integrity of well verified by testing?

   Yes _____ No _____

   If 'YES', what methods and the frequencies?

   _____
   _____
   _____

6. Mechanical integrity monitoring:

	Capability	Working
Injection Pressure	_____	_____
Annular Pressure	_____	_____
Annular Temperature	_____	_____

   Other (summarize method)

   _____
   _____
   _____

7. Groundwater Monitoring:

	Capability	Working
Upper Aquifer	_____	_____
Lower most potable quality aquifer	_____	_____

   Other (briefly describe)

   _____
   _____
   _____

Q7

8. Well Workovers/Repairs

_____ Total Number

_____ Most Recent Date

_____ Annual Downtime

_____ Excess storage capacity expressed as days of downtime

CES Environmental Services, Inc.
4904 Griggs Road
Houston, TX 77021
713-676-1460 Main
713-676-1676 Fax

Mr. Mark Sokolow
City Attorney
City of Port Arthur
444 4th Street, Suite 426
Port Arthur, TX 77640

RE: PACES and Autopsy of Joey Sutter

Dear Mr. Sokolow:

The recent Joey Sutter Autopsy Report released after April 17, 2009, had several incorrect statements and omitted information. Susan Jones at Southeast Texas Forensic Center (Jefferson County Morgue) stated that the sulfhemoglobin in blood test identified on the NMS Labs Report Issued January 20, 2009 had results below testing limits and that the Toxicology Report can be revised to clearly reflect this fact. This biological marker used to indicate hydrogen sulfide exposure reflected no exposure with the low results below testing limits.

The Joey Sutter Autopsy Report did not acknowledge that the NMS Labs Report of January 20, 2009, showed the thiosulfate levels in Mr. Sutter's urine were normal. This is another biological marker for hydrogen sulfide exposure that reflected no excessive exposure.

The NMS Labs Report of March 25, 2009 did not acknowledge the results of the sulfhemoglobin blood test or thiosulfate level in urine report of January 20, 2009. The NMS Labs Report of March 25, 2009, based the hydrogen sulfide poisoning on one thiosulfate test in a blood sample that was 2.5 months old or 1.5 months beyond NMS Labs sample stability limit of one month.

The Joey Sutter Autopsy Report dated April 17, 2009 written by T. Brown is based on the March 25, 2009 NMS Labs Report that omitted information, used an old unstable blood sample, and contained other incorrect information. Both reports state that the site operator was boiling wastewater in a sealed tank (trailer). However, there was not any steam heat available at the site and no other source of heat was being used. The material in the truck trailer was oil not wastewater. (See Attached OSHA Data) Both reports omitted OSHA and PAFD testing that shows no hydrogen sulfide in Joey Sutter's clothes. Both reports

omitted OSHA data showing analysis of the gas head space over the oil sample from the trailer which reported no hydrogen sulfide. (See Attached OSHA Data)

Both reports state that the dome lid was opened by Joey Sutter when in fact the dome lid was not opened at all.

The Joey Sutter Autopsy Report written by T. Brown (04/17/09) states that Mr. Sutter was knockdown and deprived of life due to hydrogen sulfide poisoning. Technical information states that hydrogen sulfide concentrations required to knockdown must be 700 to 1000 ppm. As you can see by the attached information, Mr. Sutter was not alone on the trailer and his fellow worker's personal hydrogen sulfide alarm set at 10 ppm never activated. This also places the Sutter Autopsy Report findings in doubt, since the second person on the trailer within two feet did not have any ill effects from hydrogen sulfide, or alarm activated.

After review of the two biological markers, negative sulfhemoglobin levels in the blood and normal thiosulfate in urine, nearby hydrogen sulfide monitor alarm information, information that nearby workers were not harmed by any hydrogen sulfide, incorrect circumstantial information, and the one data point of thiosulfate in blood that was based on an old unstable blood sample and used as the basis for Mr. Brown's Autopsy Report of Joey Sutter, we believe that the autopsy came to the wrong conclusion about hydrogen sulfide exposure. In fact, Mr. Sutter had high blood pressure, enlarged heart and was obese.

We have attached information regarding the second death (Charles Brent Sittig) which shows no exposure to hydrogen sulfide and that Mr. Sittig was not in any work related activity at the time of death.

In addition, Mr. Sittig was over weight with possible blood pressure issues. (See Attached Information)

If you have any questions, please call me.

Very truly yours,

Matt Bowman

Two Incident Reports
Joey Sutter and Charles Sittig

Joey Sutter

Pre- Incident

Several days before December 17, 2008 Trailer 267 was loaded with oil from an emulsion breaking process at the PACES site 2420 South Gulfway, Port Arthur, TX.

On December 17, 2008, Brian Weathers sampled Trailer 267, removing a sample of the oil from inside the trailer. (See Attachment 1)

Incident

On December 18, 2008, at 2:00pm, Suzi Mock and Joey Sutter went to Trailer 267 to resample the oil in the trailer. Ms. Mock climbed to the top of Trailer 267 first. Mr. Sutter started up the ladder after and behind Ms. Mock. As Mr. Sutter reached the top of the latter he collapsed. Ms. Mock grabbed Mr. Sutter so he would not fall from the Trailer 267. Ms. Mock pulled Mr. Sutter to the top of the Trailer 267. Mr. Sutter and Ms. Mock did not open the dome lid nor did she or Mr. Sutter obtain a sample at this time. This was at 2:00pm, Thursday, December 18, 2008.

Ms. Mock called for help and at 2:10pm (12/18/08) the Port Arthur Fire Department was notified. (See Attachment 2) Within a few minutes of 2:00pm (12/18/08) Mr. Wood went to Ms. Mock to assist her with Mr. Sutter. Mr. Wood also assisted Ms. Mock to turn Mr. Sutter over, still on top of the Trailer 267.

At 2:20pm (12/18/08) the Port Arthur Fire Department arrived and by 2:35pm, Mr. Sutter was removed from the top of the Trailer 267 by the Port Arthur Fire Department. (See Attachment 2)

Ms. Mock did not experience any illness from any hydrogen sulfide release when she was with Mr. Sutter on top of the Trailer 267. Ms. Mock's personal hydrogen sulfide monitor did not trigger when she was on top of the Trailer 267. Ms. Mock's monitor was set to alarm at 10 ppm hydrogen sulfide. Mr. Wood did not experience any illness from hydrogen sulfide while assisting Mr. Sutter.

The Port Arthur Fire Department placed Mr. Sutter's clothes and the Port Arthur Fire Department hydrogen sulfide meter in a bag. The Port Arthur Fire Department measured a reading of -0- hydrogen sulfide. The Port Arthur Fire Department returned to the top of Trailer 267 two hours after Mr. Sutter was removed and measured only 1 ppm hydrogen sulfide. (See Attachment 2)

EPAHO120000084

Post Incident

OSHA tested Mr. Sutter's clothes for hydrogen sulfide and did not find any hydrogen sulfide. (See Attachment 3) OSHA tested the head space over an oil sample from Trailer 267 and did not find any hydrogen sulfide. (See Attachment 4)

Hydrogen sulfide technical information sources state that it takes 700 to 1000 ppm of hydrogen sulfide to knockdown an individual with hydrogen sulfide. In addition, when a group of people are together near a hydrogen sulfide release all persons suffer health problems. (See Attached 5)

OSHA measured organic sulfur compounds in the oil which exhibit a smell similar to hydrogen sulfide, but the organic sulfur compounds are liquid at ambient temperatures and not a toxic gas.

In addition, the oil in Trailer 267 was not heated prior to the December 18, 2008 incident, since no steam was available and the trailer had been loaded prior to December 17, 2008 without any modifications of the oil for two days. (See Attachment 6)

In summary, pre-incident information and post incident information does not support the concept that hydrogen sulfide was released from a trailer during a short time of a few minutes at such level of 700 to 1000 ppm to cause one of two people side-by-side to collapse and die in minutes while the second person is holding on to the dying person without having her personal hydrogen sulfide alarm activate. (See Attachment 7)

In addition, a third person climbed to the top of Trailer 267 to assist the two already on trailer without getting sick from hydrogen sulfide. Also, the Port Arthur Fire Department representative did not note any problems with anyone other than Mr. Sutter. Remember, Trailer 267 was sampled the day before with out any problems.

Joey Sutter Autopsy Comments

The autopsy based its conclusions on a lab report from NMS Labs dated March 25, 2009. This NMS Labs Report based its conclusion on one test of one blood sample which was received on March 5, 2009 by NMS Labs, when the death occurred on December 18, 2008. This delay in testing appears to have violated acceptable protocols.

The NMS Labs Report did not state that Mr. Sutter died from hydrogen sulfide poisoning. The report stated that the measured value of thiosulfate in the blood sample was similar to values found in four other situations where people were believed to have died from hydrogen sulfide. However, the thiosulfate value of 43% of the cases were above 11 mcg/ml (value measured in Mr. Sutter's blood) and 43% were below the 11 mcg/ml value. The NMS Labs Report did not refer to another NMS Labs analysis report on urine from Mr. Sutter received January 15, 2009. (See Attachment 8)

This report stated that thiosulfate in urine was normal. Technical information states that thiosulfate in urine is just as valid as thiosulfate in blood for measuring hydrogen sulfide exposure.

Both the NMS Labs Report of March 25, 2009 and the T. Brown Autopsy Report of April 17, 2009 omitted the sulfhemoglobin in blood data identified in the NMS Labs Report of January 20, 2009. Susan Jones at Southeast Texas Forensic Center (Jefferson County Morgue) stated that the sulfhemoglobin measured levels were below testing limits. As a biological marker the test data reflects no exposure to hydrogen sulfide.

Both the NMS Labs (3/25/09) report and the Mr. Sutter Autopsy had many facts wrong. For example, both stated that the site operator (PACES) was boiling water in a closed dome tank (trailer) to drive off hydrogen sulfide. Remember, this material is oil in a tanker which is not heated, since no steam was available. Also, the thiosulfate analysis of the blood did not follow correct procedures, where the thiosulfate test in the urine did follow correct lab procedures.

The Sutter Autopsy Report did show that Mr. Sutter was over weight to the point of being obese and a smoker. Mr. Sutter's blood pressure values of August 2008 were 136/90. These numbers reach the level of Stage 1 Hypertension. Technical data states that hypertension can result in hardening of the arteries, enlarged heart, and other health issues. The T. Brown Autopsy Report (04/17/09), states that Mr. Sutter had cardiomegaly (an enlarged heart). The risk of complications from an enlarged heart are heart failure, blood clots, cardiac arrest, and sudden death.

Charles Brent Sittig

Incident

On April 14, 2009, Charles Brent Sittig (truck driver for PACES) returned to the site with a load of weak caustic solution that was not loaded by him. Mr. Sittig parked the tractor and trailer to be unloaded by another person and moved away from the trailer into the maintenance office area of the plant site.

Mr. Sittig sat in a chair and collapsed while making a telephone call. Mr. Sittig was a few feet away from the maintenance person who went to him after he collapsed. The maintenance person did not have any affects from hydrogen sulfide and there was not any hydrogen sulfide release or triggered any alarms.

Post Incident

The material from Mr. Sittig's truck was placed in Tank NV1 and tested for sulfides. The measured sulfide in the material was less than 1 ppm sulfide (See Attachment 9).

Data from Mr. Sittig's file shows that he was overweight. In the past his blood pressure was close to values that would disqualify him as a driver.

In summary, Mr. Sittig was not engaged in activity at the time of death. There was no hydrogen sulfide released at the time of his death. Mr. Sittig was near others that did not experience any hydrogen sulfide problems and his trailer contained material that was below 1 ppm sulfide which he did not load or unload.

Summary of Both Incident Reports (Mr. Sutter and Mr. Sittig)

Hydrogen sulfide poisoning could not have been the mechanism that caused the two deaths, since the exposure level (700 to 1000 ppm) required to knockdown and kill quickly would have affected companions, triggered alarms, showed up in clothes, and introduced odors over a wide area since the odor threshold of hydrogen sulfide is 0.005 ppm.

In addition, low levels of hydrogen sulfide over long periods of time would not have been a factor in the deaths since recent and past results show no adverse impacts from low levels of hydrogen sulfide. Most recent data shows that low levels of hydrogen sulfide lowers blood pressure. (See Attachment 10)

However, both Mr. Sutter and Mr. Sittig had weight and blood pressure issues that were significant and indicators of personal health issues.

EPAHO120000087

Attachment

1

General Affidavit

STATE OF TEXAS

COUNTY OF Jefferson

BEFORE ME, the undersigned Notary, Patricia Grace Krueger, on this 3 day of March, 2009, personally appeared Brian Weathers known to me to be a credible person and of lawful age, who being by me duly sworn, on his oath, deposes and says:

My name is Brian Weathers. I am over 21 years of age. I was the Supervisor on December 17, 2008 and on December 18, 2008 at the Port Arthur Chemical and Environmental Services, LLC ("PACES") plant site at the time Joey Sutter passed away. I have personal knowledge and experience with the PACES' personal H_2S Monitoring Equipment and Sampling of Trailers. During of December 17, 2008 my H_2S alarm at PACES did not sound an alarm warning when I obtained a sample from Trailer 267. H_2S Monitor was set at 10 ppm H_2S to alarm on December 17, 2008 when I sampled the Trailer 267.

Brian Weathers
(Signature of Affiant)

Brian Weathers
(Printed Name of Affiant)

(b) (6) [redacted]
(Address of Affiant, Line 1)

(Address of Affiant, Line 2)

STATE OF TEXAS

COUNTY OF Jefferson

Sworn to and subscribed before me on this 3 day of March, 2009, by _____.

SEAL
Patricia Grace Krueger
Notary Public
State of Texas
My Commission Expires
May 29, 2010

Patricia Grace Krueger
(Notary Public Signature)

Attachment

2

A

FDID *	State *	MM	DD	YYYY	Station	Incident Number *	Exposure *		NFIRS -1
NH715	TX	12	18	2008	2	08-0012882	000	☐ Delete ☐ Change ☐ No Activity	Basic

B Location*

☐ Check this box to Indicate that the address for this incident is provided on the Wildland Fire Module in Section B "Alternative Location Specification". Use only for Wildland fires.

Census Tract ____ - ____

☒ Street address
☐ Intersection
☐ In front of
☐ Rear of
☐ Adjacent to
☐ Directions

Number/Milepost	Prefix	Street or Highway	Street Type	Suffix
2420	S	Gulfway	DR	

Apt./Suite/Room	City	State	Zip Code
	PORT ARTHUR	TX	77640 -

Cross street or directions, as applicable

C Incident Type *

321 EMS call, excluding vehicle

Incident Type

D Aid Given or Received*

1 ☐ Mutual aid received
2 ☐ Automatic aid recv.
3 ☐ Mutual aid given
4 ☐ Automatic aid given
5 ☐ Other aid given
N ☒ None

Their FDID ____ Their State ____

Their Incident Number ____

E1 Date & Times

Midnight is 0000

Check boxes if dates are the same as Alarm Date.

	Month	Day	Year	Hr Min Sec
ALARM always required				
Alarm *	12	18	2008	14:10:33
ARRIVAL required, unless canceled or did not arrive				
☒ Arrival *	12	18	2008	14:19:20
CONTROLLED Optional, Except for wildland fires				
☐ Controlled				
LAST UNIT CLEARED, required except for wildland fires				
☒ Last Unit Cleared	12	18	2008	16:45:03

E2 Shift & Alarms

Local Option

Shift or Platoon	Alarms	District
B	01	2

E3 Special Studies

Local Option

Special Study ID# ____ Special Study Value ____

F Actions Taken *

23 Extricate, disentangle
Primary Action Taken (1)

33 Provide advanced life
Additional Action Taken (2)

Additional Action Taken (3)

G1 Resources *

☒ Check this box and skip this section if an Apparatus or Personnel form is used.

	Apparatus	Personnel
Suppression	0002	0006
EMS	0001	
Other		

☐ Check box if resource counts include aid received resources.

G2 Estimated Dollar Losses & Values

LOSSES: Required for all fires if known. Optional for non fires.

		None
Property $ ____ , 000 , 000		☐
Contents $ ____ , 000 , 000		☐

PRE-INCIDENT VALUE: Optional

Property $ ____ , 000 , 000	☐
Contents $ ____ , 000 , 000	☐

Completed Modules

☐ Fire-2
☐ Structure-3
☐ Civil Fire Cas.-4
☐ Fire Serv. Cas.-5
☐ EMS-6
☐ HazMat-7
☐ Wildland Fire-8
☒ Apparatus-9
☒ Personnel-10
☐ Arson-11

H1* Casualties ☐ None

	Deaths	Injuries
Fire Service		
Civilian		

H2 Detector

Required for Confined Fires.

1 ☐ Detector alerted occupants
2 ☐ Detector did not alert them
U ☐ Unknown

H3 Hazardous Materials Release

N ☐ None
1 ☐ Natural Gas: slow leak, no evauation or HazMat actions
2 ☐ Propane gas: <21 lb. tank (as in home BBQ grill)
3 ☐ Gasoline: vehicle fuel tank or portable container
4 ☐ Kerosene: fuel burning equipment or portable storage
5 ☐ Diesel fuel/fuel oil: vehicle fuel tank or portable
6 ☐ Household solvents: home/office spill, cleanup only
7 ☐ Motor oil: from engine or portable container
8 ☐ Paint: from paint cans totaling < 55 gallons
0 ☐ Other: Special HazMat actions required or spill > 55gal., Please complete the HazMat form

I Mixed Use Property

NN ☐ Not Mixed
10 ☐ Assembly use
20 ☐ Education use
33 ☐ Medical use
40 ☐ Residential use
51 ☐ Row of stores
53 ☐ Enclosed mall
58 ☐ Bus. & Residential
59 ☐ Office use
60 ☐ Industrial use
63 ☐ Military use
65 ☐ Farm use
00 ☐ Other mixed use

J Property Use* Structures

131 ☐ Church, place of worship
161 ☐ Restaurant or cafeteria
162 ☐ Bar/Tavern or nightclub
213 ☐ Elementary school or kindergarten
215 ☐ High school or junior high
241 ☐ College, adult education
311 ☐ Care facility for the aged
331 ☐ Hospital
341 ☐ Clinic,clinic type infirmary
342 ☐ Doctor/dentist office
361 ☐ Prison or jail, not juvenile
419 ☐ 1-or 2-family dwelling
429 ☐ Multi-family dwelling
439 ☐ Rooming/boarding house
449 ☐ Commercial hotel or motel
459 ☐ Residential, board and care
464 ☐ Dormitory/barracks
519 ☐ Food and beverage sales
539 ☐ Household goods,sales,repairs
579 ☐ Motor vehicle/boat sales/repair
571 ☐ Gas or service station
599 ☐ Business office
615 ☐ Electric generating plant
629 ☐ Laboratory/science lab
700 ☐ Manufacturing plant
819 ☐ Livestock/poultry storage(barn)
882 ☐ Non-residential parking garage
891 ☒ Warehouse

Outside

124 ☐ Playground or park
555 ☐ Crops or orchard
569 ☐ Forest (timberland)
307 ☐ Outdoor storage area
919 ☐ Dump or sanitary landfill
931 ☐ Open land or field
936 ☐ Vacant lot
938 ☐ Graded/care for plot of land
946 ☐ Lake, river, stream
951 ☐ Railroad right of way
960 ☐ Other street
961 ☐ Highway/divided highway
962 ☐ Residential street/driveway
981 ☐ Construction site
984 ☐ Industrial plant yard

Lookup and enter a Property Use code only if you have NOT checked a Property Use box:

Property Use 891

Warehouse

NFIRS-1 Revision 03/11/99

EPAHO120000091

K1 Person/Entity Involved

Local Option

ECA Environmental Services (Business name (if applicable)) | 409 - 293 - 6854 (Area Code - Phone Number)

[X] Check This Box if same address as incident location. Then skip the three duplicate address lines.

Mr.,Ms., Mrs.	First Name	MI	Last Name	Suffix
	Joey		Sutter	

Number	Prefix	Street or Highway	Street Type	Suffix
2420	S	Gulfway	DR	

Post Office Box | Apt./Suite/Room | City: PORT ARTHUR

State: TX | Zip Code: 77640 -

[ ] More people involved? Check this box and attach Supplemental Forms (NFIRS-1S) as necessary

K2 Owner

Local Option

[ ] Same as person involved? Then check this box and skip The rest of this section.

Business name (if Applicable) | Area Code - Phone Number

[ ] Check this box if same address as incident location. Then skip the three duplicate address lines.

Mr.,Ms., Mrs.	First Name	MI	Last Name	Suffix

Number	Prefix	Street or Highway	Street Type	Suffix

Post Office Box | Apt./Suite/Room | City

State | Zip Code -

L Remarks

Local Option

<<Logs>> 14:11:03 00005150 : sc enrte ; 14:14:36 00005062 : PER 5014 CALL BACK ADVISED FULL ARREST/E2 EMS ADVISED ; 14:19:30 00005062 : E2 1410 1419 ; 14:19:54 00005062 : RETONE ; 14:20:17 00005062 : W2 REQUEST R1 ASSIST ; 14:21:44 00005062 : TURN AT TALON'S/ENVIRONMENTAL//RD BEFORE IC BRIDGE ST COM ON RIGHT DOWN DIRT RD ; 14:28:08 00005145 : e2-heavy set man ontop of the tanker ; 14:30:06 00005145 : bringing him down now ; 14:33:23 00005145 : hr1 has a firefighter riding with ems to hospital enroute to pick him up ////st mary ; 14:45:56 00005145 : e2 to st marys to give information ; 14:56:51 00005145 : e2 at st mary ; 15:03:45 00005145 : told unit 3 to call the chief the hospital is treating this as a hazmat incident ; 15:19:40 00005145 : e2 leaving st mary going back to scene ; 15:31:04 00005145 : hr1 toned out of service ; 15:32:18 00005145 : e2 back on the csene ; 16:04:51 00005145 : msds is non toxic ; 16:07:20 00005145 : e2 back in service going to station ; 16:14:27 00005145 : ernout to st mary hospital ; 16:23:31 00005145 : at st mary again ; 16:45:03 00005145 : Incident Closed ;

On 12/18/2008 at 14:10:33 dispatched To 2420 S Gulfway DR /PORT ARTHUR, TX 77640. The location is a Warehouse. The incident was determined to be a(n) EMS call, excluding vehicle accident with injury.

14:19:20 arrived on scene.
The following actions were performed on scene:
Extricate, disentangle
Provide advanced life support (ALS)

Units responding were:
Unit E2 responded.

L Authorization

Officer in charge ID	Signature	Position or rank	Assignment	Month	Day	Year
29450	PEAKE, THOMAS W	CA		12	18	2008

Check Box if same as Officer in charge. [X]

Member making report ID	Signature	Position or rank	Assignment	Month	Day	Year
29450	PEAKE, THOMAS W	CA		12	18	2008

FDID *	State *	MM Incident Date *	DD Incident Date *	YYYY Incident Date *	Station	Incident Number *	Exposure *	Complete Narrative
NH715	TX	12	18	2008	2	08-0012882	000	

Narrative:

<<Logs>> 14:11:03 00005150 : sc enrte ; 14:14:36 00005062 : PER 5014 CALL BACK ADVISED FULL ARREST/E2 EMS ADVISED ; 14:19:30 00005062 : E2 1410 1419 ; 14:19:54 00005062 : RETONE ; 14:20:17 00005062 : W2 REQUEST R1 ASSIST ; 14:21:44 00005062 : TURN AT TALON'S/ENVIRONMENTAL//RD BEFORE IC BRIDGE ST COM ON RIGHT DOWN DIRT RD ; 14:28:08 00005145 : e2-heavy set man ontop of the tanker ; 14:30:06 00005145 : bringing him down now ; 14:33:23 00005145 : hr1 has a firefighter riding with ems to hospital enroute to pick him up ////st mary ; 14:45:56 00005145 : e2 to st marys to give information ; 14:56:51 00005145 : e2 at st mary ; 15:03:45 00005145 : told unit 3 to call the chief the hospital is treating this as a hazmat incident ; 15:19:40 00005145 : e2 leaving st mary going back to scene ; 15:31:04 00005145 : hr1 toned out of service ; 15:32:18 00005145 : e2 back on the csene ; 16:04:51 00005145 : msds is non toxic ; 16:07:20 00005145 : e2 back in service going to station ; 16:14:27 00005145 : ernout to st mary hospital ; 16:23:31 00005145 : at st mary again ; 16:45:03 00005145 : Incident Closed ;

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14:19:20 arrived on scene.
The following actions were performed on scene:
Extricate, disentangle
Provide advanced life support (ALS)

Units responding were:
Unit E2 responded.
Unit HR1 responded.
Unit SC63 responded.

16:45:03 all units back in service.

Dispatched to difficulty breathing. While enroute the call was upgraded to a full arrest. AOSTF patient on top of a tanker. Company emloyees had begun cpr. Fire engineer Barideaux and fire fighter Delacerda climbed on top of tanker and took over cpr. Captain Peake directed resources needed for the retrieval of patient from atop the tanker. Company employee made mention that the patient may have been exposed to toxic fumes. FD backboarded the patient and lowered the patient to the ground and onto waiting Stat Care ems stretcher. Fire fighter Thibedeaux rode with patient to SMH to assist ems.
HR1 went to SMH while E2 gathered patient info. E2 went to SMH and found hospital doing a hazmat wash on patient. E2 returned to scene to take drager readings from top of tanker. Drager read 1 ppm of H2S. Obtained msds sheet on tanker contents. Msds showed chemical to be sulfurized isobutylene. Toxicological Data showed all areas to be: Practically non-toxic. E2 returned to SMH msds sheet for distribution to the hospital and JP. E2 returned to service.

HR-1 Supplement:

HR-1 responded to assist. FF Thibodeaux rode in with EMS to St. Mary. Upon arrival the EMS staff complained of a strong odor from the pt. and his clothing. Hospital staff removed clothing and placed into a biohazard bag. FD placed a meter in the bag. The meter detected no lel, no H2S, no CO, and indicated an O2 % of 20.9. The deceased was placed in a secure room ouitside of the ER. FF Thibodeaux was provided with scrubs from the hospital and was

FDID *	State *	MM Incident Date *	DD Incident Date *	YYYY Incident Date *	Station	Incident Number *	Exposure *	Complete Narrative
NH715	TX	12	18	2008	2	08-0012882	000	

Narrative:

able to remove her clothing and shower. Capt. Achord and FE Richard donned class B suits and airpacks and assisted in placing the deceased into two body bags for transfer to the morgue. Both the class B suits and the pt.'s clothing went with the decedant to the morgue.

A

FDID *	State *	MM	DD	YYYY	Station	Incident Number *	Exposure *	Delete / Change	NFIRS - 10 Personnel
NH715	TX	12	18	2008	2	08-0012882	000	☐ Delete ☐ Change	

B Apparatus or Resource * (Use codes listed below) | **Date and Times** (Check if same as alarm date; Month Day Year Hours/mins) | **Sent** [X] | **Number of People *** | **Use** (Check ONE box for each apparatus to indicate its main use at the incident.) | **Actions Taken** (List up to 4 actions for each apparatus and each personnel.)

1 ID E2 | Type 11

		Month	Day	Year	Hours/mins
Dispatch	[X]	12	18	2008	14:10
Arrival	[X]	12	18	2008	14:19
Clear	[X]	12	18	2008	16:45

Sent [X] | Number of People: 3 | Use: [X] Suppression [ ] EMS [ ] Other

Personnel ID	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken
29450	PEAKE, THOMAS	CA	X				
49817	DELACERDA, TRAVIS	FF	X				
70785	BARIDEAUX, THADDEUS	FF	X				

2 ID HR1 | Type 70

		Month	Day	Year	Hours/mins
Dispatch	[X]	12	18	2008	14:10
Arrival	[X]	12	18	2008	14:30
Clear	[X]	12	18	2008	16:45

Sent [X] | Number of People: 3 | Use: [X] Suppression [ ] EMS [ ] Other

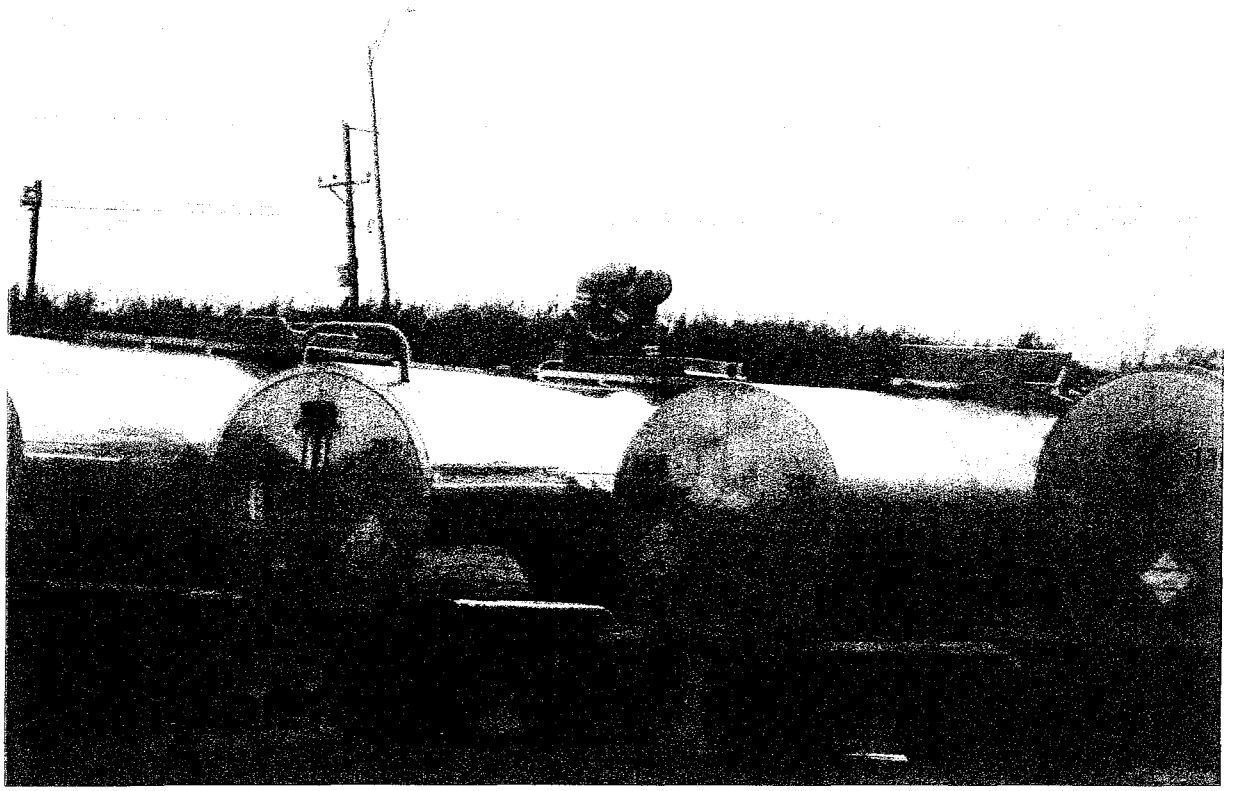
Personnel ID	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken
25700	ACHORD, JON	CA	X				
30005	RICHARD, BRANDAN	FE	X				
30725	THIBODEAUX, ANGELL	FF	X				

3 ID SC63 | Type 76

		Month	Day	Year	Hours/mins
Dispatch	[X]	12	18	2008	14:10
Arrival	[X]	12	18	2008	14:22
Clear	[X]	12	18	2008	16:45

Sent [X] | Number of People: 0 | Use: [ ] Suppression [X] EMS [ ] Other

Personnel ID	Name	Rank or Grade	Attend [X]	Action Taken	Action Taken	Action Taken	Action Taken



Port Arthur Fire Department Haz-Mat Sampling Tanker Unit 267 (Close-up)

See Port Arthur Fire Department Incident Report # 08-0012882 Page 3 HR-1 Supplement

Indicating Draeger Read of 1 ppm of H2S (Incident Report Attached)

Attachment

3

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326608

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	PTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) GC/MS ANALYSIS

Air from the closed bag was drawn through a Carbotrap 300 tube for volatiles analysis. Swatches of cloth were cut from sweat pants (2), shirt (3), and jeans (2) and extracted in carbon disulfide for GC/MS analysis. Draeger tube analysis for hydrogen sulfide and mercaptans was conducted. Swatches from shirt and jeans were extracted in water, which was tested with pH strips.

D-55438: HazMat suit was not analyzed.

D-55439: Carbotrap tube: Numerous disulfide compounds including CS2, dimethyl disulfide, diethyl disulfide, dimethyl trisulfide, diethyl trisulfide, and others. Also, acetone, isopropanol, ethyl benzene, xylene, and 2-ethyl hexanol. Sweat pants: Dimethyl disulfide, fatty acids, glycerin, and long-chain alcohols and amines. Shirt: Elemental sulfur, phthalate and adipate esters, phenol and alkyl phenols, nonyl phenol isomers, alkyl cyclopentadienes, fatty acids, alcohols and amines, dimethyl dislufide, benzyl alcohol, and detergent compounds. Jeans: Elemental sulfur, phenol and alkyl phenols, alkyl cyclopentadienes, disulfide compounds, phthalate and adipate esters, and detergent compounds. Draeger tubes produced no evidence of hydrogen sulfide or mercaptans. pH on cloth swatches tested was not elevated, indicating absence of caustics such as NaOH.

27.Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	14 JAN 2009
c. Rec'd by Anal.	PH	14 JAN 2009
d. Anal. Completed	PH	21 JAN 2009
e. Calc. Checked	MEE	31 JAN 2009
f. Supr. OK'd	WP	22 JAN 2009

28 Submission number	I975-1	I975-2
29 Lab Sample No. (Minutes/Type)	D55438 B	D55439 B

30. Analyte	31. Analysis Results/ 32. Sample included in calculations of	
M125 Qualitative Mass-Spec Analysis	NA	BULK

EPAHO120000098

Attachment

4

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) HISTORICAL GC/MS

A portion of bulk oil was placed in carbon disulfide for analysis by GC/mass spectrometry. Testing for pH was done by placing a portion of oil in water, then testing the water with pH indicator strips. Testing for H2S and SO2 in bottle headspace was done using detector tubes.

D-55599: Most abundant organic analytes were phenol, cresols and other alkyl phenols. Also found were numerous sulfides, disulfides, trisulfides, and tetrasulfides, as well as toluene, xylene, and elemental sulfur. Indicator strips gave an approximate pH of 6. H2S and SO2 were not detected in headspace over the oil.

27.Chain of Custody	Init.	Date
a. Seals Intact	Y	
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	PH	22 JAN 2009
d. Anal. Completed	PH	23 JAN 2009
e. Calc. Checked	MEE	23 JAN 2009
f. Supr. OK'd	WP	26 JAN 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 B

30. Analyte	31. Analysis Results/	32. Sample included in calculations of
M125 Qualitative Mass-Spec Analysis	BULK	

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code SAE Value
M125

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT

EPAHO120000100

Attachment

5

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 35:192–195 (1999)

Hydrogen Sulfide Poisoning: Clarification of Some Controversial Issues

Thomas H. Milby, MD,* and Randall C. Baselt, PhD[1]

Background *Hydrogen sulfide is a toxic gas about which much has been written. We discuss here several issues we believe would benefit from further clarification.*
Conclusions *We conclude that: 1) Certain neurotoxic effects of exposure are probably due to a direct toxic effect on the brain, while others are almost certainly a result of hypoxia secondary to H_2S-induced respiratory insufficiency; 2) pulmonary edema is a common consequence of poisoning and there is suggestive evidence of hyperactive airway responses in some individuals following brief H_2S-induced unconsciousness (knockdown); 3) criteria for acceptable community levels are very different than those governing occupational standards; 4) urinary thiosulfate determinations can be useful for monitoring occupational exposure; and 5) determination of sulfide ion concentrations in blood or major organs can be useful in corroborating a diagnosis of fatal H_2S toxicity, but there are many pitfalls in collecting, storing, and analyzing tissue and fluid samples.* Am. J. Ind. Med. 35:192–195, 1999. © *1999 Wiley-Liss, Inc.*

KEY WORDS: hydrogen sulfide; neurotoxic effects; pulmonary edema; urinary thiosulfate; blood sulfide.

INTRODUCTION

There have been several reviews of the toxicity of hydrogen sulfide to humans published in the last several decades [Milby, 1962; NRC, 1979; Beauchamp et al., 1984; Reiffenstein et al., 1992; EPA, 1993]. In the view of the authors, the majority of the data presented in these reviews continues to be valid, but some issues deserve further clarification. In this short communication, we consider the neurotoxic effects of acute exposure, effects on the lungs, community exposure issues, and diagnosis of poisoning utilizing urine, blood, and tissue analyses.

NEUROTOXIC EFFECTS

The above-cited reviews are generally consistent in the view that the most dramatic potential consequences of hydrogen sulfide exposure occur at high concentrations. At 750–1,000 ppm, inhalation of hydrogen sulfide causes abrupt physical collapse. If exposure is promptly terminated, many cases of collapse are followed by rapid and complete recovery. However, in some instances, presumably where exposure is more pronounced or prolonged, sudden collapse may give way to rapidly fatal respiratory paralysis [Milby, 1962; EPA, 1993; Guidotti, 1994].

Certain transitory neurotoxic effects associated with exposure to hydrogen sulfide such as dizziness, incoordination, and headache are probably due to the direct toxic effect of hydrogen sulfide on the brain: these effects appear far too quickly to be attributed to hypoxia. A phenomenon referred to as "knockdown" has been reported in oil field workers and others to describe sudden, brief loss of consciousness followed by immediate full recovery after short-lived exposure to very high concentrations of hydrogen sulfide (e.g., 750–1,000 ppm) [Guidotti, 1994; Aves, 1929; Smith and Gosselin, 1979]. Knockdown is likely a consequence of a direct toxic effect of hydrogen sulfide on the brain. This direct effect is believed to be due to the intracellular inhibition of cytochrome oxidase by sulfide ion, preventing utilization of oxygen [Nicholls, 1975].

Most victims of acute hydrogen sulfide poisoning who recover do so promptly and completely [Milby, 1962; NRC,

[1]Chemical Toxicology Institute, Foster City, California
*Correspondence to: Thomas H. Milby, M.D., 1399 Ygnacio Valley Rd., Suite 25, Walnut Creek, CA 94598. E-mail: tmilby@aol.com
Accepted 11 September 1998.

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EPAHO120000102

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Legal Medicine 10 (2008) 148–152

LEGAL MEDICINE

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Case Report

Two fatalities by hydrogen sulfide poisoning: Variation of pathological and toxicological findings

Mihoko Ago *, Kazutoshi Ago, Mamoru Ogata

Department of Legal Medicine, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima 890-8544, Japan

Received 28 July 2007; received in revised form 26 November 2007; accepted 29 November 2007
Available online 8 February 2008

Abstract

We report the simultaneous deaths of two individuals by inhalation of hydrogen sulfide (H_2S), produced either by the putrefaction of a large quantity of sweet corn or by heavy oil that flowed out of the fuel tank of a large stranded cargo vessel. Ten workers went into a water ballast tank of the vessel to remove remaining heavy oil and suddenly felt unwell. Two of the ten workers (patient A, a male in his early thirties, and patient B, a male in his early sixties) died. Autopsies of the two patients revealed a partial green discoloration of the skin and pulmonary edema. Toxicological analysis revealed high levels of thiosulfate in the blood (0.089 mmol/L in patient A and 0.142 mmol/L in patient B). From these findings, we concluded that the cause of death in both patients was H_2S poisoning. In addition, the autopsy of patient A revealed petechiae of the palpebral conjunctiva and the mucous membrane of the mouth and erosion of the respiratory tract. The autopsy of patient B failed to reveal these observations. We presumed that patient B may have been exposed to higher H_2S levels, and that the circulation and respiration of patient B may have arrested faster than patient A. Thiosulfate levels in the blood may reflect the levels of H_2S exposure. This case suggests that the pathological and toxicological findings of H_2S poisoning vary from case to case.
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Keywords: Hydrogen sulfide poisoning; Thiosulfate; Pulmonary edema; Autopsy

1. Introduction

Hydrogen sulfide (H_2S) is a colorless irritant gas that is inflammable and water-soluble. H_2S has a specific gravity of 1.19 (air = 1.00) and the characteristic odor of rotten eggs [1]. H_2S is poisonous, and accidents may occur on exposure to natural gas, volcanic gas, and industrial waste. Accidents have been reported in sewage disposal facilities [2–5] and chemical processing plants [6–8], and with the ingestion of sulfur products [9,10]. H_2S is also produced naturally by the putrefaction of organic compounds. The gas produced by this process is unstable and is rapidly metabolized as thiosulfate and sulfate by hepatic oxidation, therefore, quantifying the original substances is difficult [11,12]. Fatalities by H_2S poisoning are encountered frequently in the forensic practices. There is a large amount of sulfate in the blood and urine of healthy people, whereas the thiosulfate content is very low [11,13]. In addition, thiosulfate is a major metabolite of H_2S [11]. For these reasons, thiosulfate has been reported to be a useful indicator for H_2S exposure [2–4,11,14–17]. Here, we report a case of two patients who died almost simultaneously due to H_2S poisoning. In this case, the pathological and toxicological findings were different between the two patients. We compare the findings and discuss the variable biomechanisms of H_2S poisoning.

2. Case report

A large-sized cargo vessel, approximately 36,000 tons, which was in transit with a large quantity of sweet corn, was destroyed by breaking in two due to stranding in a gulf under a heavy typhoon. The stranded cargo vessel was covered widely with a large amount of heavy oil that issued from

* Corresponding author. Tel.: +81 99 275 5313; fax: +81 99 275 5315.
E-mail address: agomiho@m.kufm.koagoshima-u.ac.jp (M. Ago).

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doi:10.1016/j.legalmed.2007.11.005

EPAHO120000103

the fuel tank. Accordingly, an operation was performed to eliminate the heavy oil inside and around the cargo vessel. At approximately one month after the accident, ten workers, including our two patients entered a water ballast tank to recover the remaining heavy oil. At 11:15 a.m., all of the workers suddenly felt unwell. Eight workers escaped by themselves from the tank with clouded consciousness. At 11:58 a.m., rescue personnel equipped with gas masks found collapsed patient A (male in his early thirties) sitting on a sloped floor and leaning on a wall. At 11:59 a.m., they found collapsed patient B (male in his early sixties) lying prone on a sloped floor. His head was located on the upper side of the sloped floor. Although a small amount of black sludge had collected on the bottom of the sloped floor, the nose and mouth of both patients were not submerged in the sludge. Rescue personnel retrieved patient A from the tank at 0:04 p.m. and patient B at 0:16 p.m. The patients arrived at a hospital at 0:59 p.m. in a state of cardiopulmonary arrest. They were pronounced dead at 1:03 p.m. (patient A) and 1:04 p.m. (patient B), respectively. After using an electric fan to remove the harmful gas from the tank and about 4 h after the accident, the air concentration of H_2S, oxygen (O_2), and carbon monoxide (CO) at the scene were estimated to be 30 ppm, 20.8% and 355 ppm, respectively. Autopsies on patient A and B were performed at 20 and 24 h after death, respectively.

3. Autopsy findings

3.1. Patient A

Patient A was a male in his early thirties. He was 169 cm in height and 68 kg in weight. A slight greenish discoloration presented on his anterior cervical region and precordia. A few black subcutaneous bleedings were observed on regions of back and upper and lower limbs. The palpebral conjunctiva and the mucous membrane of the mouth revealed marked hyperemia and a few petechiae. The ocular conjunctiva revealed marked hyperemia, but was free of petechiae. The heart weighed 330 g, and a large amount of black dark-red fluid blood was retained in the heart. The left and right lungs weighed 830 and 925 g, respectively, with marked swelling and congestion. There was a little dark brown-red mucous fluid mixed with the micro foam in the trachea and bronchia. The mucous membrane of the glottis, trachea and bronchia revealed extensive erosion and submucosal hemorrhage (Fig. 1A). Extensive erosion and submucous hemorrhages were seen in the entire inner membrane of the esophagus. Erosion was found in the posterior wall of the fundus ventriculi and the cardia of the lesser curvature of the stomach. The lumen of the small intestine revealed congestion and localized erosion. The liver and the spleen weighed 1800 and 120 g, respectively, and both organs revealed no remarkable changes except for congestion. The brain weighed 1480 g, and slight cerebral edema was noted. There were no remarkable findings in other organs except for congestion.

Histological examination revealed marked congestion and edema in both lungs. Marked congestion, erosion and submucosal hemorrhage, as well as edema of the tunica propria and tela submucosa were observed in the epiglottis, glottis vocalis (Fig. 2A), trachea and bronchia. Similar findings were observed in the esophagus and stomach. Severe necroses were noted in the tracheal and bronchial glands. No remarkable changes, except for congestion, were found in other organs including the liver.

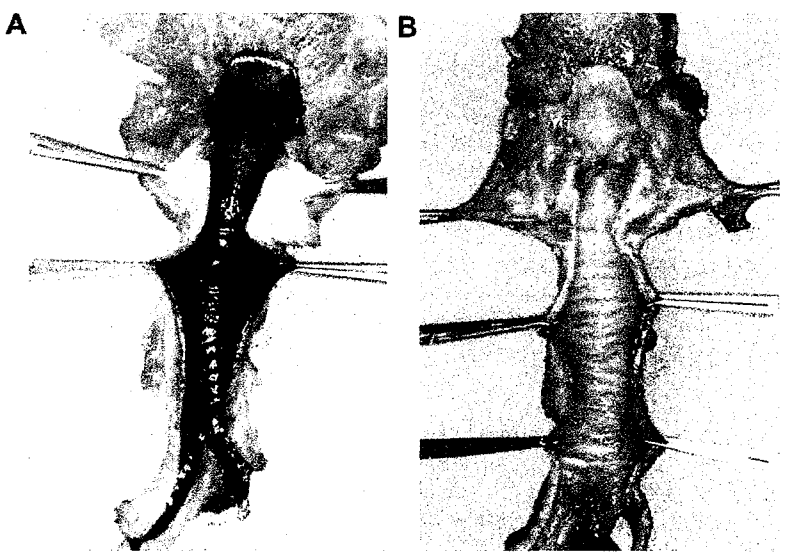

Fig. 1. The trachea of patient A (A) and B (B). The mucous of patient A reveals extensive erosion and the submucous bleeding, whereas the mucous of patient B reveals hyperemia, but is free of erosion.

EPAHO120000104

Attachment

6

General Affidavit

STATE OF TEXAS

COUNTY OF Harris

BEFORE ME, the undersigned Notary, Juanita Thomas, on this 22 day of May, 2009, personally appeared Matt Bowman known to me to be a credible person and of lawful age, who being by me duly sworn, on his oath, deposes and says:

"My name is Matt Bowman. I am over 21 years of age. I was the President on December 18, 2008, at the Port Arthur Chemical and Environmental Services, LLC ("PACES") plant site at the time Joey Sutter passed away. I have personal knowledge of the PACES operations. During the morning and afternoon of December 18, 2008, Trailer 267 was not heated with steam or any other source of heat. Steam was not available."

Matt Bowman
(Signature of Affiant)

Matt Bowman
(Printed Name of Affiant)

(b) (6)
(Home Address)

(b) (6)
(City, State & Zip)

STATE OF TEXAS

COUNTY OF Harris

Sworn to and subscribed before me on this 22 day of May, 2009, by MATT BOWMAN.

SEAL
JUANITA THOMAS
Notary Public, State of Texas
My Commission Expires
May 24, 2009

Juanita Thomas
(Notary Public Signature)

Attachment

7

General Affidavit

STATE OF TEXAS

COUNTY OF Jefferson

BEFORE ME, the undersigned Notary, Patricia Grace Krueger, on this 3 day of March, 2009, personally appeared Suzie Mock known to me to be a credible person and of lawful age, who being by me duly sworn, on her oath, deposes and says:

My name is Suzie Mock. I am over 21 years of age. I was an employee on December 18, 2008 at the Port Arthur Chemical and Environmental Services, LLC ("PACES") plant site at the time Joey Sutter passed away. I have personal knowledge and experience with the situation during the incident involving Joey Sutter. During the morning and afternoon of December 18, 2008 my personal monitor for the H_2S did not sound an alarm warning. My personal H_2S Monitor Alarm was set at 10 ppm for H_2S on December 18, 2008.

Suzie Mock
(Signature of Affiant)

Suzie Mock
(Printed Name of Affiant)

(b) (6) [redacted]
(Address of Affiant, Line 1)

(Address of Affiant, Line 2)

STATE OF TEXAS

COUNTY OF Jefferson

Sworn to and subscribed before me on this 3rd day of March, 2009, by _____.

SEAL

Patricia Grace Krueger
Notary Public
State of Texas
My Commission Expires
May 29, 2010

Patricia Grace Krueger
(Notary Public Signature)

Attachment

8

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIAL

Toxicology Report

Report Issued 01/20/2009 17:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	10973749
Age	Not Given
Gender	Male
Workorder	09009238

FILED
APR 2 2 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Creatinine	**1959**	**mg/L**	**Urine**
Thiosulfate	**3.4**	**mcg/mL**	**Urine**
Thiosulfate (Creatinine corrected)	**1.7**	**mcg/g Creat**	**Urine**

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	10.75 mL	Not Given	Blood	
002	Red Top Tube	9.75 mL	Not Given	Urine	

All sample volumes/weights are approximations.

Specimens received on 01/15/2009.

Testing Requested:

Analysis Code	Description
4235B	Sulfhemoglobin, Blood
4472U	Thiosulfate, Urine

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Creatinine	1959	mg/L	5.0	002 - Urine	Colorimetry
Thiosulfate	3.4	mcg/mL	1.0	002 - Urine	IC
Thiosulfate (Creatinine corrected)	1.7	mcg/g Creat	0.51	002 - Urine	IC

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of *toxicological significance by procedures outlined in the accompanying Analysis Summary.*

Reference Comments:

1. Creatinine - Urine:

   ACGIH Normal range in adults:
   300 - 3400 mg/L (mean: 1000 mg/L)
   [0.3 - 3.4 g/L (mean: 1 g/L)]
   1000 - 1600 mg/day (1.0 - 1.6 g/day).

2. Thiosulfate - Urine:

   Thiosulfate is a byproduct of the metabolic degradation of cysteine and methionine. As a result, normal endogenous levels of thiosulfate can be found in urine. However, whether normal levels of thiosulfate can be found in serum, plasma or whole blood is debatable. Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma and/or whole blood. Hydrogen sulfide exposure is a common source of increased urinary and serum levels of thiosulfate.

   Reported endogenous thiosulfate levels in urine range from 1 - 5 mcg/mL.

3. Thiosulfate (Creatinine corrected) - Urine:

   Normal: Up to 8 mcg/g Creatinine.
   15 hours after a 60 minute exposure to air concentrations of 60 micromoles/L Hydrogen Sulfide resulted in urine concentrations up to 60 mcg/g Creatinine.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Analysis Summary:

Acode 4235B - Sulfhemoglobin, Blood

- Analysis by Spectrophotometry (SP) for: Sulfhemoglobin

Acode 4472U - Thiosulfate, Urine

- Analysis by Colorimetry (C) for: Creatinine
- Analysis by Ion Chromatography (IC) for: Thiosulfate, Thiosulfate (Creatinine corrected)

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1: Ig Sanita Pubbl. 2004 Jul-Aug;60(4):201-17.

Links

[Measurement of sulfhemoglobin (S-Hb) blood levels to determine individual hydrogen sulfide exposure in thermal baths in Italy]

[Article in Italian]

Ensabella F, Spirito A, Duprè S, Leoni V, Schininà ME, Strinati F, Amiconi G.

Dipartimento di Scienze di Sanità Pubblica, Università di Roma La Sapienza.

Significant exposure to hydrogen sulfide may occur in workers at sulphureous thermal baths. Work-related exposure to hydrogen sulfide may be shown by measuring sulfhemoglobin (S-Hb) blood levels. In this study we measured S-Hb blood levels in two groups of workers at two different thermal baths and compared these with hydrogen sulfide concentrations in the air of the two work environments. Our results show that blood S-Hb levels can be considered a reliable measure of individual exposure to hydrogen sulfide.

PMID: 15583709 [PubMed - indexed for MEDLINE]

Related articles

Review Hydrogen sulfide (H2S) and sour gas effects on the eye. A historical perspective. [Ciba Found Symp. 2006]

[Effect of sulfide-hydrogen sulfide baths on sulfhydryl groups (SH) in the serum of patients] [Ter Arkh. 1988]

[Mechanisms of sulfhemoglobinemia] [Folia Med Cracov. 1974]

Monitoring risks in association with exposure levels among wastewater treatment plant ... [Ann Ist Super Sanita. 2007]

Review Twenty-foot fall averts fatality from massive hydrogen sulfide exposure. [Occup Med. 2001]

» See reviews... | » See all...

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EPAHO120000112

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New Tests

Test Updates

Analysis Code	4235B
Test Name	**Sulfhemoglobin, Blood**
Test Includes	Sulfhemoglobin [SP]
Compound Synonym(s)	SHb
Purpose	Diagnostic Monitoring
Category	**Biological Marker (Exposure)**
Method(s)	Spectrophotometry (SP)
Specimen Requirements	1 mL EDTA Blood (lavender top tube)
Special Handling	Collect Blood during or at end of shift. Chill and ship with cold pack. DO NOT FREEZE!
Day(s) Test Set-up	[SP] Tuesday Thursday 1 day
Suggested CPT Code	[SP] 83060

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TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital

Heart Conditions

High Blood Pressure (Hypertension)

Hypertension, the medical term for high blood pressure, is known as "the silent killer." At least 73 million Americans have high blood pressure, and as many as 20 million of them do not even know they have the condition. If left untreated, high blood pressure greatly increases your risk for heart attack and stroke.

Your heart pumps blood through a network of arteries, veins, and capillaries. The moving blood pushes against the arterial walls, and this force is measured as blood pressure.

High blood pressure results from the tightening of very small arteries called arterioles. Arterioles regulate the blood flow through your body. As these arterioles tighten (or constrict), your heart has to work harder to pump blood through the smaller space, and the pressure inside the vessels grows.

Be heart-smart about high blood pressure.

- How does high blood pressure affect health?
- What are the causes?
- How is it diagnosed?
- How high is high?
- How is it treated?

Your Guide to Lowering High Blood Pressure

High blood pressure can affect your health in four main ways:

- **Hardening of the arteries.** Pressure inside your arteries can cause the muscles that line the walls of the arteries to thicken. Thickening causes the arteries to narrow. A heart attack or stroke can occur if a blood clot blocks blood flow to your heart or brain.
- **Enlarged heart.** High blood pressure increases the amount of work for your heart. Like any heavily exercised muscle in your body, your heart grows bigger. The bigger your heart is, the less able it is to maintain proper blood flow. As a result, you feel weak and tired and are not able to exercise or perform physical activities. Your heart has begun to fail. Without treatment, your heart failure will only get worse.
- **Kidney damage.** Prolonged high blood pressure can damage your kidneys if the arteries supplying your kidneys with blood are affected.
- **Eye damage.** If you have diabetes, high blood pressure can cause the tiny capillaries in the retina of your eye to bleed. This condition, called retinopathy, can lead to blindness.

What causes high blood pressure?

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About 90% to 95% of all high blood pressure cases are what is called **primary**, or **essential hypertension**. That means the real cause of the high blood pressure is not known, but a number of factors are associated with the condition. You are at an increased risk of high blood pressure if you

- Have a family history of high blood pressure.
- Are African American. African Americans develop high blood pressure more often than whites, and it tends to happen earlier in life and be more severe.
- Are male. Women are at an increased risk after age 55.
- Are older than 60. Blood vessels become more brittle with age and are not as flexible.
- Face high levels of stress. In some studies, stress, anger, hostility, and other personality traits have been shown to lead to high blood pressure, but the findings have not always been consistent. Emotional factors most likely add to the risk of high blood pressure for people who also have other risk factors.
- Are overweight or obese.
- Use tobacco products. Smoking damages your blood vessels.
- Use oral contraceptives. Women who smoke and use oral contraceptives greatly increase their risk.
- Eat a diet high in saturated fat.
- Eat a diet high in salt (sodium).
- Drink more than a moderate amount of alcohol. Experts say that moderate intake is an average of one to two drinks per day for men and one drink per day for women. One drink is defined as 1½ fluid ounces (fl oz) of 80-proof spirits (such as bourbon, Scotch, vodka, gin, etc.), 1 fl oz of 100-proof spirits, 4 fl oz of wine, or 12 fl oz of beer.
- Are physically inactive.
- Have diabetes.

Researchers have also found a gene that appears to be linked to high blood pressure. If you have the gene, it does not mean that you or your children will develop high blood pressure. But it does mean that you are more likely to develop high blood pressure, so your blood pressure should be closely watched.

The remaining patients with high blood pressure have what is called **secondary hypertension**. Secondary hypertension means that the high blood pressure is the result of another condition or illness. Many cases of secondary hypertension are caused by kidney disorders. Other conditions that can cause secondary hypertension are

- Problems with the parathyroid gland.
- Acromegaly, which is a condition where the pituitary gland makes too much growth hormone.
- Tumors in the adrenal or pituitary glands.
- Reactions to medicines for other medical problems.
- Pregnancy.

What are the symptoms of high blood pressure?

Most people who have high blood pressure usually do not have symptoms. In some cases, people with high blood pressure may have a pounding feeling in their head or chest, a feeling of lightheadedness or dizziness, or other signs. If

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there are no warning signs, people with high blood pressure may go years without knowing they have the condition.

How is high blood pressure diagnosed?

A visit to your doctor is the only way to find out if you have high blood pressure. You should have a general medical check-up that includes a review of your family's medical history. Your doctor will take several blood pressure readings using a device called a sphygmomanometer and run a few routine tests.

Your doctor may also use a device called an ophthalmoscope to look at the blood vessels in your eyes. Doctors can see if these vessels have thickened, narrowed, or burst, which may be a sign of high blood pressure. Your doctor will also use a stethoscope to listen to your heart and the sound of blood flowing through your arteries. In some cases, a chest x-ray and electrocardiogram may be needed.

Blood pressure readings

Blood pressure readings measure the two parts of blood pressure: systolic and diastolic pressures. Systolic pressure is the force of blood flow through an artery when the heart beats. Diastolic pressure is the force of blood flow within blood vessels when the heart rests between beats.

A blood pressure reading measures both the systolic and diastolic forces, with the systolic pressure listed first. The numbers show your pressure in units of millimeters of mercury (mm Hg)—how high the pressure inside your arteries would be able to raise a column of mercury. For example, a reading of 120/80 mm Hg means a systolic pressure of 120 mm Hg and diastolic pressure of 80 mm Hg.

Most doctors do not make a final diagnosis of high blood pressure until they measure your blood pressure several times (at least 2 blood pressure readings on 3 different days). Some doctors ask their patients to wear a portable machine that measures their blood pressure over the course of several days. This machine may help the doctor find out whether a patient has true high blood pressure or what is known as "white-coat hypertension." White-coat hypertension is a condition in which a patient's blood pressure rises during a visit to a doctor, but not at other times. Although doctors are not sure what causes white-coat hypertension, anxiety and stress probably play a role.

How often should blood pressure be checked?

Adults should have their blood pressure checked at least once a year. Many grocery or drug stores have blood pressure machines that you can use for free any time you visit the stores. Keep in mind, though, that these machines may not give you a correct reading.

Blood pressure monitors for use at home can be bought at drug stores, department stores, and other places. Again, these monitors may not always give you a correct reading. You should always compare your machine's reading

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with a reading from your doctor's machine to make sure they are the same. Remember that any measurement above normal should prompt a visit to the doctor, who can then talk with you about the best course of action.

How high is high?

According to new guidelines released by the National Heart, Lung, and Blood Institute (NHLBI) in 2003, a reading below 120/80 mm Hg is now classified as normal blood pressure. Those with a blood pressure reading anywhere from 120/80 up to 139/89 (once thought to be normal) are now classified within a category called "prehypertension." The NHLBI says that about 45 million Americans fall within the prehypertension category, which puts them at twice the risk of developing high blood pressure later in life.

Blood Pressure Classification Chart

Category	Systolic (mm Hg)	Diastolic (mm Hg)
Normal	Lower than 120	Lower than 80
Prehypertension	120 - 139	80 - 89
Hypertension		
Stage 1	140-159	90-99
Stage 2	160 or higher	100 or higher

Adapted from The Seventh Report on the joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), NIH Publication No. 03-5233, May 2003

The classification chart is based on adults, aged 18 and older, who are not taking high blood pressure medicines and who are not acutely ill. If systolic and diastolic measurements fall into different categories, the higher category should be used to classify the person's blood pressure status.

How is high blood pressure treated?

The first course of action usually involves lifestyle changes, especially for people with prehypertension.

- Start eating a low-fat and low-salt diet.
- Lose weight, if you need to.
- Begin a regular exercise program.
- Learn to manage stress.
- If you smoke, quit.
- Drink alcohol in moderation, if at all. Remember that moderate intake is an average of one or two drinks per day for men and one drink per day for women.

Medicines are available if these changes do not help control your blood pressure within 3 to 6 months. Diuretics help rid your body of water and sodium. ACE inhibitors block the enzyme that raises your blood pressure. Other types of medicines— beta blockers, calcium channel blockers, and other vasodilators— work in different ways, but their overall effect is to help relax and widen your

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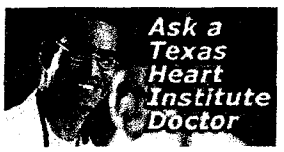
blood vessels and reduce the pressure inside the vessel.

See also on this site:

- Congestive Heart Failure
- Heart Attack Warning Signs
- Stroke
- "Recognizing Hypertension and its Symptoms in Children" (presentation available in the Project Heart subsite)



Does managing blood pressure have to be this hard?

See on other sites:

Visit the National Heart, Lung, and Blood Institute:
Your Guide to Lowering High Blood Pressure.

Download an HBP Wallet Card.

Browse the NHLBI's Keep the Beat: Heart-Healthy Recipe Book.

MedlinePlus
www.nlm.nih.gov/medlineplus/highbloodpressure.html
High Blood Pressure

Updated Feburary 2009

Return to Previous Full Page

If you need information about keeping your heart healthy, e-mail the Heart Information Center or call 1-800-292-2221.
(Outside the U.S., call 1-832-355-6536.)

Texas Heart Institute Heart Information Center
Through this community outreach program, staff members of the Texas Heart Institute (THI) provide educational information related to the prevention, diagnosis, and treatment of cardiovascular disease. It is not the intention of THI to provide specific medical advice, but rather to provide users with information to better understand their health and their diagnosed disorders. Specific medical advice will not be provided and THI urges you to visit a qualified physician for diagnosis and for answers to your questions.

Please contact our Webmaster with questions or comments.
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Enlarged heart

By Mayo Clinic staff

Original Article:http://www.mayoclinic.com/health/enlarged-heart/DS01129/DSECTION=causes

Definition

Enlarged heart (cardiomegaly) isn't a disease, but rather a symptom of another condition.

The term "cardiomegaly" most commonly refers to an enlarged heart seen on chest X-ray before other tests are performed to diagnose the specific condition causing your enlarged heart. You may develop an enlarged heart temporarily because of a stress on your body, such as pregnancy, or because of a medical condition, such as the weakening of the heart muscle, coronary artery disease, heart valve problems or abnormal heart rhythms.

While having an enlarged heart may not always be preventable, it's usually treatable. Treatment for enlarged heart is aimed at correcting the underlying cause. Treatment for an enlarged heart can include medications, medical procedures or surgery.

Symptoms

In some people, an enlarged heart causes no signs or symptoms. Others may have these enlarged heart symptoms:

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- Breathing difficulties
- Shortness of breath
- Dizziness
- Abnormal heart rhythm (arrhythmia)
- Swelling (edema)
- Cough

When to see a doctor
Enlarged heart is easier to treat when it's detected early, so talk to your doctor about any concerns you have about your heart health. If you don't have an enlarged heart, but are concerned about developing the condition, talk to your doctor about steps you can take to reduce your risk.

If you think you may have a problem with your heart based on new signs or symptoms you've been having, make an appointment to see your doctor.

Seek emergency medical care if you have any of these signs and symptoms, which may mean you're having a heart attack:

- Chest pain
- Shortness of breath
- Fainting

Causes

Sometimes, an enlarged heart develops for no apparent reason (idiopathic) but it can also be caused by a condition that can cause your heart to pump harder than usual. These conditions can include:

- **High blood pressure.** Having high blood pressure can make it so that your heart has to pump harder to deliver blood to the rest of your body, enlarging the muscle.
- **Heart valve disease.** Four valves within your heart keep blood flowing in the right direction. If the valves are damaged by such conditions as

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rheumatic fever, a heart defect, infections (infectious endocarditis), connective tissue disorders, certain medications or radiation treatments for cancer, your heart may enlarge.

- **Weakness of the heart muscle (cardiomyopathy).** Cardiomyopathy is the thickening and stiffening of heart muscle. In early stages of cardiomyopathy, you may have no symptoms. As the condition worsens, your heart may enlarge to try to pump more blood to your body.
- **A heart condition you're born with (congenital heart defect).** Many types of congenital heart defects may lead to an enlarged heart, as defects can affect blood flow through the heart, forcing it to pump harder.
- **Abnormal heartbeat (arrhythmia).** If you have an arrhythmia, your heart may not pump blood as effectively as it would if your heart rhythm were normal. The extra work your heart has to do to pump blood to your body may cause it to enlarge.
- **High blood pressure in the artery connecting your heart and lungs (pulmonary hypertension).** If you have pulmonary hypertension, your heart may need to pump harder to move blood between your lungs and your heart. As a result, the right side of your heart may enlarge.
- **Low red blood cell count (anemia).** Anemia is a condition in which there aren't enough healthy red blood cells to carry adequate oxygen to your tissues. Left untreated, chronic anemia can lead to a rapid or irregular heartbeat. Your heart must pump more blood to make up for the lack of oxygen in the blood when you're anemic. Rarely, your heart can enlarge if you have anemia for a long time and you don't seek treatment.
- **Thyroid disorders.** Both an underactive thyroid gland (hypothyroidism) and an overactive thyroid gland (hyperthyroidism) can lead to heart problems, including an enlarged heart.
- **Excessive iron in the body (hemochromatosis).** Hemochromatosis is a disorder in which your body doesn't properly use iron, causing it to build up in various organs, including your heart muscle. This can cause an enlarged left ventricle due to weakening of the heart muscle.
- **Protein buildup in your heart (amyloidosis).** Amyloidosis is a condition in which abnormal proteins circulate in the blood and may be deposited in the heart, interfering with your heart's function. If amyloid builds up in your heart, it can cause it to enlarge.

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Risk factors

You may have a greater risk of developing an enlarged heart if you have any of the following risk factors:

- **High blood pressure.** Having a blood pressure measurement higher than 140/90 millimeters of mercury puts you at an increased risk of developing an enlarged heart.
- **A family history of enlarged heart or cardiomyopathy.** If an immediate family member, such as a parent or sibling, has had an enlarged heart, you may be more susceptible to developing an enlarged heart.
- **Blocked arteries in your heart (coronary artery disease).** If you have coronary artery disease, fatty plaques in the arteries of your heart make it so blood can't easily flow through the vessels of your heart. Your heart has to pump harder to get an adequate amount of blood to the rest of your body, causing it to enlarge.
- **Congenital heart disease.** If you're born with a condition that affects the structure of your heart, you may be at risk for developing an enlarged heart, especially if your condition isn't treated.
- **Valvular heart disease.** The heart has four valves — the aortic, mitral, pulmonary and tricuspid valves — that open and close to direct blood flow through your heart. Valves may be damaged by a variety of conditions leading to narrowing (stenosis), leaking (regurgitation or insufficiency) or improper closing (prolapse). Any of these conditions may cause the heart to enlarge.

Complications

The risk of complications from an enlarged heart depends on the part of the heart that is enlarged and the underlying cause. One of most serious types of enlarged heart is an enlarged left ventricle leading to the possibility of heart failure.

- **Heart failure.** Heart failure occurs when your heart can't pump enough blood to meet your body's needs. Over time, the heart can no longer keep up with the normal demands placed on it. The heart muscle will weaken, and the ventricles stretch (dilate) to the point that the heart can't pump blood efficiently throughout your body.

Other complications of enlarged heart can include:

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- **Blood clots.** Having an enlarged heart may make you more susceptible to forming small blood clots in the lining of your heart. If clots are pumped out of the heart and enter your circulatory system, they can block the blood flow to vital organs, including your heart and brain causing a heart attack or stroke. If clots develop on the right side of your heart, they may travel to your lungs, a dangerous condition called pulmonary embolism.
- **Heart murmur.** For people who have an enlarged heart, two of the heart's four valves — the mitral and tricuspid valves — may not close properly because they become dilated, leading to a backflow of blood. This flow creates sounds called heart murmurs. Heart murmurs are not necessarily harmful, but they should be monitored by your doctor.
- **Cardiac arrest and sudden death.** Some forms of enlarged heart can lead to disruptions in your heart's beating rhythm. Some of these heart rhythms are too slow to move your blood, and some are too fast to allow the heart to beat properly. In either case, these abnormal heart rhythms can result in fainting or, in some cases, cardiac arrest or sudden death.

Preparing for your appointment

If you think you may have an enlarged heart, or are worried about your heart disease risk because of a strong family history, make an appointment with your family doctor. If heart disease is found early, your treatment may be easier and more effective. Eventually, however, you may be referred to a heart specialist (cardiologist).

Because appointments can be brief, and because there's often a lot of ground to cover, it's a good idea to be prepared for your appointment. Here's some information to help you get ready for your appointment, and what to expect from your doctor.

What you can do

- **Be aware of any pre-appointment restrictions.** At the time you make the appointment, be sure to ask if there's anything you need to do in advance, such as restrict your diet. For a cholesterol test, for example, you may need to fast for a period of time beforehand.
- **Write down any symptoms you're experiencing,** including any that may seem unrelated to coronary artery disease.

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- **Write down key personal information,** including a family history of heart disease, stroke, high blood pressure or diabetes, and any major stresses or recent life changes.
- **Make a list of all medications,** as well as any vitamins or supplements that you're taking.
- **Take a family member or friend along,** if possible. Sometimes it can be difficult to soak up all the information provided to you during an appointment. Someone who accompanies you may remember something that you missed or forgot.
- **Be prepared to discuss** your diet and exercise habits. If you don't already follow a diet or exercise routine, be ready to talk to your doctor about any challenges you might face in getting started.
- **Write down questions to ask** your doctor.

Your time with your doctor is limited, so preparing a list of questions will help you make the most of your time together. List your questions from most important to least important in case time runs out. For enlarged heart, some basic questions to ask your doctor include:

- What is likely causing my symptoms or condition?
- What are other possible causes for my symptoms or condition?
- What kinds of tests will I need?
- What is the best course of action?
- What foods should I eat or avoid?
- What's an appropriate level of physical activity?
- How often should I be screened for heart disease? For example, how often do I need a cholesterol test?
- What are the alternatives to the primary approach that you're suggesting?
- I have other health conditions. How can I best manage them together?
- Are there any restrictions that I need to follow?

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- Should I see a specialist?
- Should my children be screened for this condition?
- Is there a generic alternative to the medicine you're prescribing me?
- Are there any brochures or other printed material that I can take home with me? What Web sites do you recommend visiting?

In addition to the questions that you've prepared to ask your doctor, don't hesitate to ask questions during your appointment at any time that you don't understand something.

What to expect from your doctor

Your doctor is likely to ask you a number of questions. Being ready to answer them may reserve time to go over any points you want to spend more time on. Your doctor may ask:

- When did you first begin experiencing symptoms?
- Have your symptoms been continuous, or occasional?
- How severe are your symptoms?
- What, if anything, seems to improve your symptoms?
- What, if anything, appears to worsen your symptoms?

Tests and diagnosis

If you have symptoms of a heart problem, your doctor will perform tests to determine if your heart is enlarged and to find out the underlying cause of your condition. In addition to a physical exam, these tests may include:

- **Chest X-ray.** X-ray images help your doctor see the condition of your lungs and heart. If your heart is enlarged it might first be detected by a chest X-ray, but other tests will usually be needed to find out the specific cause. Your doctor can also use an X-ray to diagnose conditions other than enlarged heart that may explain your signs and symptoms.
- **Electrocardiogram.** This test records the electrical activity of your heart through electrodes attached to your skin. Impulses are recorded as waves

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and displayed on a monitor or printed on paper. This test helps your doctor diagnose heart rhythm problems and damage to your heart from a heart attack as well as give clues to other types of heart disease.

- **Echocardiogram.** An important test for diagnosing and monitoring an enlarged heart is the echocardiogram. An echocardiogram uses sound waves to produce a video image of your heart. In this test all of the chambers of the heart can be evaluated to determine if you do have an enlarged heart and to try and determine the cause. This test determines how efficiently your heart is pumping, assesses your heart valves, can look for evidence of previous heart attacks and can determine if you have congenital heart disease.

- **Cardiac computerized tomography (CT) or magnetic resonance imaging (MRI).** Although more commonly used to check for heart failure, more doctors are using these tests to diagnose heart problems. In a cardiac CT scan, you lie on a table inside a doughnut-shaped machine called a gantry. An X-ray tube inside the machine rotates around your body and collects images of your heart and chest.

  In a cardiac MRI, you lie on a table inside a long tube-like machine that produces a magnetic field. The magnetic field aligns atomic particles in some of your cells. When radio waves are broadcast toward these aligned particles, they produce signals that vary according to the type of tissue they are. Images of your heart are created from these signals, which your doctor will look at to determine the cause of your enlarged heart.

- **Blood tests.** Your doctor may order blood tests to check the levels of certain substances in your blood that may signal that you have an enlarged heart. Blood tests can also help your doctor rule out other conditions that may cause your symptoms.

- **Cardiac catheterization and biopsy.** In this procedure, a thin tube (catheter) is inserted in your groin and threaded through your blood vessels to your heart, where a small sample (biopsy) of your heart can be extracted for analysis in the laboratory. Pressure within the chambers of your heart can be measured to see how forcefully blood pumps through your heart. Pictures of the arteries of the heart can be taken during the procedure (coronary angiogram) to ensure that you do not have any blockage.

Treatments and drugs

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Enlarged heart treatment focuses on correcting the underlying condition.

Medications
If cardiomyopathy or another cause of a weak heart muscle is to blame for your enlarged heart, your doctor may recommend medications to treat heart failure symptoms. These include:

- **Diuretics** to lower the amount of sodium and water in your body, which can help lower the pressure in your arteries and heart, such as furosemide (Lasix), or other diuretics, such as spironolactone (Aldactone), which can help prevent further scarring of your heart tissue
- **Angiotensin-converting enzyme (ACE) inhibitors** to lower your blood pressure and improve your heart's pumping capability, such as enalapril (Vasotec), lisinopril (Zestril, Prinivil), ramipril (Altace) or captopril (Capoten)
- **Angiotensin receptor blockers (ARBs)**, such as losartan (Cozaar) and valsartan (Diovan), for those who can't take ACE inhibitors
- **Beta blockers** to lower blood pressure and improve heart function, such as carvedilol (Coreg) and metoprolol (Lopressor, Toprol-XL)
- **Digoxin**, which can help improve the pumping function of your heart and lessen the need for hospitalization for heart failure

Medical procedures and surgeries
If medications aren't enough to treat your enlarged heart, medical procedures or surgery may be necessary.

- **Medical devices to regulate your heartbeat.** For people who have a certain type of enlarged heart (dilated cardiomyopathy), a special pacemaker that coordinates the contractions between the left and right ventricle (biventricular pacing) may be necessary. In people who may be at risk of serious arrhythmias, drug therapy or an implantable cardioverter-defibrillator (ICD) may be options. ICDs are small devices — about the size of a box of matches — implanted in your chest to continuously monitor your heart rhythm and deliver electrical shocks when needed to control abnormal, rapid heartbeats. The devices can also work as pacemakers. If the main cause of your enlarged heart is due to atrial fibrillation, then you may need procedures to return your heart to regular rhythm or to keep your heart from beating too quickly.

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- **Heart valve surgery.** If your enlarged heart is caused by a problem with one of your heart valves, you may have surgery to remove the narrow valve and replace it with either an artificial valve or a tissue valve from a pig, cow or human-cadaver donor. If you have valve regurgitation, in which blood leaks backward through your valve, the leaky valve may be surgically repaired or replaced.
- **Heart transplant.** If medications can't control your symptoms, a heart transplant may be a final option. Because of the shortage of donor hearts, even people who are critically ill may have a long wait before having a heart transplant.

Lifestyle and home remedies

While you can't cure your enlarged heart with home remedies, there are some things you can do to improve your condition. Your doctor may recommend adopting the following lifestyle changes:

- Quit smoking.
- Lose excess weight.
- Eat a low-salt diet.
- Control diabetes.
- Monitor your own blood pressure.
- Get modest exercise, after discussing with your doctor the most appropriate program of physical activity.
- Eliminate or minimize the amount of alcohol you drink.
- Try to sleep eight hours each night.

Prevention

In most cases you can't prevent your heart from enlarging. Let your doctor know if you have a family history of conditions that can cause an enlarged heart, such as cardiomyopathy. If cardiomyopathy or other heart conditions are diagnosed early, treatments may prevent the disease from worsening.

You can help reduce your chance of developing heart failure by avoiding some of

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the conditions that can contribute to a weak heart, including the abuse of alcohol or cocaine, or not getting enough vitamins and minerals. Controlling high blood pressure with diet, exercise, and possibly medications also prevents many people who have an enlarged heart from developing heart failure later in life. Controlling risk factors for coronary artery disease — tobacco use, high blood pressure, high cholesterol and diabetes — helps to reduce your risk of an enlarged heart and heart failure by reducing your risk of heart attack.

References

May 6, 2009 DS01129

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Attachment

9

Charles Brent Sittig

Attached is the incident report which states that Mr. Sittig was driving a tractor with a trailer loaded with Naphthenic caustic. The trailer was loaded for him at a refinery. Mr. Sittig drove to PACES and the material was unloaded without his help into Tank NV1. When Mr. Sittig died he was away from the trailer and Tank NVl with other people (e.g. Glen Olson). After Mr. Sittig died the material from NV1 was sampled and analysis of sulfides. The value measured by Set Environmental was less than 1 ppm for NV1(See Attachment). No alarms were triggered and No other people reported H2S exposure at the time of the death.

Accutest Laboratories

Report of Analysis

Client Sample ID:	NUI		
Lab Sample ID:	T27869-1	**Date Sampled:**	04/15/09
Matrix:	AQ - Water	**Date Received:**	04/24/09
		Percent Solids:	n/a
Project:	CES		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Hydroxide Alkalinity	0.0300	5.0	0.66	mg/l	1	04/29/09 15:00	MC	SM18 4500CO2D
Sulfide	0.15 U	8.0	0.15	mg/l	1	04/29/09 13:00	KD	SM 4500S+F

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
B = Indicates a result >= SDL but < MQL

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Attachment

10

Hydrogen Sulfide Gas Shows Promise for Treating Heart Failure

November 11, 2008

At low concentrations, the toxic gas hydrogen sulfide protects the hearts of mice from heart failure, scientists at Emory University School of Medicine have found.

Their findings, presented Nov. 11 at the American Heart Association (AHA) Scientific Sessions conference in New Orleans, suggest that doctors could use hydrogen sulfide to treat humans with heart failure.

American Heart Association

Best known for its rotten-egg smell, hydrogen sulfide can pose a deadly threat to miners or sewer workers. However, scientists have recently found that enzymes within the body produce the gas in small, physiological amounts, with multiple beneficial effects such as regulating blood pressure and attenuating inflammation.

David Lefer, PhD, professor of surgery at Emory University School of Medicine, and his team created a model of heart failure in mice by blocking their left coronary arteries either temporarily for an hour or permanently, causing part of their heart muscles to die. Hydrogen sulfide was administered intravenously once a day for a week.

John Calvert, PhD, assistant professor of surgery working with Lefer, will present the findings at the AHA Meeting. "Our results show that hydrogen sulfide can blunt the impact of heart failure on heart function and mortality in a mouse model of heart failure," Calvert says.

Four weeks after artery blockage, mice treated with hydrogen sulfide had an ejection fraction, a measure of heart function, about a third larger than controls (36 compared to 27 percent). He and his colleagues also found similar effects in mice engineered to make more of an enzyme that generates hydrogen sulfide.

Heart failure, a leading cause of hospitalization for the elderly, describes a situation when the heart muscle cannot pump enough blood to meet the body's needs. Previous injury to the heart muscle from a heart attack, obesity, diabetes or high blood pressure all are contributing factors.

In a separate presentation, Calvert presented experimental data on how hydrogen sulfide works in the heart. The gas appears to stimulate heart muscle cells to produce their own antioxidants and molecules that stave off programmed cell death, a response to the loss of blood flow.

Both Calvert and Lefer are based at Carlyle Fraser Heart Center at Emory Crawford Long Hospital in Atlanta. Some of the research was performed at Albert Einstein College of Medicine in New York, with Susheel Gundewar, Saurabh Jha and John Elrod.

The research was funded by the National Institutes of Health, the American Diabetes Association and by a research grant from the biotechnology firm Ikaria Holdings. Lefer is a paid consultant for Ikaria, which is developing technology for hydrogen sulfide delivery.

About Emory Heart & Vascular Center

Emory Heart & Vascular Center doctors are committed to providing clinically excellent cardiovascular patient care, pioneering innovative clinical research and training the best heart specialists in the world. A component of Emory Healthcare, the Center is consistently recognized by U.S. News & World Report as one of the top heart centers in the country. Emory Healthcare is the clinical arm of Emory University's Woodruff Health Sciences Center and is the largest, most comprehensive health care system in Georgia.

Cope Engineering, PLLC

May 29, 2009

Inspector Gerardo Rey
Hazardous Materials and High-Piled Inspection Team
Houston Fire Department
1205 Dart St.
Houston, TX 77007
Gerardo.Rey@cityofhouston.net

RE: CES Environmental
4904 Griggs Road, Houston, Texas
Action Plan to bring facility into compliance with City of Houston Fire Code

Dear Inspector Rey:

Per your request, this letter will serve as an action plan for the submittal of construction documents and the completion of any necessary improvements to bring the CES Environmental facility into compliance with the currently adopted City of Houston Fire Code. The tasks indicated below are based upon the deficiencies noted in the conclusion of the April 10, 2009 Code Evaluation Report. Please refer to the evaluation report for specific code references and more detailed explanation of the tasks listed below.

See cover letter attached from CES Environmental indicating their approval of this action plan.

Note that due to the variety of operations, it is possible that more than one project will be submitted to the City of Houston for this facility.

We propose the following eleven month schedule for completion of the project:

July 3, 2009
Install NFPA 704 placards on all bulk tanks and hazardous materials storage areas.

Provide portable fire extinguishers and a wheeled fire extinguisher for the bulk loading and unloading area in accordance with IFC Chapter 9 and NFPA 10.

Provide an "EMPTY CONTAINER" sign for all exterior areas where cleaned and empty totes and drums are to be stored.

July 17, 2009
A written evaluation of classified electrical areas to be completed by a qualified electrician.

August 7, 2009
The east storage area currently used for gasoline and diesel storage and fueling will be eliminated. Bulk gasoline and diesel will no longer be stored on the property.

September 4, 2009
Submit first quarterly report detailing completed tasks and progress made on outstanding tasks.

The previously full bulk totes stored the west of the facility to be cleaned and removed from the facility.

October 16, 2009
Submit second quarterly report detailing completed tasks and progress made on outstanding tasks.

October 30, 2009
Provide emergency venting in accordance with IFC Chapter 34 and NFPA 30 for bulk tanks OT 11, OT12 and T9.

November 27, 2009
Submit construction documents and revised Hazardous Materials Inventory Statement to the City of Houston Building Department detailing facility modifications and/or improvements to resolve the following items:

1. Reduce quantities, change concentrations or relocate the 55-gallon drum of sulfuric acid currently utilized in the wastewater treatment process to a code compliant exterior storage area. Building C will not be renovated to allow for a hazardous occupancy as would be required for the inside storage of a 55-gallon drum of concentrated sulfuric acid.

2. The provision of spill control and secondary containment in compliance with IFC Chapter 27 for all exterior hazardous material storage and loading/unloading areas.

3. The separation of all incompatible hazardous materials in accordance with IFC Chapter 27.

4. The relocation of the bulk sulfuric acid tank away from Building D to a storage location in compliance with IFC Chapter 27.

5. The modification or relocation of the bulk loading and unloading area to bring the area into compliance with IFC Chapters 27 and 34 and NFPA 30.

6. Changes necessary to bring all classified electrical areas into compliance with IFC Chapter 34, NFPA 30 and the National Electric Code.

7. The provision of a storage area in compliance with IFC Chapter 27 for the storage of previously full totes and drums that have not yet been fully cleaned.

8. The provision of on-site fire hydrants and/or water supplies to satisfy the requirements of IFC Chapter 5.

January 29, 2010
Submit third quarterly report and projected date for approval of construction documents by City of Houston.

EPAHO120000136

April 30, 2010
Construction complete, final inspections complete and all necessary Houston Fire Department permits obtained.

Please advise if this schedule is acceptable to your office. I can be reached at 713-722-3431 with any questions or concerns.

Sincerely,

Ed D. Cope

Ed D. Cope, P.E.
Principal Engineer

cc: Greg Bowman, CES Environmental (gbowman@cesenvironmental.com)
Clark Hickman, CES Environmental (chickman@cesenvironmental.com)

Cope Engineering, PLLC

February 25, 2009

Matt Bowman
CES Environmental Services, Inc.
4909 Griggs Rd.
Houston, TX 77021
mbowman@cesenvironmental.com

RE: Proposal for Engineering Services
4909 Griggs Rd.

Dear Mr. Bowman:

I am submitting this proposal for Engineering Services for your 4909 Griggs Street facility in Houston, Texas. This letter will document information relevant to the project including scope of work, clarifications and terms and conditions.

Scope of Work

Cope Engineering will provide fire protection engineering support for the following tasks:

1. Complete site visits as necessary to review conditions and gather information. (Estimated 5 hours)
2. Develop a Hazardous Materials Inventory Statement (HMIS) detailing the hazard classes of the materials to be stored within the tank farm. This statement will meet City of Houston reporting requirements. (Estimated 3 hours)
3. Complete a technical evaluation report of the tank farm and loading/unloading area. The report is to be based upon the currently adopted 2000 International Fire Code, as amended by the City of Houston. (Estimated 26 hours)

Clarifications

Activities such as the submittal of plans or the completion of architectural or MEP drawings, if necessary, are not included.

Pricing and Billing

1. The estimated price for the full scope of work is $6,000. This price is based upon an hourly rate of $175.00/hour and $50.00 in travel, reproduction and other expenses.
2. All work is to be completed on a time and materials basis.
3. Travel expenses are charged at actual cost. Automobile mileage is charged at the current IRS rate.

4. The cost of printing and reproducing drawings larger than 13"x19" are charged to the client at actual cost.
5. Modifications or expansion to the above scope of work are to be approved before proceeding.

Summary

I am ready to begin work if the above proposal is acceptable. Please fill out the last page of the attached term and conditions and return via email to edcope@copeengineering.com or fax to 713-264-8644. If there are any questions or if additional information is needed, please contact me at 713-426-2326.

Sincerely,

Ed D. Cope, P.E.
Principal Engineer

COPE ENGINEERING TERMS AND CONDITIONS

The party to whom the attached Agreement is addressed will hereafter be referred to as the "Customer", the attached Work Agreement will hereafter be referred to as the "Agreement" and the services described in the Work Agreement will hereafter be referred to as the "Services".

PROVISION 1 - PAYMENT TERMS

Invoices must be paid on or before the 20th day following receipt of the invoice. Payment shall be made directly to Cope Engineering, 1036 Walling, Houston, Texas, 77009.

PROVISION 2 - WARRANTY

Cope Engineering warrants that it will provide the Services in accordance with accepted professional practices at the time of performance.

PROVISION 3 - INDEPENDENT CONTRACTOR

The relationship of Cope Engineering to the Customer is that of an independent contractor and nothing herein shall be construed as creating any other relationship. Cope Engineering may adopt such arrangements as Cope Engineering may desire with regard to the details of the Services, the hours during which the Services are to be provided, and the place or places where the Services are to be furnished, provided that such details, hours and services shall be consistent with the proper accomplishment of the Services.

Nothing in this Agreement is intended to authorize, license or permit either party to represent, bind or act on behalf of the other party nor to use or display any tradename, trademark or trade secret of the other party.

PROVISION 4 - INSURANCE

(a) The Customer shall procure and maintain during the life of this Agreement:

(1) Commercial General Liability Insurance providing Bodily Injury, Property Damage, Products and Completed Operations Coverage, Personal Advertising Injury and Contractual Liability. The minimum coverage are as follows: $1,000,000 per Occurrence; $2,000,000 General Aggregate; $1,000,000 Products/Completed Operations Aggregate; $1,000,000 Personal/Advertising Liability.

(b) Cope Engineering shall procure and maintain during the life of this Agreement:

(2) Commercial General Liability Insurance providing Bodily Injury, Property Damage, Products and Completed Operations Coverage, Personal Advertising Injury and Contractual Liability. The minimum coverage are as follows: $1,000,000 per Occurrence; $2,000,000 General Aggregate; $1,000,000 Products/Completed Operations Aggregate; $1,000,000 Personal/Advertising Liability.

(1) Professional Liability Insurance (Errors & Omissions) covering wrongful acts, and errors & omissions with a limit of $1,000,000 each and every claim and in the aggregate.

PROVISION 5 - NONDISCLOSURE

(a) All results, reports, recommendations and similar materials prepared by Cope Engineering in connection with the provision of the Services shall be released only to the Customer's designated personnel.

(b) During the performance of this Agreement, Cope Engineering may grant access to information deemed by Cope Engineering to be proprietary. The Customer agrees that any information which is proprietary to Cope Engineering shall be used exclusively by the Customer, solely in connection with the Services, and shall not be published or otherwise disclosed to other third parties except as described in this section.

PROVISION 6 – DURATION AND TERMINATION

(a) After this Agreement has been accepted by both parties, Cope Engineering may terminate this Agreement by giving the Customer 10 days prior written notice. As Cope Engineering's sole compensation, the Customer shall pay Cope Engineering for all work performed up to the effective date of termination in accordance with the terms of this Agreement.

(b) After this Agreement has been accepted by both parties, the Customer may terminate this Agreement by giving Cope Engineering 10 days prior written notice. In the case of a termination of this Agreement by the Customer, the Customer shall pay Cope Engineering for: (i) all previously unpaid compensation for Services rendered up to the date of termination, including

EPAHO120000140

COPE ENGINEERING TERMS AND CONDITIONS

without limitation all sums which Cope Engineering is obliged to pay to any third parties because of commitments related to the Services or the termination of such commitments.

PROVISION 7 - INDEMNIFICATION AND LIMITATION OF LIABILITY

(a) Except as expressly set forth herein, neither Cope Engineering nor any of its employees shall be liable directly or indirectly in any manner (other than any liability that may be expressed in any policy of insurance that may be issued by Cope Engineering) for any loss, damage or injury to property or persons resulting from any accident to or defect in any object; nor shall Cope Engineering be liable directly or indirectly for loss, damage or injury of any kind arising from or connected in any way with any Service or documentation of any Service, or from the omission of a Service or documentation of a Service, whether or not such Service, documentation or omission was at the request of the Customer; but Cope Engineering shall not be relieved under this paragraph of liability from damage or injury resulting from acts of negligence on part of Cope Engineering Personnel where such acts are outside the scope of the actual inspection or other Service or where such acts, within the scope of the actual inspection or other Service, resulted solely from the negligence of Cope Engineering Personnel.

(b) Each party (Customer and Cope Engineering) will indemnify, defend and save harmless the other party from and against any and all loss, damage, injury both to persons and property, liability and all claims or suits therefor by, or on behalf of any person, concern, entity or other party to the extent such loss, damage, injury or liability is caused by the indemnifying party's negligence or other breach of legal duty. The party receiving notice of claim or suit will give reasonable notice to the other party of any such claim or suit.

ACKNOWLEDGEMENT:

CES Environmental Services, Inc.
Customer Name

4904 Griggs Rd
Address, City, State, Zip Code

Greg Bowman
Name

VP Finance & Admin
Title

Authorized Signature

3/5/09
Date

713-419-6076
Phone

Fax

gbowman@cesenvironmental.com
e-mail

Billing Contact & Address (if different)

Prefer Invoice by: ☐ Mail ☑ E-mail

EPAHO120000141

Cope Engineering, PLLC

February 25, 2009

Matt Bowman
CES Environmental Services, Inc.
4909 Griggs Rd.
Houston, TX 77021
mbowman@cesenvironmental.com

RE: Proposal for Engineering Services
4909 Griggs Rd.

Dear Mr. Bowman:

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Sincerely,

Ed D. Cope, P.E.
Principal Engineer

OSHA

EPAHO12000144

STATE OF TEXAS §
HARRIS COUNTY §

AFFIDAVIT OF RICKY BRANNON

Before me, the undersigned notary, on this day personally appeared Ricky Brannon, a person whose identity is known to me. After I administered an oath to him, upon his oath he said:

1. "My name is Ricky Brannon. I am capable of making this affidavit. The facts stated in this affidavit are within my personal knowledge and are true and correct.

2. I am over twenty one years of age and am able to testify to the facts contained in this affidavit.

3. I contacted Karl Guidry, HSE Manager for CES Environmental Services, Inc., regarding knowledge I have of events surrounding activities of individuals attempting to hurt CES Environmental Services, Inc and who are currently involved in litigation against CES Environmental Services, Inc. Karl Guidry informed me anything I said had to be truthful and that I would have to sign a sworn affidavit to support anything I tell him. I agreed to tell the truth and sign a sworn affidavit supporting any charges and allegations I make.

4. I attended at meeting at a location of 2428 Southmore in the Third Ward area of Houston, Texas. 2428 Southmore is a building used by the Black United Front, an organization with ties to Ralph Evans aka Quanell X.

5. At this meeting I observed CES Environmental Services, Inc employee Perry West and ex CES Environmental Services, Inc employee Mark Smith. I also observed Perry West on several occasions leave the CES facility and meet with Mark Smith and Ralph Evans aka Quanell X during business hours and return to work after the meetings.

6. Mark Smith informed the attendees at this meeting that CES Environmental Services, Inc discriminated against blacks, had no black employees working in the front office and the company pays blacks less than it does its other employees.

7. At another meeting at 2428 Southmore, Mark Smith, Perry West and Ralph Evans aka Quanell X met with CES Environmental Services, Inc employee Darryl Johnson to discuss an incident where Darryl Johnson passed out at work. Mark Smith, Perry West and Ralph Evans aka Quanell X attempted to get Darryl Johnson to say the cause of his passing out was somehow related to wrongdoing on the part of CES Environmental Services, Inc.

8. At one meeting I also observed Congressman Al Green of the Ninth District of Texas in attendance. I was informed by Mark Smith and Ralph Evans aka

Quanell X that Congressman Green was providing political backing of their efforts.

9. I was informed by Mark Smith that his attorney, Melissa Moore whose address is 440 Louisiana St., Houston, Texas and whose contact number is 713-222-6775 would like to speak with me and that he had provided my phone number to Ms. Moore. Ms. Moore made several attempts to contact me but I never accepted any calls and instructed my wife to say I was out of town working in Louisiana.

10. Mark Smith then delivered a message to me he claims was from his attorney, Melissa Moore, promising me $10,000, if I could arrange for Joey Sutter's parents to speak with Ms. Moore. I contacted Rick Turros; a CES Environmental Services, Inc employee whom I knew had the contact information for Joey Sutter's parents. I gave the contact information to Mark Smith. ~ 30 – 45 minutes later I received a call from Rick Turros informing me he would inform the CES Main Office what had transpired because he wanted to save his job. At that point I backed out of helping Mark Smith, Perry West and Ralph Evans aka Quanell X in any way at all.

11. On another occasion, CES Environmental Services employee Gregory Lawrence approached me and stated; "I have a friend at OSHA that you can talk to if you want to hurt this company. You can tell OSHA that CES is discriminating against blacks. You can also tell OSHA that you know CES paid David under the table to say he slipped and fell and it had nothing to do with chemicals."

12. When Ralph Evans aka Quanell X heard about Gregory Lawrence and Mark Smith's efforts in directing me to speak with OSHA hoping to get OSHA to shut the company down, Ralph Evans aka Quanell X began shouting, screaming and cursing both Mark Smith and Gregory Lawrence and saying; "It does us no good to have the company shut down. If CES is shut down, we can't get any money out of them."

Signed before me the undersigned notary whose seal is affixed below on this

16th Day of January, 2009.

Ricky J. Brannon

RICKY BRANNON

Kim Harmon

NOTARY

KIM HARMON
Notary Public, State of Texas
My Commission Expires
October 24, 2010

U.S. Department of Labor
Occupational Safety and Health Administration
Houston South Area Office
17625 El Camino Real, Suite 400
Houston, TX 77058
Phone: (281)286-0583 FAX: (281)286-6352

Citation and Notification of Penalty

To:
Port Arthur Chemical & Environmental Services

and its successors
2420 South Gulfway Dr.
Port Arthur, TX 77640

Inspection Site:
2420 South Gulfway Dr.
Port Arthur, TX 77640

Inspection Number: 311960975
Inspection Date(s): 12/19/2008 - 03/18/2009

Issuance Date: 06/17/2009

The violation(s) described in this Citation and Notification of Penalty is (are) alleged to have occurred on or about the day(s) the inspection was made unless otherwise indicated within the description given below.

This Citation and Notification of Penalty (this Citation) describes violations of the Occupational Safety and Health Act of 1970. The penalty(ies) listed herein is (are) based on these violations. You must abate the violations referred to in this Citation by the dates listed and pay the penalties proposed, unless within 15 working days (excluding weekends and Federal holidays) from your receipt of this Citation and Notification of Penalty you mail a notice of contest to the U.S. Department of Labor Area Office at the address shown above. Please refer to the enclosed booklet (OSHA 3000) which outlines your rights and responsibilities and which should be read in conjunction with this form. Issuance of this Citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless this Citation is affirmed by the Review Commission or a court.

Posting - The law requires that a copy of this Citation and Notification of Penalty be posted immediately in a prominent place at or near the location of the violation(s) cited herein, or , if it is not practicable because of the nature of the employer's operations, where it will be readily observable by all affected employees. This Citation must remain posted until the violation(s) cited herein has (have) been abated, or for 3 working days (excluding weekends and Federal holidays), whichever is longer. **The penalty dollar amounts need not be posted and may be marked out or covered up prior to posting.**

Informal Conference - An informal conference is not required. However, if you wish to have such a conference you may request one with the Area Director during the 15 working day contest period. During such an informal conference you may present any evidence or views which you believe would support an adjustment to the citation(s) and/or penalty(ies).

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If you are considering a request for an informal conference to discuss any issues related to this Citation and Notification of Penalty, you must take care to schedule it early enough to allow time to contest after the informal conference, should you decide to do so. Please keep in mind that a written letter of intent to contest must be submitted to the Area Director within 15 working days of your receipt of this Citation. The running of this contest period is not interrupted by an informal conference.

If you decide to request an informal conference, please complete, remove and post the page 4 Notice to Employees next to this Citation and Notification of Penalty as soon as the time, date, and place of the informal conference have been determined. Be sure to bring to the conference any and all supporting documentation of existing conditions as well as any abatement steps taken thus far. If conditions warrant, we can enter into an informal settlement agreement which amicably resolves this matter without litigation or contest.

Right to Contest - You have the right to contest this Citation and Notification of Penalty. You may contest all citation items or only individual items. You may also contest proposed penalties and/or abatement dates without contesting the underlying violations. **Unless you inform the Area Director in writing that you intend to contest the citation(s) and/or proposed penalty(ies) within 15 working days after receipt, the citation(s) and the proposed penalty(ies) will become a final order of the Occupational Safety and Health Review Commission and may not be reviewed by any court or agency.**

Penalty Payment - Penalties are due within 15 working days of receipt of this notification unless contested. (See the enclosed booklet and the additional information provided related to the Debt Collection Act of 1982.) Make your check or money order payable to "DOL-OSHA". Please indicate the Inspection Number on the remittance.

OSHA does not agree to any restrictions or conditions or endorsements put on any check or money order for less than the full amount due, and will cash the check or money order as if these restrictions, conditions, or endorsements do not exist.

Notification of Corrective Action - For violations which you do not contest, you should notify the U.S. Department of Labor Area Office promptly by letter that you have taken appropriate corrective action within the time frame set forth on this Citation. Please inform the Area Office in writing of the abatement steps you have taken and of their dates, together with adequate supporting documentation, e.g., drawings or photographs of corrected conditions, purchase/work orders related to abatement actions, air sampling results, etc.
(Please see attached "**Corrective Action Verification.**")

Employer Discrimination Unlawful - The law prohibits discrimination by an employer against an employee for filing a complaint or for exercising any rights under this Act. An employee who believes that he/she has been discriminated against may file a complaint no later than 30 days after the discrimination occurred with the U.S. Department of Labor Area Office at the address shown above.

Employer Rights and Responsibilities - The enclosed booklet (OSHA 3000) outlines additional employer rights and responsibilities and should be read in conjunction with this notification.

Notice to Employees - The law gives an employee or his/her representative the opportunity to object to any abatement date set for a violation if he/she believes the date to be unreasonable. The contest must be mailed to the U.S. Department of Labor Area Office at the address shown above and postmarked within 15 working days (excluding weekends and Federal holidays) of the receipt by the employer of this Citation and Notification of Penalty.

Corrective Action Verification

Dear Sir:

OSHA's inspections are intended to result in the abatement/correction of violations of the OSHAct. To verify that this has been accomplished, Section 1903.19 requires that an employer certify to OSHA, within ten (10) days of the final abatement date that each item cited has been corrected.

This abatement certification letter must include the following:

Name of Employer

OSHA Inspection Number

Citation and Item Numbers to which the submission relates

The date each item was abated, specific action taken to abate each violation and appropriate documentation for the action taken. Where appropriate, this documentation should include photographs, work orders, purchase orders, personal protective equipment provided, standard operation procedures, copies of written programs, engineering controls, monitoring data, etc. Adequate supporting documentation may allow us to close the case file. **The lack of adequate documentation could result in a follow-up inspection.**

A statement that affected employees and their representatives have been informed of the abatement actions

A statement that the information submitted is accurate

The signature of the employer or the employer's authorized representative.

Following is a sample format that may be used for this submittal:

Name of Employer _____

Citation Number	Item No. Instance No.	Date Item Abated	Corrective Action Taken

Date this letter of submission posted_____

I certify that the information submitted is correct.

_____

Employer or Authorized Representative

EPAHO120000149

NOTICE TO EMPLOYEES OF INFORMAL CONFERENCE

An informal conference has been scheduled with OSHA to discuss the citation(s) issued on _ _____ 06/17/2009. The conference will be held at the OSHA office located at Houston South Area Office, 17625 El Camino Real, Suite 400, Houston, TX, 77058 on _____ at _____. Employees and/or representatives of employees have a right to attend an informal conference.

EPAHO120000150

Citation and Notification of Penalty

Company Name: Port Arthur Chemical & Environmental Services
Inspection Site: 2420 South Gulfway Dr., Port Arthur, TX 77640

Citation 1 Item 1 Type of Violation: **Serious**

29 CFR 1910.120(p)(1): The program was not designed to identify, evaluate and control safety and health hazards in their facilities for the purpose of employee protection, to provide for emergency responses meeting the requirements of 29 CFR 1910.120(p)(8), and to address as appropriate site analysis, engineering controls, maximum exposure limits, hazardous waste handling procedures, and uses of new technologies:

a) On or about December 18, 2008, and at times theretofore, at Port Arthur Chemical and Environmental Services, the employer did not develop and implement safe sampling procedures to prevent exposure to hydrogen sulfide.

Date By Which Violation Must be Abated: 07/14/2009
Proposed Penalty: $ 2000.00

Citation 1 Item 2 Type of Violation: **Serious**

29 CFR 1910.120(p)(4): A decontamination procedure meeting the requirements of 29 CFR 1910.120(k) was not developed and implemented:

a) On or about December 18, 2008, and at times thereafter, at Port Arthur Chemical and Environmental Services, the employer did not develop and implement decontamination procedures.

Date By Which Violation Must be Abated: 07/14/2009
Proposed Penalty: $ 2000.00

See pages 1 through 4 of this Citation and Notification of Penalty for information on employer and employee rights and responsibilities.

EPAHO120000151

Citation and Notification of Penalty

Company Name: Port Arthur Chemical & Environmental Services
Inspection Site: 2420 South Gulfway Dr., Port Arthur, TX 77640

The alleged violations below have been grouped because they involve similar or related hazards that may increase the potential for injury resulting from an accident.

Citation 1 Item 3a Type of Violation: Serious

29 CFR 1910.134(d)(1)(i):The employer did not select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed:

a) On or about December 18, 2008, and at times theretofore and thereafter, at Port Arthur Chemical and Environmental Services, the employer did not select and provide appropriate respirators to protect against unknown levels of hydrogen sulfide.

Date By Which Violation Must be Abated: 07/07/2009
Proposed Penalty: $ 5600.00

Citation 1 Item 3b Type of Violation: Serious

29 CFR 1910.1000(b)(2): Employees were exposed to airborne concentrations of Hydrogen Sulfide, listed in Table Z-2, in excess of 50 ppm as an acceptable Maximum Peak concentration:

a) On or about December 18, 2008, an employee suffered a fatal exposure to hydrogen sulfide.

Date By Which Violation Must be Abated: Corrected During Inspection

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Citation and Notification of Penalty

Company Name: Port Arthur Chemical & Environmental Services
Inspection Site: 2420 South Gulfway Dr., Port Arthur, TX 77640

Citation 1 Item 3c Type of Violation: Serious

29 CFR 1910.1000(e): Feasible administrative or engineering controls were not determined and implemented to achieve compliance with the limits prescribed in 29 CFR 1910.1000(a) through (d):

a) On or about December 18, 2008, Port Arthur Chemical and Environmental Services, the employer had not implemented engineering controls to insure hydrogen sulfide exposure did not exceed the prescribed limits.

Date By Which Violation Must be Abated: 08/04/2009

Citation 1 Item 4 Type of Violation: Serious

29 CFR 1910.134(d)(1)(iii): The employer did not identify and evaluate the respiratory hazard(s) in the workplace, including a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form:

a) On or about December 18, 2008, for employees performing sampling, the employer did not make a reasonable estimate of exposure to hydrogen sulfide.

Date By Which Violation Must be Abated: 07/07/2009
Proposed Penalty: $ 2000.00

Citation and Notification of Penalty

Company Name: Port Arthur Chemical & Environmental Services
Inspection Site: 2420 South Gulfway Dr., Port Arthur, TX 77640

Citation 2 Item 1 Type of Violation: **Other**

CFR 1904.4 (a) (1) Basic requirement. Each employer required by this Part to keep records of fatalities, injuries, and illnesses did not record each fatality, injury and illness that is work-related.

a) At the Port Arthur Chemical and Environmental Services in Port Arthur, TX, the employer failed to record the injuries and illnesses for two incidents.

Date By Which Violation Must be Abated: 06/29/2009
Proposed Penalty: $ 5000.00

MARK R. BRIGGS
Area Director

U.S. Department of Labor
Occupational Safety and Health Administration
Houston South Area Office
17625 El Camino Real, Suite 400
Houston, TX 77058
Phone: (281)286-0583 FAX: (281)286-6352

INVOICE/
DEBT COLLECTION NOTICE

Company Name: **Port Arthur Chemical & Environmental Services**
Inspection Site: **2420 South Gulfway Dr., Port Arthur, TX 77640**
Issuance Date: **06/17/2009**

Summary of Penalties for Inspection Number 311960975

Citation 1, Serious	= $	**11600.00**
Citation 2, Other	= $	**5000.00**
TOTAL PROPOSED PENALTIES	= $	**16600.00**

To avoid additional charges, please remit payment promptly to this Area Office for the total amount of the uncontested penalties summarized above. Make your check or money order payable to: "DOL-OSHA". Please indicate OSHA's Inspection Number (indicated above) on the remittance.

OSHA does not agree to any restrictions or conditions put on any check or money order for less than the full amount due and will cash the check or money order as if these restrictions or conditions do not exist.

If a personal check is issued, it will be converted into an electronic fund transfer (EFT). This means that our bank will copy your check and use the account information on it to electronically debit your account for the amount of the check. The debit from your account will then usually occur within 24 hours and will be shown on your regular account statement. You will not receive your original check back. The bank will destroy your original check, but will keep a copy of it. If the EFT cannot be completed because of insufficient funds or closed account, the bank will attempt to make the transfer up to 2 times.

Pursuant to the Debt Collection Act of 1982 (Public Law 97-365) and regulations of the U.S. Department of Labor (29 CFR Part 20), the Occupational Safety and Health Administration is required to assess interest, delinquent charges, and administrative costs for the collection of delinquent penalty debts for violations of the Occupational Safety and Health Act.

Interest. Interest charges will be assessed at an annual rate determined by the Secretary of the Treasury on all penalty debt amounts not paid within one month (30 calendar days) of the date on which the debt amount becomes due and payable (penalty due date). The current interest rate is 4%. Interest will accrue from the date on which the penalty amounts (as proposed or adjusted) become a final order of the Occupational Safety and Health Review Commission (that is, 15 working days from your receipt of the Citation and Notification of Penalty), unless you

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EPAHO120000155

file a notice of contest. Interest charges will be waived if the full amount owed is paid within 30 calendar days of the final order.

Delinquent Charges. A debt is considered delinquent if it has not been paid within one month (30 calendar days) of the penalty due date or if a satisfactory payment arrangement has not been made. If the debt remains delinquent for more than 90 calendar days, a delinquent charge of six percent (6%) per annum will be assessed accruing from the date that the debt became delinquent.

Administrative Costs. Agencies of the Department of Labor are required to assess additional charges for the recovery of delinquent debts. These additional charges are administrative costs incurred by the Agency in its attempt to collect an unpaid debt. Administrative costs will be assessed for demand letters sent in an attempt to collect the unpaid debt.

Mark R. Briggs
Area Director

6/17/09
Date

EPAHO120000156

UNITED STATES OF AMERICA

DEPARTMENT OF LABOR

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

SUBPOENA DUCES TECUM

TO: Custodian of Records Port Arthur Chemical & Environmental Services

Pursuant to Section 8 (b) of the Occupational Safety and Health Act (29 U.S.C.§657 (b)) you are hereby required to appear before the **MARK R. BRIGGS, Area Director** or his designee of the **OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, UNITED STATES DEPARTMENT OF LABOR**, at **17625 El Camino Real, Ste. 400**, in the City of **Houston, Texas** on the **26th** day of **May**, 2009 at **10:00 o'clock a.m.** of that day, to produce documents, records, and/or things regarding the working conditions at: Port Arthur Chemical & Environmental Services, LLC, 2420 South Gulfway Dr., Port Arthur, TX 77640.

You are herby required to bring with you and produce at said time and place the following items:

Any and all medical records, exposure records, biological monitoring results, state workers compensation forms, first aid logs, first report of injury, company accident reports, insurer's accident reports, medical information describing illnesses, injuries, or exposures, medical opinions, and any other supporting medical records responsive to the medical access order for any and all present and former employees of Port Arthur Chemical and Environmental Services LLC from October 1, 2008 to the present.

Whether or not form is specified in the individual requests below, the terms "document" and "record" shall each mean any written, printed, typed, photographic or other graphic matter or material of any kind or nature and all mechanical or electronic sound or video recordings or transcripts thereof, in the possession, custody and/or control of the Respondent or known by the Respondent to exist, and shall also mean all copies of documents by whatever means made, including, but not limited to, papers, letters, correspondence, accident/incident reports, photographs, video recordings, audio recordings, digital recordings, drawings, sketches, maps, diagrams, interoffice communications, emails or other electronically-sent messages, memoranda, notes, notations, notebooks, reports, records, accounting books or records, schedules, tables, charts, transcripts, publications, scrapbooks, diaries, and any drafts, revisions or amendments of the above.

FAIL NOT AT YOUR PERIL

IN TESTIMONY ***WHEREOF*** *I have hereunto affixed my Signature and the seal of the* **UNITED STATES DEPARTMENT OF LABOR** *at Houston, Texas this 20th day of May, 2009.*

MARK R. BRIGGS, Area Director
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
UNITED STATES DEPARTMENT OF LABOR

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the attention of:

Port Arthur Chemical & Environmental Services, LLC
2420 South Gulfway Drive
Port Arthur, Texas 77640

Attention: Matt Bowman
Registered Agent

The Occupational Safety and Health Administration (OSHA) needs to examine any and all employee (permanent, temporary and/or contracted) exposure and medical records from October 1, 2008 to the present date, believed to be in the possession of Port Arthur Chemical & Environmental Services, LLC. The examination of this personally identifiable employee medical information is in connection with OSHA's ongoing investigation of working conditions of Port Arthur Chemical & Environmental Services, LLC, located at the above address.

Due to the personal privacy interests involved, OSHA exercises its authority to access, examine, copy and analyze personally identifiable employee medical information, only after a careful determination has been made that such access is consistent with the statutory purpose and is necessary to achieve the objectives of the investigation. The Acting Assistant Secretary for OSHA and the Agency's Medical Records Officer have determined that OSHA needs to gain access to the personally identifiable employee medical information of Port Arthur Chemical & Environmental Services, LLC, in furtherance of this investigation. 29 U.S.C. 657; 29 CFR 1910.1020(e)(3), 1913.10(d)(2).

In order to safeguard the employees' interest in the privacy of the medical records to be examined and copied, OSHA has prescribed detailed rules of practice and procedure in 29 CFR Part 1913 to govern OSHA's handling of personally identifiable employee medical information. A Principal OSHA Investigator has been designated to be primarily responsible for assuring that the examination and use of medical information obtained during this investigation, is in accordance with applicable regulations. 29 CFR 1913.10(c)(3), (e), (f), (h)(1), (h)(2), (i), (j), (m)(1).

The Principal OSHA Investigator is:

Basil Singh
Compliance Safety and Health Officer
Houston South Area Office
Occupational Safety and Health Administration
U. S. Department of Labor
17625 El Camino Real, Suite 400
Houston, Texas 77058

Telephone: (281) 286-0583

The Principal OSHA Investigator was issued a Medical Access Order (enclosed) on May 15, 2009 by the Acting Assistant Secretary for OSHA, authorizing access, examination and copying of the employee medical records of Port Arthur Chemical & Environmental Services, LLC. The specified medical records which pertain to all individuals who are, or have been, employed (permanent, temporary and/or contracted) by Port Arthur Chemical & Environmental Services, LLC since October 1, 2008, must in each instance, be accompanied by explicit personal identifiers (name, address, payroll number and/or social security number).

Please note that a copy of this letter and the enclosed Medical Access Order must be prominently posted at the above referenced place of employment for at least fifteen (15) working days. 29 CFR 1910.1020(e)(3)(ii), 1913.10(e)(3). Where it is agreed to by the Principal OSHA Investigator, Port Arthur Chemical & Environmental Services, LLC and Collective Bargaining Agent if any, individual notice to employee or the placement of a copy of this Cover Letter and Medical Access Order in each employee's medical file may also be appropriate. 29 CFR 1913.10(e)(4).

OSHA's regulations further provide that Port Arthur Chemical & Environmental Services, LLC may file written objections concerning the Medical Access Order with the OSHA Medical Records Officer, who is responsible for assuring Agency compliance with these rules. 29 CFR 1913.10 (f). However, the filing of written objections does not defer Port Arthur Chemical & Environmental Services, LLC's statutory obligation to provide prompt access by OSHA to the medical records. Ibid.

EPAHO120000160

The OSHA Medical Records Officer is:

Rosemary K. Sokas, M.D., M.O.H.
Director
Office of Occupational Medicine
Occupational Safety and Health Administration
U.S. Department of Labor
200 Constitution Avenue, N.W., Room N3457
Washington, D.C. 20210

Telephone: (202) 693-2323

Please feel free to contact me or the Principal OSHA Investigator if you have questions regarding OSHA's access to the specified personally identifiable employee medical information.

Sincerely,

Mark R. Briggs
Area Director
Houston South Area Office
Occupational Safety and Health Administration
U. S. Department of Labor
17625 El Camino Real, Suite 400
Houston, Texas 77058

Telephone: (281) 286-0583

Enclosure:
Medical Access Order (2 copies)

EPAHO120000161

U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

MAY 15 2009

MEDICAL ACCESS ORDER

TO: The Principal OSHA Investigator:

Basil Singh
Compliance Safety and Health Officer
Houston South Area Office
Occupational Safety and Health Administration
U. S. Department of Labor
17625 El Camino Real, Suite 400
Houston, Texas 77058

Telephone: (281) 286-0583

As Principal Investigator, you are hereby authorized to examine and copy, any and all medical records from October 1, 2008 to the present date, concerning employees' (permanent, temporary and/or contracted) injuries and illnesses, and surveillance data derived from periodic evaluations, in connection with an investigation by the Occupational Safety and Health Administration (OSHA), of working conditions at a place of employment operated by:

Port Arthur Chemical & Environmental Services, LLC

whose address is listed as:

2420 South Gulfway Drive
Port Arthur, Texas 77640

Pursuant to the Occupational Safety and Health Act of 1970 as specified in 29 CFR 1910.1020(e)(3), Port Arthur Chemical & Environmental Services, LLC is required to make employee exposure and medical records promptly available for examination and copying by authorized OSHA officials. As the Principal OSHA Investigator, you will examine, copy as necessary and secure at all times, the medical information listed below

on all past and current employees of Port Arthur Chemical & Environmental Services, LLC, whose address appears above.

The medical information required is anticipated to contain material/data necessary to accomplish the purpose of the investigation, and which shall in each instance, be accompanied by explicit personal identifiers. This Medical Access Order does not limit your access to or use of: aggregate employee medical information or records on individual employees which are not in personally identifiable form; records required to be maintained pursuant to 29 CFR Part 1904; death certificates; or employee exposure records, including biological monitoring records whether addressed by 29 CFR 1910.1020(c)(5) or by specific occupational safety and health standards. 29 CFR 1913.10(b)(3). Therefore, the medical information required shall include, but is not limited to:

1. The name, social security number and job classification(s) and/or description(s) for each employee.

2. Any and all employee medical histories, including:

   a. Exposure(s) to hazardous materials, substances, chemicals, gases, vapors, waste, dust, mold, equipment and/or machinery (including any air, water or biological material monitoring and/or sampling data).

   b. Respiratory disorders/diseases (temporary or permanent conditions - including all pulmonary function tests, qualitative/quantitative fit testing, diagnosis, prognosis, medications routinely taken, and the name and results of all other related tests/examinations performed).

   c. Cardiovascular, hematological, gastrointestinal, liver, kidney/renal, reproductive and/or any other internal disorder/disease (temporary or permanent conditions - including diagnosis, prognosis, medications routinely taken, and the name and results of all tests/examinations performed).

   d. Neurological and/or musculoskeletal weaknesses, impairments, disorders/diseases (including temporary or permanent conditions as well as conditions which may impact upon the employee's ability to wear a respirator.

e. Skin disorders/diseases (including punctures/sticks, burns/irritations/rashes/eruptions/sensitizations, and/or any other dermatological related disorder/disease).

f. Cancers (including medications routinely taken (duration and quantity prescribed, diagnosis, prognosis, and the name and results of all test/examinations performed).

g. Immunologic and/or allergic reactions/sensitizations (including temporary or permanent conditions).

h. Headache(s), eye, nose and/or throat irritations/impairments/disorders/diseases (including temporary or permanent conditions).

i. Hospitalizations (including emergency transit services/reports, emergency room visits/reports, admissions/discharged summaries/reports, tests, treatments, medication(s) administered/prescribed, and recommended follow-up procedure(s)/treatment(s) prescribed for each employee).

3. Any and all employee medical records describing injuries and illnesses resulting from workplace activities, including the nature of the injury and/or illness, results of medical examinations, medical opinions, diagnoses, progress notes, treatments (including first aid), prescriptions and recommendations.

4. Any and all daily or periodic reports on injuries and/or illnesses, including:

a. Information on current or previous employee medical complaints, symptoms, clinical signs, recommendations and treatments.

b. Medical questionnaires, physicians', nurses' and rehabilitation specialists' notes and/or orders, clinic logs, and return to work slips and/or reports.

c. Company accident and illness reports/records, insurers' accident and health reports/records, incident reports, workers compensation records, medical bill/services payment records, employee training records, employee transfer records, absentee

records, limited duty records, employee payroll records, and union records as needed.

5. Any and all x-rays, magnetic resonance imaging, cardiopulmonary, neurological, and/or any other test(s) which an examining physician has deemed necessary with the professional evaluations of these procedures attached.

6. Any and all laboratory tests (including blood, tissue, urine and fluids), and values with the examining physician's evaluation attached.

7. Any and all other physician examinations, diagnoses and treatments, including, but not limited to, the physicians written opinion as to:

   a. Whether the employee has any detected medical condition which would place the employee at increased risk of material health impairment from workplace activities.

   b. Any recommended special protective measures to be provided to the employee, and/or limitations placed upon the employee.

8. Any and all records regarding notification(s) to an employee and/or employees concerning:

   a. Exposure to any hazardous material, substance, chemical, gas, waste, dust, equipment and/or machinery.

   b. Any exposure monitoring activities.

   c. The results of their individual tests.

   d. Precautionary/protective measures available and/or implemented to avoid or reduce the incidence of exposure(s) to occupational hazards.

9. Any and all records concerning the medical removal of an employee from a particular work area (identify work area and type of exposure) including:

   a. Date of each occasion when the employee was removed from a particular (identify) work area.

b. Explanation of why the removal was/is necessary (identify type of exposure/hazard).

c. Explanation of how the removal was or is being accomplished.

d. Date upon which the employee returned to the former job status.

The Acting Assistant Secretary for OSHA and the Agency's Medical Records Officer have determined that there is a need to gain access to this personally identifiable medical information because it is relevant to OSHA's statutory purpose of investigating:

A. Whether past or current employees of Port Arthur Chemical & Environmental Services, LLC are suffering or may have suffered, adverse health effects from exposure(s) to occupational hazards; and

B. Whether Port Arthur Chemical & Environmental Services, LLC has complied with employer's statutory obligation to furnish to each employee, a place of employment which is free from recognized hazards that are causing or likely to cause death or serious physical harm; and with the occupational safety and health standards, including the recordkeeping procedures in 29 CFR 1904. See also 29 U.S.C. 651(b)(1), (3), (5) - (7), (9), (10), 12), 13).

As Principal Investigator, your access to the personally identifiable employee medical information covered by this Medical Access Order shall be provided by Port Arthur Chemical & Environmental Services, LLC (and/or Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), allowing you full and prompt onsite examination. It may be necessary to copy certain records or portions of records. Copying may be provided by Port Arthur Chemical & Environmental Services, LLC (and/or Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), onsite or the records may be taken offsite by you for copying. In the latter case, personal identifiers shall be promptly separated from the medical information, uniquely coded for each employee, and secured separately from the medical information. The medical information with its unique codes shall thereafter be used and kept secured as though they are still in a directly identifiable form. The original records shall be returned to Port Arthur Chemical & Environmental Services, LLC (and/or Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), within a reasonable time.

All copies of the personally identifiable employee medical information will be destroyed at the completion of the investigation or any other enforcement action arising from the investigation. The investigation is scheduled to be completed on or before June 17, 2009. The Medical Access Order will remain in effect throughout the investigative period and during any enforcement proceedings which may result from the investigation.

To assist you in the examination and copying of medical information, the following individuals, in addition to Physicians and Health Scientists from the OSHA Office of Occupational Medicine in Washington, D.C., and other persons who may be authorized pursuant to 29 CFR 1913.10(h)(2) and (3), have been authorized by the Acting Assistant Secretary to review and analyze the personally identifiable employee medical information based on their professional qualifications:

Mark R. Briggs	Area Director
Joann Figueroa	Assistant Area Director
Kelly Knighton	Assistant Area Director

Houston South Area Office
Occupational Safety and Health Administration
U. S. Department of Labor
17625 El Camino Real, Suite 400
Houston, Texas 77058

Also, as the Principal OSHA Investigator, you must make sure that at least two (2) copies of this Medical Access Order and accompanying Cover Letter be presented to Port Arthur Chemical & Environmental Services, LLC (and when appropriate, Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), prior to examining or obtaining the medical information subject to this Medical Access Order. In addition, you shall inform Port Arthur Chemical & Environmental Services, LLC (and when appropriate, Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), that a copy of this Medical Access Order and accompanying Cover Letter shall be prominently posted for at least fifteen (15) working days. 29 CFR 1913.10(d), (e); 29 CFR 1910.1020 (e)(3). Where it is agreed to by you, Port Arthur Chemical & Environmental Services, LLC and Collective Bargaining Agent if any, individual notice to employee or the placement of a copy of this Medical Access Order and accompanying Cover Letter in each employee's medical file may also be appropriate. 29 CFR 1913.10(e)(4).

The Agency has promulgated detailed rules of Agency practice and procedure governing OSHA's conduct, which are designed to protect employee privacy interests. A key person in the overall administration of these rules (29 CFR 1913.10) is the OSHA designated Medical Records Officer:

Rosemary K. Sokas, M.D., M.O.H.
Director
Office of Occupational Medicine
Occupational Safety and Health Administration
U.S. Department of Labor
200 Constitution Avenue, N.W., Room N3457
Washington, D.C. 20210

Telephone: (202) 693-2323

Dr. Sokas will have the overall Agency responsibility for ensuring that all medical records are protected under the guidelines outlined above as mandated in 29 CFR 1913.10. Written objections, questions or comments on behalf of Port Arthur Chemical & Environmental Services, LLC concerning OSHA's access to employee medical records should be forwarded to this official. However, the filing of written objections does not defer Port Arthur Chemical & Environmental Services, LLC's (and/or Port Arthur Chemical & Environmental Services, LLC's authorized healthcare representative, provider or service), statutory obligation from providing you with prompt access to the personally identifiable employee medical information. You shall proceed with the investigation unless the Agency decides otherwise. You may contact the Medical Records Officer at any time during the investigation process for direct assistance and/or consultation services.

By: _____
Rosemary K. Sokas, M.D., M.O.H.
Medical Records Officer

By: _____
Jordan Barab
Acting Assistant Secretary

No. 1

FILED
APR 22 2009
Justice Court, Pc

AUTOPSY REPORT

Case 08-1253

December 19, 2008

ON THE BODY OF

Joey Sutter

(b) (6) [redacted]

CAUSE OF DEATH: Asphyxia and poisoning due to hydrogen sulfide (H_2S) inhalation.

MANNER OF DEATH: Accident, while at work.

4/17/2009

Dr. Tommy J. Brown **Date**
Forensic Pathologist

POSTMORTEM EXAMINATION ON THE BODY OF

Joey Sutter
(b) (6) [redacted]

HISTORY: This 36 year old Caucasian male was found dead at 3:00 p. m. on December 18, 2008, at Christus Hospital - St. Mary in Port Arthur, Texas.

AUTOPSY: The autopsy was performed by Dr. Tommy J. Brown at the request and upon the written authorization of The Honorable Tom Gillam, III, Justice of the Peace, Precinct 8, Jefferson County, Texas, beginning at 6:45 a.m. on December 19, 2008, in the Southeast Texas Forensic Center, Inc., DBA: Jefferson County Morgue.

CLOTHING: The decedent (b) (6) [redacted] **ical odor exuded from the body through both sealed body bags. A third body bag accompanied the body and held two plastic bags that contained clothing that had been cut away from the decedent's body. It also had a strong chemical odor. One of the plastic bags contained a pair of blue undershorts, a pair of blue gym shorts, a green shirt with "CES Environmental Services" written on the left upper chest, a pair of blue denim trousers, a black weave belt and a pair of white socks. In the other red plastic bag was a red medical blanket. All the clothing had a strong chemical odor. All were placed in a biohazard bag and submitted to OSHA at their request for testing.**

PERSONAL PROPERTY: Within the right front trousers pocket was a blue and silver colored pocket knife. Accompanying the body was a Samsung cell phone. There was no other personal property on or accompanying the body.

EVIDENCE OF MEDICAL INTERVENTION: An oral airway was present within the mouth. Adhesive defibrillator/ ECG/ pacing electrodes were present over the right upper and left lower lateral chest. ECG electrode discs were present on the lateral right and left shoulders.

EPAHO120000170

EXTERNAL APPEARANCE: The body was that of a white male that measured 74 inches in length, weighed 255 pounds and appeared the stated age of 36 years. There was full rigor mortis. The hair was brown mixed with some blonde streaks and measured $1^{5}/_{8}$ inches in length. There was congestion of the head and neck with distention of the neck veins. There was a purple coloration that extended from the top of the head to the nipple line across the chest. The eyes were closed; the conjunctivae were mildly congested; the corneae were clear; the irides were hazel to green. There were small areas of coalescent hemorrhage of the conjunctivae of the eyes. Several small petechiae were present over the forehead and upper face. There was a small amount of bloody like fluid that exuded from the nostrils along with foamy fluid. The nose and ears were otherwise unremarkable. Vomitus was present along the lower left side of the mouth and the lower left jaw area. The teeth were natural. There were no abrasions, contusions or lacerations of the inner mucosa of the lips. The neck was symmetrical and without scars or evidence of trauma. The chest was symmetrical and without scars or evidence of trauma. The abdomen was mildly protuberant and without palpable masses. There was a 1¼ inch abrasion to the left of the umbilicus. There were no identifiable scars of the abdomen. The pubic hair was small in quantity. The penis appeared circumcised. Both testicles were palpable within the scrotal sac. There were small scars of the knees and anterior lower legs. There was a tattoo of the name "Amber" and what looked like "Sam" on the proximal left lower leg. Other tattoos were present on the back of the left lower leg. There was a scabbed abrasion that measured $^{5}/_{8}$ of an inch on the proximal medial left lower leg. There was a tattoo of a head of a large cat on the lateral left upper arm and a tattoo that appeared to be a dragon. There was a tattoo of dice on the back of the left hand. Several transverse scars were present on the mid left forearm that extended down to on top of the lateral left wrist area. There were transverse scars on the anterior left wrist that appeared to be three in number. The lateral right shoulder had tattooed initials that were indiscernible. On the back of the right wrist was a tattoo of the name "Ashley". There was an orange-like coloration of the right hand. There was a tattoo of an indiscernible word in the web space of the right hand. The back had dependent posterior fixed lividity with blanching over the pressure areas. The back had a large tattoo on the left upper and mid back of various figures. There was a 2¾ by 1¼ inch scabbed abrasion on the back of the right forearm. The body had a strong chemical odor.

not H_2S Symptom

EPAHO120000171

INTERNAL EXAMINATION: The body was opened with a Y-shaped thoracoabdominal incision to reveal fat and red-brown muscles of the upper anterior thorax. The abdominal panniculus at the level of the umbilicus measured 2 inches. The organs were in their usual locations and had normal anatomic relationships to one another. There was no fluid within the peritoneal or the pleural cavities. A small amount of serous fluid was present in the pericardial sac. Mucus was present within the nostrils and the upper airway.

CARDIOVASCULAR SYSTEM: The heart weighed 470 grams. It had a smooth and glistening epicardial surface with a moderate amount of fat. The coronary arteries followed a normal distribution. There was concentric moderate atherosclerosis of the left anterior descending coronary artery. The right coronary artery and circumflex had mild to moderate atherosclerosis. On sectioning, the myocardium was red-brown. There was no fibrosis. The walls of the right and left ventricles were of normal thickness. The cardiac valves were of normal size and had thin pliable cusps. The aorta had mild proximal atherosclerosis that became mild to moderate in the more distal portion.

RESPIRATORY SYSTEM: The right lung weighed 820 grams and the left weighed 730 grams. The upper pleural surfaces were dark gray and became darker in the more dependent portions. On sectioning, hemorrhagic and foamy fluid exuded from the cut surfaces along with a variegated appearance. There was no tumor or pulmonary emboli.

HEPATOBILIARY SYSTEM: The liver weighed 2,500 grams. It had a dark brown external and cut surface. There was no tumor, infectious process or hemorrhage. The gallbladder contained less than 5 milliliters of a viscid green bile. There were no stones. The hepatobiliary ducts were patent.

SPLEEN: The spleen weighed 430 grams. It had a purple-gray intact capsule. On sectioning, the parenchyma was red-brown. The Malpighian corpuscles were prominent.

ADRENALS: Both adrenal glands were surrounded by a moderate amount of fat. On sectioning, the cortices were yellow and of normal thickness. The medullae were gray-tan and unremarkable.

EPAHO120000172

PANCREAS: The pancreas had the usual size and shape. It was red-brown and lobulated on external and cut surface. It was unremarkable.

GASTROINTESTINAL TRACT: The esophagus had a gray-tan mucosa. The stomach contained 50 milliliters of a thick liquid digestate. The duodenum, small and large bowels were unremarkable. The appendix was present at the tip of the cecum.

GENITOURINARY TRACT: Each kidney weighed 195 grams. Both had capsules that stripped with ease to reveal smooth brown surfaces. On sectioning, the cortices and medullae were well demarcated. There was no tumor, infectious process or hemorrhage. The urinary bladder contained 60 milliliters of urine. The bladder mucosa was white-tan. The prostate was of normal size and had a homogenous pink-tan surface. There were no palpable nodules.

NECK: The internal structures of the neck were examined. The proximal esophagus had a gray-tan mucosa. The larynx contained a small amount of mucous but was otherwise unremarkable. There was no food lodged in the upper airway. The hyoid bone, thyroid cartilage and cricoid cartilage were intact and had no fractures. There were no cervical spine fractures. The thyroid gland had the usual butterfly shape and was red-brown on both external and cut surfaces. There were no nodules.

HEAD: The scalp was incised and reflected in the usual manner. There were no subscalp hemorrhages. The top of the skull was removed and had no fractures. There was no epidural, subdural or subarachnoid hemorrhage. The brain weighed 1,500 grams. The vessels at the base of the brain were intact and had no anomalies or abnormalities. On sectioning the cerebrum, cerebellum, and brainstem, there was no tumor, infectious process or hemorrhage. The base of the skull was intact and had no fractures. There were no neck fractures.

EPAHO120000173

MICROSCOPIC EXAMINATION

HEART: There was mild myocyte hypertrophy.

LUNGS: Sections showed a hemorrhagic pulmonary edema. Few foci of lymphocytes were present. Mononuclear cells including few lymphocytes were present in alveolar spaces. Small areas of atelectases were present.

EPAHO120000174

LABORATORY RESULTS

- **The laboratory findings revealed a 3.4 mcg/mL of thiosulfate in the urine which when creatinine corrected was 1.7 mcg/mL. Findings from cardiac blood revealed an elevated blood thiosulfate level of 11 mcg/mL. Investigation and research by the forensic toxicologist, Laura M. Labay, Ph. D., DABFT, revealed thiosulfate blood concentrations found in the postmortem blood of Mr. Sutter to be consistent with other reported cases of hydrogen sulfide poisoning.**

- **Results of testing on clothing removed from the decedent revealed numerous chemical substances including hydrogen sulfide along with sulfides, disulfides and other chemicals.**

↑

Not true. See test results on pg 18.

EPAHO120000175

PATHOLOGICAL FINDINGS

1. Asphyxia due to hydrogen sulfide (H_2S) inhalation poisoning.
2. Strong chemical odor of body and clothing.
3. Hemorrhagic pulmonary edema.
4. Blood and mucus within the mouth, nose and upper airway.
5. Coalescent hemorrhage of the conjunctivae of the eyes and petechiae over the upper forehead and face.
6. Minimal cardiomegaly.

CAUSE OF DEATH: Asphyxia and poisoning due to hydrogen sulfide (H_2S) inhalation.

MANNER OF DEATH: Accident, while at work. Incorrect. Outside.

COMMENT: According to a witness, decedent was at work atop a tanker truck inside a warehouse when he suddenly collapsed, gasped twice and blood began gushing from his nose. According to this witness, the decedent was unscrewing a wing nut on the dome lid when the incident occurred. This witness reported that the dome lid was closed when the incident occurred. A second witness reported that the decedent actually opened the dome and immediately collapsed. The second witness reported the decedent lay there about 15 minutes until vapors subsided before anyone moved him. The dome lid was open during this time and was closed by other workers before the Port Arthur Fire Department and EMS teams arrived. The Port Arthur Fire Department and EMS personnel were advised by some workers that decedent might have been exposed to toxic fumes.

incorrect. ~~Test.~~ False Testimony provided by Rick Brannon. He claims he was promised 10K to lie. When not paid he recanted + provided true testimony.

Once at the hospital, medical staff noted a strong chemical odor coming from decedent. Medical staff immediately placed decedent in a decontamination area, removed his clothing and hazmat washed him. The decedent's clothing had a strong chemical odor and was biohazard bagged and later submitted to OSHA for testing.

EPAHO120000176

The fire department then returned to the scene of the incident to take Draeger Meter readings from atop the tanker. Draeger Meter reading reportedly showed 1ppm of H_2S, however the fire department officials were not told that the tanker had already been vented of its hazardous contents. It was later discovered that prior to the incident the tank had contained high levels of retained H_2S. By witness account, the tank was filled with water and brought to a boil using steam. When the dome lid was opened, the H_2S and other chemical gasses struck decedent's face, were inhaled and vented into the atmosphere.

false

The phenomenon referred to as "knockdown" is likely a consequence of a direct toxic effect of hydrogen sulfide on the brain. This effect would have prevented utilization of oxygen and resulted in a hydrogen sulfide induced paralysis of the respiratory centers of the brain. Ultimately, this leads to respiratory insufficiency and/or interference with oxygen exchange due to hemorrhagic pulmonary edema.

EPAHO120000177

NMS LABS

FILED
APR 22 2009
Justice Court, Pct. 8

March 25, 2009

Southeast Texas Forensic Ctr. - Beaumont
Attn.: Michele Bertrand
5030 Highway 69 South, Ste. 700
Beaumont, TX 77705

Re: ***SUTTER, JOEY (Patient ID 08-1253)***
NMS File Nos.: WO# 09049978 and 09-0123

Dear Ms. Bertrand:

You have requested that I provide a report discussing my opinions and conclusions regarding Mr. Joey Sutter's toxicology result as detailed in the report issued by NMS Labs on March 16, 2009. Specifically, you would like to know about the thiosulfate finding in blood and its meaning.

Per my understanding Mr. Sutter was a contract employee who was working at a site where there was a wastewater container storing hydrogen sulfide (H_2S). A decision was made to boil off its contents and, at some point, Mr. Sutter opened the dome lid. Following this action Mr. Sutter gasped twice and collapsed, and blood was seen to be gushing from his nose. Despite rescue efforts Mr. Sutter could not be revived. Subsequent testing performed on his clothing revealed the presence of multiple sulfides. Finally, thiosulfate, a metabolite of sulfide, was found at a concentration of 11 mcg/mL in cardiac blood.

By comparing Mr. Sutter's thiosulfate concentration with the concentrations listed in the table below, in conjunction with the review of other case histories, it is seen that Mr. Sutter's concentration is consistent with other thiosulfate concentrations that have been reported in hydrogen sulfide fatal case outcomes.

As a point of reference, whole blood thiosulfate concentrations in healthy persons are normally less then 0.3 mcg/mL.

Container was oil material. No heat / no steam

3701 Welsh Road, Willow Grove, Pennsylvania 19090 T 800.522.6671 F 215.657.2972 www.nmslabs.com

Based upon the above information in conjunction with my knowledge, training and experience, it is my opinion that:

The thiosulfate concentration determined in Mr. Sutter's blood sample is consistent with other reported postmorten thiosulfate concentrations where the cause of death was attributed to hydrogen sulfide poisoning.

If you have any questions regarding this report please do not hesitate to contact me. Also, in the event additional information becomes available, that may affect the above opinion and conclusion, please forward such to me for evaluation.

Laura M. Labay, Ph.D., DABFT
Forensic Toxicologist

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All deaths - enclosed space or low place where H_2S collects → Heavier than air.

NMS LABS

CASE HISTORY	THIOSULFATE CONCENTRATION
Reference 1: A man (A) enters a pit at an industrial waste site and suddenly loses consciousness. Three colleagues (B, C and D) enter the pit to attempt rescue. All lose consciousness. Workers A and B die soon after arrival at the hospital. Blood was collected at the time of the autopsies, 7 hours after the accident for Worker A and 8 hours after the accident for Worker B.	Worker A Blood: 10.53 mcg/mL Worker B Blood: 4.59 mcg/mL ← Quick Death.
Reference 2: A man enters an oil separator room in a geothermal power plant. He suddenly collapses and dies soon thereafter. The body was kept at 0°C until the autopsy was performed 20 hours after death. Blood was collected at the time of autopsy.	Blood: 16 mcg/mL
Reference 3: Several workers enter a water ballast tank to remove heavy oil and suddenly feel unwell. Two of the workers (A and B) arrive at a hospital in cardiopulmonary arrest and soon thereafter are pronounced dead. Autopsies on Worker A and Worker B were performed at 20 and 24 hours post-death, respectively.	Worker A Blood: 9.9 mcg/mL Worker B Blood: 15 mcg/mL
Reference 4: A worker enters a tank to remove sludge, suddenly collapses and dies soon after. The body was kept at room temperature until the autopsy was performed 22 hours post-death. Blood was collected at the time of autopsy.	Blood: 2.7 mcg/mL Quick Death
Reference 4: Two workers (A and B) enter a pump room to repair a pump. When a check valve is opened Hydrogen Sulfide is smelled. Worker B leaves to get a ventilator and when Worker B returns, Worker A is found lying beneath a pool of sewage and died soon thereafter. The body was kept at 0°C until the autopsy was performed 24 hours after death. Blood samples were collected 4 hours after death and at the time of autopsy.	Worker A Blood (4 hr): 13 mcg/mL Blood (Autopsy): 13 mcg/mL

Higher Thiosulfate indicates chronic exposure not instant death.

These are consistent with immediate death

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 35:192–195 (1999)

Hydrogen Sulfide Poisoning: Clarification of Some Controversial Issues

Thomas H. Milby, MD,* and Randall C. Baselt, PhD[1]

Background *Hydrogen sulfide is a toxic gas about which much has been written. We discuss here several issues we believe would benefit from further clarification.*

Conclusions *We conclude that: 1) Certain neurotoxic effects of exposure are probably due to a direct toxic effect on the brain, while others are almost certainly a result of hypoxia secondary to H_2S-induced respiratory insufficiency; 2) pulmonary edema is a common consequence of poisoning and there is suggestive evidence of hyperactive airway responses in some individuals following brief H_2S-induced unconsciousness (knockdown); 3) criteria for acceptable community levels are very different than those governing occupational standards; 4) urinary thiosulfate determinations can be useful for monitoring occupational exposure; and 5) determination of sulfide ion concentrations in blood or major organs can be useful in corroborating a diagnosis of fatal H_2S toxicity, but there are many pitfalls in collecting, storing, and analyzing tissue and fluid samples.* Am. J. Ind. Med. 35:192–195, 1999. © *1999 Wiley-Liss, Inc.*

KEY WORDS: hydrogen sulfide; neurotoxic effects; pulmonary edema; urinary thiosulfate; blood sulfide.

INTRODUCTION

There have been several reviews of the toxicity of hydrogen sulfide to humans published in the last several decades [Milby, 1962; NRC, 1979; Beauchamp et al., 1984; Reiffenstein et al., 1992; EPA, 1993]. In the view of the authors, the majority of the data presented in these reviews continues to be valid, but some issues deserve further clarification. In this short communication, we consider the neurotoxic effects of acute exposure, effects on the lungs, community exposure issues, and diagnosis of poisoning utilizing urine, blood, and tissue analyses.

NEUROTOXIC EFFECTS

The above-cited reviews are generally consistent in the view that the most dramatic potential consequences of hydrogen sulfide exposure occur at high concentrations. At 750–1,000 ppm, inhalation of hydrogen sulfide causes abrupt physical collapse. If exposure is promptly terminated, many cases of collapse are followed by rapid and complete recovery. However, in some instances, presumably where exposure is more pronounced or prolonged, sudden collapse may give way to rapidly fatal respiratory paralysis [Milby, 1962; EPA, 1993; Guidotti, 1994].

Certain transitory neurotoxic effects associated with exposure to hydrogen sulfide such as dizziness, incoordination, and headache are probably due to the direct toxic effect of hydrogen sulfide on the brain: these effects appear far too quickly to be attributed to hypoxia. A phenomenon referred to as "knockdown" has been reported in oil field workers and others to describe sudden, brief loss of consciousness followed by immediate full recovery after short-lived exposure to very high concentrations of hydrogen sulfide (e.g., 750–1,000 ppm) [Guidotti, 1994; Aves, 1929; Smith and Gosselin, 1979]. Knockdown is likely a consequence of a direct toxic effect of hydrogen sulfide on the brain. This direct effect is believed to be due to the intracellular inhibition of cytochrome oxidase by sulfide ion, preventing utilization of oxygen [Nicholls, 1975].

Most victims of acute hydrogen sulfide poisoning who recover do so promptly and completely [Milby, 1962; NRC,

[1]Chemical Toxicology Institute, Foster City, California
*Correspondence to: Thomas H. Milby, M.D., 1399 Ygnacio Valley Rd., Suite 25, Walnut Creek, CA 94598. E-mail: tmilby@aol.com
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1979; Aves, 1929; Glass, 1990]. In a relatively few cases, acute, nonfatal hydrogen sulfide intoxication is followed by brain damage characterized by permanent neurological sequelae. The preponderance of scientific evidence suggests that this sequence of events is a result of hypoxia secondary to respiratory insufficiency, rather than to a direct toxic effect of hydrogen sulfide on the brain [Milby, 1962; Beauchamp et al., 1984; Haggard, 1925; Reiffenstein, 1992]. Respiratory insufficiency following exposure to this gas can occur as a consequence of apnea resulting from hydrogen sulfide-induced paralysis of the respiratory centers of the brain, or can be the result of less specific forms of interference with air flow or oxygen exchange such as airway obstruction or pulmonary edema.

EFFECTS ON THE LUNG

Pulmonary Edema

It is widely agreed that either acute or prolonged exposure to hydrogen sulfide gas can cause pulmonary edema [NRC, 1979; Beauchamp et al., 1984; Reiffenstein et al., 1992; Guidotti, 1994]. The gas is a mucous membrane irritant, although not nearly so potent an irritant as chlorine, ammonia, or sulfur dioxide. However, unlike these three highly water-soluble gases, the only moderately water-soluble hydrogen sulfide is capable of penetrating deep into the lung, where it exerts its irritant effect on the tissues that make up the terminal bronchial membranes [Haggard, 1925].

Prolonged exposure to hydrogen sulfide at concentrations in excess of 250 ppm can lead to the development of pulmonary edema [Beauchamp et al., 1984]. However, persons who are exposed to air levels that cause immediate collapse (750–1,000 ppm) appear to be at even greater risk for developing pulmonary edema, although the pulmonary symptoms may be masked by the more dramatic neurotoxic symptoms of collapse [Beauchamp et al., 1984]. In three case series reporting a total of 523 cases of acute hydrogen sulfide poisoning, pulmonary edema was diagnosed in 4–16% of the affected individuals [Kleinfeld et al., 1964; Burnett et al., 1977; Arnold et al., 1985].

Other Pulmonary Effects

Jappinen et al. [1990] assessed the possible effects of low concentrations of hydrogen sulfide on respiratory function in two cohorts, one consisting of 26 pulp mill workers with daily exposure to hydrogen sulfide in the workplace, and another made up of 10 volunteers who had asthma. The respiratory function of the pulp mill workers was monitored by measuring forced vital capacity (FVC), forced expiratory volume in 1 second (FEV_1), and bronchial responsiveness to histamine at the end of a work day, and again after at least 1 day off work. The 10 asthmatics were exposed to 2 ppm hydrogen sulfide for 30 minutes in an exposure chamber and airway resistance and specific airway conductance were assessed and ventilatory capacities were measured. No significant changes in respiratory function or bronchial responsiveness were found in either cohort, although in two asthmatic subjects changes were greater than 30% in both indicators of airway resistance. The authors concluded that short-term exposure to hydrogen sulfide at levels appreciably higher than those present in ambient air do not cause noticeable effects on respiratory function.

Bhambhani et al. [1996] exposed 19 healthy men and women to 10 ppm hydrogen sulfide for 15 minutes during exercise and found no significant changes in pulmonary function as measured by flow-volume loop, maximum ventilatory volume, and carbon monoxide diffusion capacity. The authors concluded that short-term inhalation of 10 ppm hydrogen sulfide at an elevated metabolic and ventilatory rate does not significantly alter pulmonary function in healthy men and women.

Hessel et al. [1997] assessed the pulmonary health of 175 oil and natural gas extraction and processing workers potentially exposed to hydrogen sulfide gas. The authors conducted spirometric testing and administered a respiratory symptom questionnaire. Bronchial challenge testing was not reported. Approximately one-third of the workers reported exposure to hydrogen sulfide sufficiently intense to cause symptoms and 8% experienced sudden, fleeting unconsciousness (knockdown). Spirometric testing showed no differences between the groups experiencing symptoms of knockdown and other workers. Workers who experienced knockdown reported a significant excess of certain symptoms, including shortness of breath on exertion, wheezes with chest tightness, and attacks of wheezes. The authors concluded that workers who had experienced hydrogen sulfide-related knockdown had statistically significant excesses of several respiratory symptoms consistent with airway hyperreactivity.

There are a number of reports of injuries, often fatal, among workers and others as a consequence of exposure to gases emanating from organic waste sources in which the presence of hydrogen sulfide can reasonably be expected. These sources include toilets [Parra et al., 1991], sewers [Richardson, 1995; Watt et al., 1997], and liquid manure pits [Osbern and Crapo, 1981; Donham et al., 1982]. Some of these reports describe exposure-related pulmonary injuries that investigators attribute to hydrogen sulfide toxicity. Unfortunately, the absence of air testing data and the presence of confounding factors such as other toxic gases and infectious agents make it difficult to unequivocally ascribe these pulmonary injuries to hydrogen sulfide, although in many cases the data are suggestive.

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COMMUNITY EXPOSURE

It is helpful to consider issues of community exposure to hydrogen sulfide in terms of occupational standards for this gas. The acceptable ceiling concentration of hydrogen sulfide permitted in workplace air in the United States is 20 ppm, a level established by the US Occupational Safety and Health Administration (OSHA) [DOL, 1996]. These OSHA regulations do not list an 8-hour time-weighted average (TWA) for hydrogen sulfide, but a TWA of 10 ppm was recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) in 1976 and this recommendation has remained unchanged to the present [ACGIH, 1997]. The ACGIH defines TWA as "the time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect." The justification for this TWA is based on a determination that persons exposed to 10 ppm of hydrogen sulfide will not suffer eye irritation, the most commonly reported adverse physical effect of exposure to hydrogen sulfide at air levels of 50–100 ppm [NRC, 1979].

At air concentrations approaching 0.250–0.300 ppm, the odor of hydrogen sulfide, especially if frequent or persistent, can create a nuisance problem in communities unfortunate enough to be located near a source of this gas. Headache, nausea, and sleep disturbances are quality-of-life issues documented to arise from such exposures [PHS, 1964; Haahtela et al., 1992].

Acceptable air levels for hydrogen sulfide in the workplace environment and acceptable levels for this malodorous gas in the general community air are based on very different considerations. Persons in the workplace are assumed to be in reasonably good health and they generally remain in the workplace environment for only 8 hours a day, 40 hours a week. Community residents comprise all ages and all states of health and may be physically present in the community for most or all of any 24-hour period. They also tend to have a reasonable expectation that their community air will be generally free of noxious substances that create health or nuisance problems. Accordingly, while levels of hydrogen sulfide as high as 10 ppm appear to be acceptable for workplace exposure, community air levels as low as 0.250–0.300 ppm can create an unacceptable nuisance condition. To date, however, neither long-term health effects nor actual physical injury have been convincingly described in persons exposed to hydrogen sulfide at these low levels, although exposure to 0.6 ppm for nearly 1 year is reported to have caused reversible basal ganglia abnormalities in a 1.5-year-old infant, who manifested ataxia and dystonia [Gaitonde et al., 1987].

UTILITY OF LABORATORY TESTING

Biological Monitoring for Chronic Industrial Exposure

The only practical test to monitor the extent of exposure in workers at risk for hydrogen sulfide toxicity, other than fixed or portable air monitoring instruments, is the measurement of urinary thiosulfate. The formation of thiosulfate is the primary detoxification pathway for sulfide in man and is believed to be catalyzed by both hemoglobin and hepatic enzymes [Evans, 1967].

Urinary thiosulfate determinations are not routinely performed in industry, due to the paucity of studies correlating air concentrations with urinary excretion data, as well as the potential complications in interpretation of such data. In one study, 29 unexposed healthy men had urinary thiosulfate values of 0.4–5.4 umol/mmol creatinine, whereas a volunteer exposed to 18 ppm hydrogen sulfide for 30 minutes exhibited urinary thiosulfate concentrations that increased linearly postexposure to a peak of 30 umol/mmol creatinine at 15 hours, before declining to a normal value by 17 hours [Kangas and Savolainen, 1987]. Ingestion of food or water high in sulfur content can dramatically increase urinary thiosulfate concentration, confounding interpretation of excretion data for biological monitoring purposes [Kangas and Savolainen, 1987; Voroteliak et al., 1993; Ellenhorn, 1997].

Diagnosis of Acute Poisoning

Measurement of blood sulfide in acute emergencies is of little clinical value, since this test is rarely available on a STAT basis in clinical laboratories. The delay in obtaining a result from a reference laboratory precludes incorporating blood levels into the diagnostic process. Of more immediate usefulness is a history of possible hydrogen sulfide exposure, as well as the detection of the odor of hydrogen sulfide on the patients clothing or breath. Ancillary tests include chest X-ray to detect pulmonary edema, arterial blood gas determination to rule out carboxyhemoglobinemia or methemoglobinemia, and a CT scan to reveal brain lesions [Ellenhorn, 1997].

Medicological Investigation of Death

The indicia of fatal acute hydrogen sulfide poisoning are fairly well known, but they are not found in every case and their absence by no means precludes establishment of the cause of death as hydrogen sulfide intoxication. These signs include a history of immediate collapse and respiratory paralysis, a disagreeable odor at the accident scene or about the victim, and autopsy findings of pulmonary edema and greenish discoloration of viscera [Simson and Simpson, 1971].

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The presence of sulfide ion in blood or major organs at toxic concentrations (usually in excess of 1.0 mg/L or mg/kg) is considered useful corroboration of a diagnosis of sulfide-induced death. Here again, however, there are situations that may result in the artifactual absence or presence of sulfide in biological specimens, obfuscating interpretation of laboratory values. For instance, hydrogen sulfide rapidly disappears from blood during life [Evans, 1967], and it has been shown to either increase or decrease during in vitro storage, depending on the nature of the specimen, storage temperature, and initial sulfide concentration [Nagata et al., 1990]. Sulfide concentrations in blood and tissues such as liver and kidney may increase dramatically due to biodegradation during room-temperature or refrigerated storage.

Refrigeration of bodies during the interval from death to autopsy, frozen storage of specimens in airtight containers until analysis, and the demonstration of potentially lethal levels of sulfide (1–5 mg/L or mg/kg) in blood, lung, and skeletal muscle will provide the best corroboration of a ruling of death due to acute hydrogen sulfide intoxication [Nagata et al., 1990].

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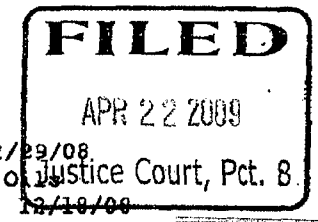

Client: *CES ENVIRONMENTAL*
2420 South Gulfway Drive
Port Arthur, TX 77641

Attn: *Mr. Marlin Moser*
Phone: 1-713-539-6574
Email: mmoser@cesenvironmental.com
ggbery@cesenvironmental.com

Report Date: 12/29/08
Sample Matrix: Oil
Date Collected: ~~12/18/08~~
Time Collected: 19:00
Collected By: Godefroy Gbery
Date Received: 12/18/08
Time Received: 11:45am
CHEMTEX FILE #: P8120675

No. 2

AIHA Laboratory # 101478 nelap certificate # T104704239-08

RESULTS OF ANALYSIS
SITE/LOCATION: 2420 South Gulfway Drive
Sample Identification: 267
CHEMTEX #: P8120675

Parameter	Units	Results	MDL
Ash Content	wt %	1.75	0.01
Chloride	mg/kg	418	1
Total Sodium	mg/kg	213.9	2.5
Total Zinc	mg/kg	< 2.5	2.5
Total Iron	mg/kg	< 2.5	2.5
B T U (heat content)	btu/lb	30,215	100
Hydrogen Sulfide (H2S)	mg/kg	595	10
Water Content	wt%	11.84	0.1

ppm: parts per million MDL: Method Detection Limit

Method References/Dates Analyzed and Analysts

Parameter	Method Reference	Date Analyzed/Analyst(s)
Ash Content	ASTM D-482	12/19/08 PSL
BTU (heat content)	ASTM D-240	12/18/08 SR
Chloride	EPA Method 300.0	12/18/08 PPS
Total Sodium	EPA Method 6010B	12/18/08 HKR/KSR
Total Zinc	EPA Method 6010B	12/18/08 HKR/KSR
Total Iron	EPA Method 6010B	12/18/08 HKR/KSR
Water Content	ASTM D-6304	12/19/08 ACM
Hydrogen Sulfide	HACH Method 8131	12/29 08 SR

Test of material in tanker. Sampled previous day. No issues. Max concentration entrained in oil is 595 ppm.

Kml/kv*/CNR

Dr. C. N. Reddy, Ph.D, CIH, ASP
Director

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AR2 · 01

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326608

4. Establishment Name

PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	PTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) GC/MS ANALYSIS

Air from the closed bag was drawn through a Carbotrap 300 tube for volatiles analysis. Swatches of cloth were cut from sweat pants (2), shirt (3), and jeans (2) and extracted in carbon disulfide for GC/MS analysis. Draeger tube analysis for hydrogen sulfide and mercaptans was conducted. Swatches from shirt and jeans were extracted in water, which was tested with pH strips.

D-55438: HazMat suit was not analyzed.

D-55439: Carbotrap tube: Numerous disulfide compounds including CS2, dimethyl disulfide, diethyl disulfide, dimethyl trisulfide, diethyl trisulfide, and others. Also, acetone, isopropanol, ethyl benzene, xylene, and 2-ethyl hexanol. Sweat pants: Dimethyl disulfide, fatty acids, glycerin, and long-chain alcohols and amines. Shirt: Elemental sulfur, phthalate and adipate esters, phenol and alkyl phenols, nonyl phenol isomers, alkyl cyclopentadienes, fatty acids, alcohols and amines, dimethyl disulfide, benzyl alcohol, and detergent compounds. Jeans: Elemental sulfur, phenol and alkyl phenols, alkyl cyclopentadienes, disulfide compounds, phthalate and adipate esters, and detergent compounds. Draeger tubes produced no evidence of hydrogen sulfide or mercaptans. pH on cloth swatches tested was not elevated, indicating absence of caustics such as NaOH.

27.Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	14 JAN 2009
c. Rec'd by Anal.	PH	14 JAN 2009
d. Anal. Completed	PH	21 JAN 2009
e. Calc. Checked	MEE	31 JAN 2009
f. Supr. OK'd	WP	22 JAN 2009

28 Submission number	1975-1	1975-2
29 Lab Sample No. (Minutes/Type)	D55438 B	D55439 B

30. Analyte	31. Analysis Results/	32. Sample included in calculations of
M125 Qualitative Mass-Spec Analysis	NA	BULK

AR2 P2

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code SAE Value

M125

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
P	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT
Y	MILLIGRAMS	Z	FIBERS PER MM2
N	NONE	G	MILLION PARTICLES PER CUBIC FOOT (MPPCF)

BM/S Bar Meters per Second

Bulk samples are analysed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only. Reporting limit for quartz in bulk samples is 1%

NA The sample was not analyzed.

Analyte codes are chosen by the laboratory. The I. H. should review them for applicability. if there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 401326608

AP2 P3

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) HISTORICAL GC/MS

A portion of bulk oil was placed in carbon disulfide for analysis by GC/mass spectrometry. Testing for pH was done by placing a portion of oil in water, then testing the water with pH indicator strips. Testing for H2S and SO3 in bottle headspace was done using detector tubes.

D-55599: Most abundant organic analytes were phenol, cresols and other alkyl phenols. Also found were numerous sulfides, disulfides, trisulfides, and tetrasulfides, as well as toluene, xylene, and elemental sulfur. Indicator strips gave an approximate pH of 6. H2S and SO3 were not detected in headspace over the oil.

27.Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	PH	22 JAN 2009
d. Anal. Completed	PH	23 JAN 2009
e. Calc. Checked	MEE	23 JAN 2009
f. Supr. OK'd	WP	26 JAN 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 B

30. Analyte	31. Analysis Results/ 32. Sample included in calculations of
M125 Qualitative Mass-Spec Analysis	BULK

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code SAE Value
M125

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT

AR2 P4

Sampling Report, U.S. Department of Labor Occupational Safety and Health Administration.

Y	MILLIGRAMS	E	FIBERS PER MM2
N	NONE	G	MILLION PARTICLES PER CUBIC FOOT (MPPCF)
BM/S	Bar Meters per Second		

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only. Reporting limit for quartz in bulk samples is 1%

Analyte codes are chosen by the laboratory. The I. H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 401326616

AR2 A5

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name

PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8. Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10. Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17. Exp Type	18. Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26. Analyst's Comments (Analytical Method) OSHA ID-121

The reporting limit for analyte 2260 (Sodium Hydroxide) is 8.7 micrograms per sample.

Results have not been blank corrected.

Samples were analyzed for sodium only. It is assumed that all sodium present is derived from sodium hydroxide.

The amount of material used in the analysis of sample D55599 is 1.8149 grams.

27. Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	BJA	24 FEB 2009
d. Anal. Completed	BJA	24 FEB 2009
e. Calc. Checked	JA	24 FEB 2009
f. Supv. OK'd	JR	25 FEB 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 B

30. Analyte		31. Analysis Results/	32. Sample included in calculations of
2260	Sodium Hydroxide	0.4590 %	

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures. The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations. Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code SAE Value

2260

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT
Y	MILLIGRAMS	E	FIBERS PER MM2

Sampling Number: 401326616

AR2 P6

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

N NONE G MILLION PARTICLES PER CUBIC FOOT (MPPCF)

BM/S Bar Meters per Second

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only. Reporting limit for quartz in bulk samples is 1%

Analyte codes are chosen by the laboratory. The I. H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 401326616

Data Sampling Report: U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name

PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) IN-HOUSE P200

27.Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	KAO	02 FEB 2009
d. Anal. Completed	KAO	18 FEB 2009
e. Calc. Checked	JA	26 FEB 2009
f. Supr. OK'd	JR	03 MAR 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 B

30. Analyte	31. Analysis Results/	32. Sample included in calculations of
P200 pH Determination	8.0000 N	

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code	SAE Value
P200	

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT
Y	MILLIGRAMS	E	FIBERS PER MM2

Sampling Number: 401326616

P8

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

N NONE

G MILLION PARTICLES PER CUBIC FOOT (MPPCF)

BM/S Bar Meters per Second

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only. Reporting limit for quartz in bulk samples is 1%

Analyte codes are chosen by the laboratory. The I. H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 401326616

pg

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	401326616

4. Establishment Name

PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8. Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10. Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17. Exp Type	18. Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	PTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26. Analyst's Comments (Analytical Method) OSHA ID-165SG

The sample contained 0.879 % by weight hydrogen sulfide. Sample # D55599 was confirmed for Hydrogen sulfide by GC/MASS SPEC.

27. Chain of Custody	Init.	Date
a. Seals Intact		Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	REB	13 FEB 2009
d. Anal. Completed	REB	20 FEB 2009
e. Calc. Checked	FMG	23 FEB 2009
f. Supr. OK'd	WP	23 FEB 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 B

30. Analyte	31. Analysis Results/ 32. Sample included in calculations of
1480 Hydrogen Sulfide	0.8790 % BULK

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code SAE Value

1480

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT
Y	MILLIGRAMS	E	FIBERS PER MM2

Sampling Number: 401326616

P10

N NONE

G MILLION PARTICLES PER CUBIC FOOT (MPPCF)

BM/S Bar Meters per Second

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only. Reporting limit for quartz in bulk samples is 1%

Analyte codes are chosen by the laboratory. The I. H. should review them for applicability. if there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 401326616

P11

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIAL

Toxicology Report

Report Issued 03/16/2009 11:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	11019013
Age	36 Y
Gender	Male
Workorder	09049978

FILED
APR 22 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Special Request Finding(s)	**Positive**		**Cardiac Blood**

See Detailed Findings section for additional information.

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	11 mL	12/19/2008	Cardiac Blood	

All sample volumes/weights are approximations.

Specimens received on 03/05/2009.

Testing Requested:

Analysis Code	Description
7005SA	Special Request

No 4

v.3

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Special Request Finding(s)	Positive			001 - Cardiac Blood	[Depending on request]

Thiosulfate = 11 mcg/mL
Reporting Limit = 2.0 mcg/mL
Analysis by Ion Chromatography

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. **Special Request Finding(s) - Cardiac Blood:**

   Thiosulfate is a byproduct of the metabolic degradation of cysteine and methionine. As a result, normal endogenous levels of thiosulfate can be found in urine. However, whether normal levels of thiosulfate can be found in serum, plasma or whole blood is debatable. Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma and/or whole blood. Hydrogen sulfide exposure is a common source of increased urinary and serum levels of thiosulfate.

   After a single 20 mg oral dose of thiosulfate, reported plasma concentrations at 1.5 hr averaged 0.050 mcg/mL and declined to approximately 0.015 mcg/mL by 12 hr. After chronic daily dosing of between 15 to 60 mg, plasma concentrations were reported to range from 0.010 - 0.023 mcg/mL 2 hr after the last dose.

   Experience in our laboratory indicates that basal serum, plasma and blood concentrations of thiosulfate are less than 2 mcg/mL.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Analysis Summary:

Acode 7005SA - Special Request - Cardiac Blood

- Analysis by [Depending on request] for: Special Request Finding(s)

CLIENT LOGIN

Site Test Catalog

SEARCH

Online Test Catalog Home

New Tests

Test Updates

Analysis Code	4472SP
Test Name	Thiosulfate, Serum/Plasma
Test Includes	Thiosulfate [IC]
Purpose	Exposure Monitoring
Category	Environmental/Occupation Toxin
Method(s)	Ion Chromatography (IC)
Specimen Requirements	3 mL Serum or Plasma
Transport Temperature	Refrigerated
Specimen Container	Lavender top tube (EDTA)
Special Handling	Promptly centrifuge and separate Serum or Plasma into a plastic screw capped vial using approved guidelines.
Light Protection	Not Required
Stability	Room Temperature: 3 day(s) Refrigerated: 9 day(s) Frozen (-20 °C): 1 month(s)
Rejection Criteria	Received Room Temperature. Polymer gel separation tube (SST or PST).
Day(s) Test Set-up	[IC] Monday-Sunday 7 days
Suggested CPT Code	[IC] 82491

A B C D E F G H I J K L M
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Sample
Received
by NMS
Labs
3/5/09

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The Thiosulfate
Test in blood

NMS LABS

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIAL

Toxicology Report

Report Issued 01/03/2009 11:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	10973687
Age	36 Y
Gender	Male
Workorder	08361311

FILED
APR 27 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Caffeine	**Positive**	**mcg/mL**	**Blood**
Cotinine	**Positive**	**ng/mL**	**Blood**
Nicotine	**Positive**	**ng/mL**	**Blood**
Theobromine	**Positive**	**mcg/mL**	**Blood**
Acetaminophen	**4.6**	**mcg/mL**	**Blood**

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	10.75 mL	12/19/2008	Blood	

All sample volumes/weights are approximations.

Specimens received on 12/30/2008.

Testing Requested:

Analysis Code	Description
8052B	Postmortem Toxicology - Expanded, Blood

No. 5

v.3

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Caffeine	Positive	mcg/mL	0.10	001 - Blood	GC/MS
Cotinine	Positive	ng/mL	12	001 - Blood	GC/MS
Nicotine	Positive	ng/mL	12	001 - Blood	GC/MS
Theobromine	Positive	mcg/mL	5.0	001 - Blood	GC/MS
Acetaminophen	4.6	mcg/mL	0.50	001 - Blood	HPLC

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. **Acetaminophen (Tylenol®) - Blood:**

   Acetaminophen is an over the counter analgesic with antipyretic properties; however, it has no anti-inflammatory actions. It may be found both alone and in combinations with other substances such as codeine, hydrocodone, tramadol, butalbital, and propoxyphene. It appears to be a relatively safe substance when used in analgesic amounts; however, it frequently produces acute hepatic necrosis after overdose.

   The generally accepted therapeutic range of acetaminophen is 10 - 20 mcg/mL of plasma; however, there are considerable individual differences in plasma concentrations.

   Symptoms of acetaminophen overdose usually are not seen immediately but are reflected in hepatic damage after 1/2 to 6 days with concentrations of 120 mcg/mL and above. A reported range of blood levels in individuals succumbing to acetaminophen overdose ranged from 160 - 390 mcg/mL.

2. Caffeine (No-Doz) - Blood:

   Caffeine is a xanthine-derived central nervous system stimulant. It also produces diuresis and cardiac and respiratory stimulation. It can be readily found in such items as coffee, tea, soft drinks and chocolate. As a reference, a typical cup of coffee or tea contains between 40 to 100 mg caffeine.

   Following the oral ingestion of 120 and 300 mg of caffeine, reported peak plasma concentrations of the drug averaged 3.0 mcg/mL (range, 2.0 - 4.0 mcg/mL) and 7.9 mcg/mL (range, 6.0 - 9.0 mcg/mL), respectively. A single oral dose of 500 mg produced a reported peak plasma concentration of 14 mcg/mL after 30 min.

   Reported concentrations of caffeine in caffeine-related fatalities averaged 183 mcg/mL (range, 79 - 344 mcg/mL).

3. Cotinine (Nicotine Metabolite) - Blood:

   Cotinine is a metabolite of nicotine and may be encountered in the fluids and tissues of an individual as a result of, e.g., tobacco exposure. Concentrations may be variable in blood and urine depending on the route of exposure and length of exposure. Cotinine plasma/serum concentrations in non-smokers are reported to be typically less than 15 ng/mL. Tobacco users and transdermal patch wearers have typical cotinine plasma/serum concentrations of less than 1000 ng/mL.

   Anabasine is a natural product occurring in tobacco, but not in pharmaceutical nicotine and a separate test for anabasine in urine can be used to distinguish tobacco from pharmaceutical nicotine use.

4. **Nicotine - Blood:**

   Nicotine is a potent alkaloid that is found in tobacco leaves at the extent of 2 - 8% by weight. It is also reportedly found in various fruits, vegetables and tubers, e.g., tomatoes and potatoes, albeit at a smaller per weight fraction. As a natural constituent of tobacco, nicotine is found in cigarettes and other commonly used smoking or chewing products. It can also be found in smoking cessation products, e.g., patches. Nicotine has also classically been used as a pesticide, although not as widely since the advent of more effective agents. Death from nicotine exposure usually results from either a block of neuromuscular transmission in respiratory muscles or from seizures.

Reference Comments:

Nicotine is extensively metabolized in man with the primary measured and reported metabolite being the oxidative product cotinine. Nicotine itself has a relatively short plasma half-life of approximately 1 to 2 hr; on the other hand, cotinine has a half-life of approximately 20 hr. Non-smokers typically have plasma/serum nicotine concentrations of less than 10 ng/mL; however, concentrations may be higher depending on exposure parameters, e.g., length of time in a tobacco smoke environment; amount of airborne nicotine, etc. Tobacco users and transdermal patch wearers have typical nicotine plasma/serum concentrations less than 100 ng/mL. However, many factors influence the concentrations found in any individual, including: Frequency of use; amount of nicotine exposed to; route of administration; etc.

Toxic manifestations of nicotine overdose include nausea, vomiting, dizziness, sweating, miosis, EEG and ECG changes, tachycardia, hypertension, respiratory failure, seizures and death. Reported blood concentrations of nicotine in deaths attributed to the compound range from 1000 - 5800000 ng/mL.

Anabasine is a natural product occurring in tobacco, but not in pharmaceutical nicotine and a separate test for anabasine in urine can be used to distinguish tobacco from pharmaceutical nicotine use.

5. Theobromine (Xantheose) - Blood:

Theobromine is a methylxanthine alkaloid found in tea and cocoa products and has been reported to pass into the breast milk of nursing mothers. Theobromine has the general properties of the xanthines, including diuresis and smooth muscle stimulation.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Workorder 08361311 was electronically signed on 01/03/2009 10:16 by:

Joe Corvo

Joseph N. Corvo,
Certifying Scientist

Analysis Summary:

Acode 50000B - Acetaminophen Confirmation, Blood (Forensic)

- Analysis by High Performance Liquid Chromatography (HPLC) for: Acetaminophen

Acode 8052B - Postmortem Toxicology - Expanded, Blood

- Analysis by Colorimetry (C) for: Acetaminophen

- Analysis by Colorimetry (C) for: Salicylates

- Analysis by Enzyme-Linked Immunosorbent Assay (ELISA) for: Barbiturates, Benzodiazepines, Cannabinoids, Cocaine/Metabolites, Methadone, Opiates, Phencyclidine, Propoxyphene

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for: The following is a general list of compound classes included in the Gas Chromatographic screen. The detection of any particular compound is concentration-dependent. Please note that not all known compounds included in each specified class or heading are included. Some specific compounds outside these classes are also included. For a detailed list of all compounds included in this screen, please contact NMS Labs.

Amphetamines, Analgesics (opioid and non-opioid), Anesthetics, Anticholinergic Agents, Anticonvulsant Agents, Antidepressants, Antiemetic Agents, Antihistamines, Antiparkinsonian Agents, Antipsychotic Agents, Anxiolytics ~~(Benzodiazepine and others), Cardiovascular Agents (non-digitalis), Hallucinogens, Hypnosedatives~~ (Barbiturates, Non-Benzodiazepine Hypnotics and others), Muscle Relaxants, Non-Steroidal Anti-Inflammatory Agents (excluding Salicylate) and Stimulants (Amphetamine-like and others).

Analysis Summary:

- Analysis by Headspace Gas Chromatography (GC) for: Acetone, Ethanol, Isopropanol, Methanol

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIA

No 6

FI
APR
Justice Court, Pct. 8

Toxicology Report

Report Issued 01/20/2009 17:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	10973749
Age	Not Given
Gender	Male
Workorder	09009238

Positive Findings:

Compound	Result	Units	Matrix Source
Creatinine	**1959**	**mg/L**	**Urine**
Thiosulfate	**3.4**	**mcg/mL**	**Urine**
Thiosulfate (Creatinine corrected)	**1.7**	**mcg/g Creat**	**Urine**

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	10.75 mL	Not Given	Blood	
002	Red Top Tube	9.75 mL	Not Given	Urine	

All sample volumes/weights are approximations.

Specimens received on 01/15/2009.

Testing Requested:

Analysis Code	Description
4235B	Sulfhemoglobin, Blood
4472U	Thiosulfate, Urine

v.3

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Creatinine	1959	mg/L	5.0	002 - Urine	Colorimetry
Thiosulfate	3.4	mcg/mL	1.0	002 - Urine	IC
Thiosulfate (Creatinine corrected)	1.7	mcg/g Creat	0.51	002 - Urine	IC

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Creatinine - Urine:

   ACGIH Normal range in adults:
   300 - 3400 mg/L (mean: 1000 mg/L)
   [0.3 - 3.4 g/L (mean: 1 g/L)]
   1000 - 1600 mg/day (1.0 - 1.6 g/day).

2. Thiosulfate - Urine:

   Thiosulfate is a byproduct of the metabolic degradation of cysteine and methionine. As a result, normal endogenous levels of thiosulfate can be found in urine. However, whether normal levels of thiosulfate can be found in serum, plasma or whole blood is debatable. Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma and/or whole blood. Hydrogen sulfide exposure is a common source of increased urinary and serum levels of thiosulfate.

   Reported endogenous thiosulfate levels in urine range from 1 - 5 mcg/mL.

3. Thiosulfate (Creatinine corrected) - Urine:

   Normal: Up to 8 mcg/g Creatinine.
   15 hours after a 60 minute exposure to air concentrations of 60 micromoles/L Hydrogen Sulfide resulted in urine concentrations up to 60 mcg/g Creatinine.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Analysis Summary:

Acode 4235B - Sulfhemoglobin, Blood

- Analysis by Spectrophotometry (SP) for: Sulfhemoglobin

Acode 4472U - Thiosulfate, Urine

- Analysis by Colorimetry (C) for: Creatinine
- Analysis by Ion Chromatography (IC) for: Thiosulfate, Thiosulfate (Creatinine corrected)

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Toxicity, Hydrogen Sulfide

Sujal Mandavia, MD, FRCP(C), FACEP, Clinical Assistant Professor of Emergency Medicine, USC, Department of Emergency Medicine, Cedars-Sinai Medical Center, Los Angeles County-University of Southern California Medical Center

Updated: Mar 24, 2009

Introduction

Background

Hydrogen sulfide (H_2S) is a colorless gas that has strong odor of rotten eggs. H_2S poisoning is a rarity, mainly observed in industrial settings. Emergency physicians must be aware of the presentation and management of H_2S poisoning because rapid identification and treatment is essential for recovery.

Pathophysiology

Significant H_2S poisoning usually occurs by inhalation. Local irritant effects, along with arrest of cellular respiration, may follow. H_2S forms a complex bond to the ferric moiety causing inhibition of mitochondrial cytochrome oxidase (iron-containing protein), thereby arresting aerobic metabolism in an effect similar to cyanide toxicity. Very high lipid solubility allows it to penetrate easily through biologic membranes.

As a cellular poison, H_2S affects all organs, particularly the CNS and pulmonary system. The spectrum of illness depends on the concentration and duration of exposure, with high concentrations (>700 ppm or >975 mg/m^3) causing sudden death possibly due to hydrogen sulfide effect on the brainstem respiratory center.

Frequency

United States

According to the 2007 Annual Report of the American Association of Poison Control Centers' National Poison Data System, 1134 single exposures and 13 fatal outcomes were reported.[1]

It is very important to realize that 25% of fatalities usually involve rescuers, professionals, or bystanders.[2]

Mortality/Morbidity

- Low-level exposures of hydrogen sulfide usually produce local eye and mucous membrane irritation, while high-level exposures rapidly produce fatal systemic toxicity.
- Exposures of 700-800 ppm or greater can cause loss of consciousness and cardiopulmonary arrest.

Sex

Because hydrogen sulfide exposures predominantly occur in industrial exposures, it is conceivable that the majority of patients will be middle-aged men.

Age

If exposed to hydrogen sulfide, children are more vulnerable than adults.

Clinical

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History

The presence of H_2S usually is apparent because of the characteristic rotten egg smell. However, concentrations above 150 ppm may overwhelm the olfactory nerve so that the victim may have no warning of exposure. Exposures can be subdivided into low-, high-, and very high-level categories.

- Low-level exposure often is more chronic in nature and usually is seen in industrial settings. Chronic low-level exposure of hydrogen sulfide results primarily in irritation to mucous membranes and the respiratory system. Patients exposed to continuous low-level concentrations or after acute exposure to the very high concentrations of hydrogen sulfide can lose their ability to smell/detect the gas even though it is still present in the environment (olfactory fatigue/paralysis).
    - Headaches
    - Asthenia
    - Bronchitis
- High-level exposures of hydrogen sulfide result in more neurologic and pulmonary symptoms.
    - Cough
    - Dyspnea
    - Vertigo
    - Confusion
    - Nausea and vomiting
    - Possible loss of consciousness
    - Hemoptysis
- Very high concentrations lead to cardiorespiratory arrest because of brainstem toxicity.
    - Myocardial infarction
    - Sudden loss of consciousness ("knockdown")
    - Seizure
    - Cardiopulmonary arrest

Physical

- Low-level exposure of hydrogen sulfide most often affects the mucous membranes and may show the following few physical signs:
    - Conjunctivitis (even at levels of only 4 ppm)
    - Pharyngitis
    - Green-gray line on gingiva
    - Wheezing
- High-level exposure of hydrogen sulfide may elicit the following signs:
    - Bradycardia
    - Tremulousness
    - Agitation

EPAHO120000206

- Cyanosis
- Acute lung injury (may present with acute respiratory distress syndrome [ARDS])

Causes

- H_2 S most often is encountered as a byproduct of the petroleum, viscose rayon, rubber, and mining industries.
- Organic decomposition of sulfur compounds in sewers, barns, liquid manure pits, ships' holds, and sulfur springs also produces H_2 S.
- The petroleum industry is responsible for most cases of H_2 S toxicity in North America.
- In nature, hydrogen sulfide can be found in caves, sulfur springs, underground deposits of natural gas, or as result of volcanic eruptions.
- Hydrogen sulfide has recently been implicated in suicides in Japan.[3]

Differential Diagnoses

Lactic Acidosis
Smoke Inhalation
Toxicity, Carbon Monoxide
Toxicity, Cyanide
Toxicity, Hydrocarbons

Other Problems to Be Considered

Methemoglobinemia
Acute lung injury (ALI)

Workup

Laboratory Studies

- Arterial blood gas
  - Arterial blood gas (ABG) usually reveals a marked uncompensated metabolic acidosis. Acidosis is associated with an elevation in serum lactate level.
  - Oxygen tension (pO_2) and calculated oxygen saturation are within the reference range unless the patient has concomitant pulmonary edema.
  - As with other hemoglobinopathies, however, measured oxygen saturation often is low and indicates a saturation gap.
  - Venous blood gas may indicate abnormally high oxygen tension (because of decreased oxygen utilization) resulting in a decrease in the PO_2 gradient between arterial and venous blood.
  - H_2 S toxicity may be associated with carboxyhemoglobin or methemoglobinemia, depending on the source of H_2 S and coexposure.

Imaging Studies

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- Chest radiography
  - Chest radiographic findings initially may be normal, but up to 20% of patients present with evidence of acute lung injury.
  - ARDS is viewed as a complication in H_2 S poisoning.
- CT scan or MRI of the head: Often only delayed findings, such as basal ganglia lesions, are found.

Other Tests

- ECG may reveal ischemia or infarction patterns.
- Sulfide (unstable metabolite) and thiosulfate blood levels rarely are available (especially on short notice) and may be elevated in cases of significant exposure. However, with significant acute exposure due to respiratory paralysis, the amount of actually absorbed hydrogen sulfide can be lower in comparison to low-level chronic exposure.
- Measurement of sulfide and thiosulfate levels are more appropriate for the evaluation of low-level chronic exposures.

Treatment

Prehospital Care

- Initial treatment of hydrogen sulfide exposure requires immediate removal of the victim from the contaminated area into a ventilated/fresh-air environment. Prehospital care providers should take hazardous materials precautions with respirator devices (SCBA) to avoid serious exposure.
- In severe cases, intubation may be necessary for ventilatory support and airway protection.
- Gain intravenous access or initiate other initial supportive care as necessary.
- Search the patient's pockets for discolored copper coins, which can be an early diagnostic clue.
- Protected rescue personnel can measure environmental concentration of hydrogen sulfide providing initial clue to the diagnosis.

Emergency Department Care

High-flow (100%) oxygen is the mainstay of therapy for hydrogen sulfide poisoning.

- Supportive therapy includes aggressive ventilation and possible use of positive pressure ventilation for the patients with evidence of acute lung injury.
- IV fluids and vasopressors should be administered to hypotensive patients.
- Correction of acidosis based on ABG and serum lactate values is indicated.
- Based on the similarities in cyanide and hydrogen sulfide toxicity, induced methemoglobinemia may be used for the treatment of hydrogen sulfide toxicity. Methemoglobin acts as a scavenger, and it is more attractive to hydrogen sulfide than cytochrome oxidase. Administer 10 mL of 3% sodium nitrite intravenously over 2-4

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Comments and Questions Regarding Autopsy Report Dated December 19, 2008 and Signed April 17, 2009 (Sutters)

1. Does thiosulfate accumulate in the blood from low level H2S exposure over-time including prior to death? (See #2 below)

2. Other sulfur compounds may raise thiosulfate levels. NMS Report No. 4 & 6 stated "Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma, and/or whole blood.

3. See analysis by Ion Chromatography for thiosulfate in cardiac blood in Report No. 4. What are the interferences using IC. Others use GC-MS.

4. March 25, 2009 letter, from Laura Labay states that "there was a wastewater container storing hydrogen sulfide" (Autopsy No 3). A decision was made to boil-off its contents and at some point, Mr. Sutters opened the dome lid. Following this action Mr. Sutters gasped twice and collapsed. Site information indicates that the material was in Trailer 267 that was not being heated and the dome lid was not open.

5. According to Autopsy Report No. 2, the maximum amount of H2S in the liquid in the tank trailer 267 was 595 mg/kg (ppm) listed on Page 1. H2S toxicity sources levels of 320 to 530 ppm leads to pulmonary edema with the possibility of death(See Wikipedia Page 3). Above 530 to 1000 ppm leads to loss of breathing and at 800 ppm it is the lethal concentration for 50% of humans for 5 minutes exposure. Concentrations over 1,000 ppm cause immediate collapse with loss of breathing. For the material in the trailer to affect Joey Sutter, the majority of the material in the liquid would be required to be forced from the trailer into the head space which is unlikely. According to the same report Page 4, H2S gas was not detected in the head space over an oil sample from Trailer 267.

6. Autopsy Report No. 1, Page 7, stated that testing on clothing from Joey Sutter revealed hydrogen sulfide (H2S). However, Autopsy Report No. 2, Page 2, stated that there was no evidence of H2S from testing of clothing.

7. Autopsy No. 1, Page 8, states that an unidentified witness (third party) said that the dome lid was opened on the trailer and Joey Sutter actually opened the dome and immediately collapsed and laid there 15 minutes until vapors subsided before anyone moved him. H2S toxicity informant states that concentrations over 1000 ppm cause immediate collapse, and the maximum level in the trailer liquid (Autopsy No. 2) was 595 ppm. Other CES Affidavit informant by Suzie Mock, the other person on the trailer,

stated that her H2S alarm monitor was set at 10 ppm and did not alarm while she was on the trailer.

8. Again Autopsy Report No. 1, contains hearsay or rumors which it states on Page 9, by stating that prior to the incident the tank contained high levels of retained H2S, was filled with water, and brought to a boil using steam. The tank was a trailer not attached to steam, not boiling and filled with oil which is difficult to boil with steam. No steam source existed at the site on December 18, 2008. Again, the report stated that the dome lid was opened which it was not. Joey Sutter was planning to sample the trailer that was at ambient temperature that had been sampled the day prior to this event. Joey Sutter would not sample a trailer with boiling water containing H2S.

9. A review of documentation for IDLH (NIOSH) shows that data from others (Patty (1963)) that 170 t0 300 ppm is the maximum concentration that can endure for one hour without serious consequences, 400 to 700 ppm is dangerous after exposure for 30 minutes to one hour (Henderson and Haggard 1943) and AIHA (1963) reported 500 to 700 causes loss of consciousness and possible death in 30 minutes to one hour [MCA 1950]. Also, 700 to 1000 ppm results in rapid unconsciousness (See Attached).

10. On Page 9 of the Autopsy Report No. 1, the writer speaks to knockdown (rapid unconsciousness) of Joey Sutter which would require a level higher than what the trailer data of 595 ppm in Report No. 2 and the fire department officials returned to the top of the tanker (not container) and measured only 1 ppm H2S with the statement that the tanker had been vented. At the levels required to knockdown Joey Sutter 700 to 1000 ppm would result in odors covering a wide area since H2S recognition threshold is at 0.0047 ppm and the other CES employees monitors were set at 10 ppm alarm which did not alarm.

11. Autopsy Report No. 1, Page 9, the writer states that the tanker contained water but on Autopsy Report No. 2, Page 4, states that the material was oil.

12. Autopsy Report No. 1, states a date of December 19, 2008, uses data from a report dated March 16, 2009 (Report 4).

13. Report No. 6 states that thiosulfate (creatinine corrected) are normal up to 8 mcg/g and findings were 1.7 mcg/g.

14. Report 3 uses statements such as wastewater container storing H2S and Report No. 2, Page 4, states that is was oil not wastewater with no H2S measured over the headspace.

15. Other people use GCMS for thiosulfate analysis in blood where this group used IC. Is IC better? Is GCMS better? Interferences?

16. NMS Report No. 6 (01/29/09) states that blood was tested for sulfhemoglobin with no reported result.

Synopsis of Joey Sutter Autopsy Performed 12/19/08- 04/17/09

1. **Autopsy based on one piece of data on thiosulfate level from one test performed by NMS Labs on blood 2.5 months after the death of Joey Sutter with no statement on how the sample was maintained for 2.5 months.**

2. **This time line was beyond NMS Labs maximum blood sample life stability time of 1 month which also requires the sample to be frozen.**

3. **Published information on H2S poisoning in the American Journal of Industrial medicine states that sulfide concentrations in blood may increase dramatically due to biodegradation during room-temperature or refrigerated storage. It also states that specimens must be in frozen storage in air tight containers.**

4. **This article in American Journal of Industrial Medicine states that H2S levels must be 700 to 1,000 ppm to knockdown a person.**

5. **The Joey Sutter Autopsy states that he was knockdown which was a consequence of toxic effect of H2S on the brain. However, the autopsy writer ignored that Joey Sutter was with another person (Suzie Mock) during the incident on Trailer 267 and the second person did not become sick from H2S. In addition her H2S alarm set at 10 ppm did not activate, while she was on Trailer 267.**

6. **The autopsy writer ignored the thiosulfate urine test by NMS Labs which showed the level to be normal.**

7. **The autopsy writer introduced comments about the conditions of the death that were untrue and hearsay such as the tank (tanker) was filled with water and brought to a boil using steam. No steam was available and the tanker according to OSHA data contained oil.**

8. **The autopsy writer ignored OSHA lab results of no H2S found in the headspace of an oil sample of the material, and no H2S was measured from the decedent's clothes.**

9. **The NMS Report of March 25, 2009 was based on incorrect information such as boiling off hydrogen sulfide from wastewater when the material was oil and no source of steam was available for heat. The report ignored thiosulfate level in urine test which showed a normal value in the urine.**

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Facts Relevant to the Death of Joey Sutter (12/18/08)

1. **Eyewitness testimony indicates that the sampling process had not progressed to opening the trailer vent valve or dome lid; therefore, neither individual was exposed to the contents of the trailer. An attempt was made to open one wing nut so it would be very unlikely that any gas would escape since 5 wing nuts were still secure.**

2. **The oil (mostly disulfide oils and low level mercaptans) had been generated in a reaction tank through processing. These oils were broken/de-emulsified from sulfidic caustic feedstock by strong acidification of the caustic solution. This acidification process is designed to release all of the H2S contained in the material. The released H2S is captured in a closed system and recondensed with virgin caustic to produce NaSH. Any vapors from the capture tank are vented to a flare system. This occurred prior to placing the oil from the reaction tank into Trailer 267.**

3. **The brine water generated from the processing activities in the reaction tank was titrated and showed no remaining H2S.**

4. **Trailer 267 was sampled the previous day without issue, or sampler becoming ill. In addition, the sampler's H2S monitor set at 10 ppm did not alarm.**

5. **Bleeding from the noise by Sutter indicates natural or accidental causes and not hydrogen sulfide poisoning.**

6. **Sutter's Body Mass Index puts him in the obese group. Sutter's lab data shows that he had nicotine in his system.**

7. **Port Arthur Fire Department technician measured no hydrogen sulfide from Sutter's clothes with 2 hours of the incident using a portable field meter.**

EPAHO120000213

Facts Relevant to the Death of Charles Brent Sittig (4/14/09)

8. Sittig died while setting and talking on a cell phone.

9. There was no release of any material near Sittig.

10. Other workers were near him (few feet away) during his death.

11. These workers did not experience any release, or problems associated with plant operations.

12. Sittig was a truck driver that did not load or unload his tranker trailer.

13. He delivered a load just prior to his death which was tested for sulfides by a third party with a value measured below 1 ppm(mg/l).

14. Using the Body Mass Index Method Sittig was overweight. He had been overweight for sever years, and in 2006 his blood pressure was very near the disqualification limit.

15. Sittig was bleeding through the noise when he had his attack which is not a symptom of hydrogen sulfide poisoning.

EPAHO120000214

S1

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

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Toxicology Report

Report Issued 03/16/2009 11:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	11019013
Age	36 Y
Gender	Male
Workorder	09049978

FILED
APR 22 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Special Request Finding(s)	Positive		Cardiac Blood

See Detailed Findings section for additional information.

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	11 mL	12/19/2008	Cardiac Blood	

All sample volumes/weights are approximations.
Specimens received on 03/05/2009.

Testing Requested:

Analysis Code	Description
7005SA	Special Request

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Special Request Finding(s)	Positive			001 - Cardiac Blood	[Depending on request]

Thiosulfate = 11 mcg/mL
Reporting Limit = 2.0 mcg/mL
Analysis by Ion Chromatography

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. **Special Request Finding(s) - Cardiac Blood:**

   Thiosulfate is a byproduct of the metabolic degradation of cysteine and methionine. As a result, normal endogenous levels of thiosulfate can be found in urine. However, whether normal levels of thiosulfate can be found in serum, plasma or whole blood is debatable. Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma and/or whole blood. Hydrogen sulfide exposure is a common source of increased urinary and serum levels of thiosulfate.

   After a single 20 mg oral dose of thiosulfate, reported plasma concentrations at 1.5 hr averaged 0.050 mcg/mL and declined to approximately 0.015 mcg/mL by 12 hr. After chronic daily dosing of between 15 to 60 mg, plasma concentrations were reported to range from 0.010 - 0.023 mcg/mL 2 hr after the last dose.

   Experience in our laboratory indicates that basal serum, plasma and blood concentrations of thiosulfate are less than 2 mcg/mL.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Analysis Summary:

Acode 7005SA - Special Request - Cardiac Blood

- Analysis by [Depending on request] for: Special Request Finding(s)

S2

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Analysis Code	4472SP
Test Name	Thiosulfate, Serum/Plasma
Test Includes	Thiosulfate [IC]
Purpose	Exposure Monitoring
Category	Environmental/Occupation Toxin
Method(s)	Ion Chromatography (IC)
Specimen Requirements	3 mL Serum or Plasma
Transport Temperature	Refrigerated
Specimen Container	Lavender top tube (EDTA)
Special Handling	Promptly centrifuge and separate Serum or Plasma into a plastic screw capped vial using approved guidelines.
Light Protection	Not Required
Stability	Room Temperature: 3 day(s) Refrigerated: 9 day(s) Frozen (-20 °C): 1 month(s)
Rejection Criteria	Received Room Temperature. Polymer gel separation tube (SST or PST).
Day(s) Test Set-up	[IC] Monday-Sunday 7 days
Suggested CPT Code	[IC] 82491

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9

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Note

Death 12/18/08
Limit 1 month

Sample Received by NMS Labs 3/5/09 2.5 months after 12/18/08

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The Thiosulfate Test on blood

S3

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 35:192–195 (1999)

Hydrogen Sulfide Poisoning: Clarification of Some Controversial Issues

Thomas H. Milby, MD,* and Randall C. Baselt, PhD[1]

Background *Hydrogen sulfide is a toxic gas about which much has been written. We discuss here several issues we believe would benefit from further clarification.*
Conclusions *We conclude that: 1) Certain neurotoxic effects of exposure are probably due to a direct toxic effect on the brain, while others are almost certainly a result of hypoxia secondary to H_2S-induced respiratory insufficiency; 2) pulmonary edema is a common consequence of poisoning and there is suggestive evidence of hyperactive airway responses in some individuals following brief H_2S-induced unconsciousness (knockdown); 3) criteria for acceptable community levels are very different than those governing occupational standards; 4) urinary thiosulfate determinations can be useful for monitoring occupational exposure; and 5) determination of sulfide ion concentrations in blood or major organs can be useful in corroborating a diagnosis of fatal H_2S toxicity, but there are many pitfalls in collecting, storing, and analyzing tissue and fluid samples.* Am. J. Ind. Med. 35:192–195, 1999. © *1999 Wiley-Liss, Inc.*

KEY WORDS: hydrogen sulfide; neurotoxic effects; pulmonary edema; urinary thiosulfate; blood sulfide.

INTRODUCTION

There have been several reviews of the toxicity of hydrogen sulfide to humans published in the last several decades [Milby, 1962; NRC, 1979; Beauchamp et al., 1984; Reiffenstein et al., 1992; EPA, 1993]. In the view of the authors, the majority of the data presented in these reviews continues to be valid, but some issues deserve further clarification. In this short communication, we consider the neurotoxic effects of acute exposure, effects on the lungs, community exposure issues, and diagnosis of poisoning utilizing urine, blood, and tissue analyses.

NEUROTOXIC EFFECTS

The above-cited reviews are generally consistent in the view that the most dramatic potential consequences of hydrogen sulfide exposure occur at high concentrations. At 750–1,000 ppm, inhalation of hydrogen sulfide causes abrupt physical collapse. If exposure is promptly terminated, many cases of collapse are followed by rapid and complete recovery. However, in some instances, presumably where exposure is more pronounced or prolonged, sudden collapse may give way to rapidly fatal respiratory paralysis [Milby, 1962; EPA, 1993; Guidotti, 1994].

Certain transitory neurotoxic effects associated with exposure to hydrogen sulfide such as dizziness, incoordination, and headache are probably due to the direct toxic effect of hydrogen sulfide on the brain: these effects appear far too quickly to be attributed to hypoxia. A phenomenon referred to as "knockdown" has been reported in oil field workers and others to describe sudden, brief loss of consciousness followed by immediate full recovery after short-lived exposure to very high concentrations of hydrogen sulfide (e.g., 750–1,000 ppm) [Guidotti, 1994; Aves, 1929; Smith and Gosselin, 1979]. Knockdown is likely a consequence of a direct toxic effect of hydrogen sulfide on the brain. This direct effect is believed to be due to the intracellular inhibition of cytochrome oxidase by sulfide ion, preventing utilization of oxygen [Nicholls, 1975].

Most victims of acute hydrogen sulfide poisoning who recover do so promptly and completely [Milby, 1962; NRC,

[1]Chemical Toxicology Institute, Foster City, California
*Correspondence to: Thomas H. Milby, M.D., 1399 Ygnacio Valley Rd., Suite 25, Walnut Creek, CA 94598. E-mail: tmilby@aol.com
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EPAHO120000221

1979; Aves, 1929; Glass, 1990]. In a relatively few cases, acute, nonfatal hydrogen sulfide intoxication is followed by brain damage characterized by permanent neurological sequelae. The preponderance of scientific evidence suggests that this sequence of events is a result of hypoxia secondary to respiratory insufficiency, rather than to a direct toxic effect of hydrogen sulfide on the brain [Milby, 1962; Beauchamp et al., 1984; Haggard, 1925; Reiffenstein, 1992]. Respiratory insufficiency following exposure to this gas can occur as a consequence of apnea resulting from hydrogen sulfide-induced paralysis of the respiratory centers of the brain, or can be the result of less specific forms of interference with air flow or oxygen exchange such as airway obstruction or pulmonary edema.

EFFECTS ON THE LUNG

Pulmonary Edema

It is widely agreed that either acute or prolonged exposure to hydrogen sulfide gas can cause pulmonary edema [NRC, 1979; Beauchamp et al., 1984; Reiffenstein et al., 1992; Guidotti, 1994]. The gas is a mucous membrane irritant, although not nearly so potent an irritant as chlorine, ammonia, or sulfur dioxide. However, unlike these three highly water-soluble gases, the only moderately water-soluble hydrogen sulfide is capable of penetrating deep into the lung, where it exerts its irritant effect on the tissues that make up the terminal bronchial membranes [Haggard, 1925].

Prolonged exposure to hydrogen sulfide at concentrations in excess of 250 ppm can lead to the development of pulmonary edema [Beauchamp et al., 1984]. However, persons who are exposed to air levels that cause immediate collapse (750–1,000 ppm) appear to be at even greater risk for developing pulmonary edema, although the pulmonary symptoms may be masked by the more dramatic neurotoxic symptoms of collapse [Beauchamp et al., 1984]. In three case series reporting a total of 523 cases of acute hydrogen sulfide poisoning, pulmonary edema was diagnosed in 4–16% of the affected individuals [Kleinfeld et al., 1964; Burnett et al., 1977; Arnold et al., 1985].

Other Pulmonary Effects

Jappinen et al. [1990] assessed the possible effects of low concentrations of hydrogen sulfide on respiratory function in two cohorts, one consisting of 26 pulp mill workers with daily exposure to hydrogen sulfide in the workplace, and another made up of 10 volunteers who had asthma. The respiratory function of the pulp mill workers was monitored by measuring forced vital capacity (FVC), forced expiratory volume in 1 second (FEV_1), and bronchial responsiveness to histamine at the end of a work day, and again after at least 1 day off work. The 10 asthmatics were exposed to 2 ppm hydrogen sulfide for 30 minutes in an exposure chamber and airway resistance and specific airway conductance were assessed and ventilatory capacities were measured. No significant changes in respiratory function or bronchial responsiveness were found in either cohort, although in two asthmatic subjects changes were greater than 30% in both indicators of airway resistance. The authors concluded that short-term exposure to hydrogen sulfide at levels appreciably higher than those present in ambient air do not cause noticeable effects on respiratory function.

Bhambhani et al. [1996] exposed 19 healthy men and women to 10 ppm hydrogen sulfide for 15 minutes during exercise and found no significant changes in pulmonary function as measured by flow-volume loop, maximum ventilatory volume, and carbon monoxide diffusion capacity. The authors concluded that short-term inhalation of 10 ppm hydrogen sulfide at an elevated metabolic and ventilatory rate does not significantly alter pulmonary function in healthy men and women.

Hessel et al. [1997] assessed the pulmonary health of 175 oil and natural gas extraction and processing workers potentially exposed to hydrogen sulfide gas. The authors conducted spirometric testing and administered a respiratory symptom questionnaire. Bronchial challenge testing was not reported. Approximately one-third of the workers reported exposure to hydrogen sulfide sufficiently intense to cause symptoms and 8% experienced sudden, fleeting unconsciousness (knockdown). Spirometric testing showed no differences between the groups experiencing symptoms of knockdown and other workers. Workers who experienced knockdown reported a significant excess of certain symptoms, including shortness of breath on exertion, wheezes with chest tightness, and attacks of wheezes. The authors concluded that workers who had experienced hydrogen sulfide-related knockdown had statistically significant excesses of several respiratory symptoms consistent with airway hyperreactivity.

There are a number of reports of injuries, often fatal, among workers and others as a consequence of exposure to gases emanating from organic waste sources in which the presence of hydrogen sulfide can reasonably be expected. These sources include toilets [Parra et al., 1991], sewers [Richardson, 1995; Watt et al., 1997], and liquid manure pits [Osbern and Crapo, 1981; Donham et al., 1982]. Some of these reports describe exposure-related pulmonary injuries that investigators attribute to hydrogen sulfide toxicity. Unfortunately, the absence of air testing data and the presence of confounding factors such as other toxic gases and infectious agents make it difficult to unequivocally ascribe these pulmonary injuries to hydrogen sulfide, although in many cases the data are suggestive.

EPAHO120000222

COMMUNITY EXPOSURE

It is helpful to consider issues of community exposure to hydrogen sulfide in terms of occupational standards for this gas. The acceptable ceiling concentration of hydrogen sulfide permitted in workplace air in the United States is 20 ppm, a level established by the US Occupational Safety and Health Administration (OSHA) [DOL, 1996]. These OSHA regulations do not list an 8-hour time-weighted average (TWA) for hydrogen sulfide, but a TWA of 10 ppm was recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) in 1976 and this recommendation has remained unchanged to the present [ACGIH, 1997]. The ACGIH defines TWA as "the time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect." The justification for this TWA is based on a determination that persons exposed to 10 ppm of hydrogen sulfide will not suffer eye irritation, the most commonly reported adverse physical effect of exposure to hydrogen sulfide at air levels of 50–100 ppm [NRC, 1979].

At air concentrations approaching 0.250–0.300 ppm, the odor of hydrogen sulfide, especially if frequent or persistent, can create a nuisance problem in communities unfortunate enough to be located near a source of this gas. Headache, nausea, and sleep disturbances are quality-of-life issues documented to arise from such exposures [PHS, 1964; Haahtela et al., 1992].

Acceptable air levels for hydrogen sulfide in the workplace environment and acceptable levels for this malodorous gas in the general community air are based on very different considerations. Persons in the workplace are assumed to be in reasonably good health and they generally remain in the workplace environment for only 8 hours a day, 40 hours a week. Community residents comprise all ages and all states of health and may be physically present in the community for most or all of any 24-hour period. They also tend to have a reasonable expectation that their community air will be generally free of noxious substances that create health or nuisance problems. Accordingly, while levels of hydrogen sulfide as high as 10 ppm appear to be acceptable for workplace exposure, community air levels as low as 0.250–0.300 ppm can create an unacceptable nuisance condition. To date, however, neither long-term health effects nor actual physical injury have been convincingly described in persons exposed to hydrogen sulfide at these low levels, although exposure to 0.6 ppm for nearly 1 year is reported to have caused reversible basal ganglia abnormalities in a 1.5-year-old infant, who manifested ataxia and dystonia [Gaitonde et al., 1987].

UTILITY OF LABORATORY TESTING

Biological Monitoring for Chronic Industrial Exposure

The only practical test to monitor the extent of exposure in workers at risk for hydrogen sulfide toxicity, other than fixed or portable air monitoring instruments, is the measurement of urinary thiosulfate. The formation of thiosulfate is the primary detoxification pathway for sulfide in man and is believed to be catalyzed by both hemoglobin and hepatic enzymes [Evans, 1967].

Urinary thiosulfate determinations are not routinely performed in industry, due to the paucity of studies correlating air concentrations with urinary excretion data, as well as the potential complications in interpretation of such data. In one study, 29 unexposed healthy men had urinary thiosulfate values of 0.4–5.4 umol/mmol creatinine, whereas a volunteer exposed to 18 ppm hydrogen sulfide for 30 minutes exhibited urinary thiosulfate concentrations that increased linearly postexposure to a peak of 30 umol/mmol creatinine at 15 hours, before declining to a normal value by 17 hours [Kangas and Savolainen, 1987]. Ingestion of food or water high in sulfur content can dramatically increase urinary thiosulfate concentration, confounding interpretation of excretion data for biological monitoring purposes [Kangas and Savolainen, 1987; Voroteliak et al., 1993; Ellenhorn, 1997].

Diagnosis of Acute Poisoning

Measurement of blood sulfide in acute emergencies is of little clinical value, since this test is rarely available on a STAT basis in clinical laboratories. The delay in obtaining a result from a reference laboratory precludes incorporating blood levels into the diagnostic process. Of more immediate usefulness is a history of possible hydrogen sulfide exposure, as well as the detection of the odor of hydrogen sulfide on the patients clothing or breath. Ancillary tests include chest X-ray to detect pulmonary edema, arterial blood gas determination to rule out carboxyhemoglobinemia or methemoglobinemia, and a CT scan to reveal brain lesions [Ellenhorn, 1997].

Medicological Investigation of Death

The indicia of fatal acute hydrogen sulfide poisoning are fairly well known, but they are not found in every case and their absence by no means precludes establishment of the cause of death as hydrogen sulfide intoxication. These signs include a history of immediate collapse and respiratory paralysis, a disagreeable odor at the accident scene or about the victim, and autopsy findings of pulmonary edema and greenish discoloration of viscera [Simson and Simpson, 1971].

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The presence of sulfide ion in blood or major organs at toxic concentrations (usually in excess of 1.0 mg/L or mg/kg) is considered useful corroboration of a diagnosis of sulfide-induced death. Here again, however, there are situations that may result in the artifactual absence or presence of sulfide in biological specimens, obfuscating interpretation of laboratory values. For instance, hydrogen sulfide rapidly disappears from blood during life [Evans, 1967], and it has been shown to either increase or decrease during in vitro storage, depending on the nature of the specimen, storage temperature, and initial sulfide concentration [Nagata et al., 1990]. Sulfide concentrations in blood and tissues such as liver and kidney may increase dramatically due to biodegradation during room-temperature or refrigerated storage.

Refrigeration of bodies during the interval from death to autopsy, frozen storage of specimens in airtight containers until analysis, and the demonstration of potentially lethal levels of sulfide (1–5 mg/L or mg/kg) in blood, lung, and skeletal muscle will provide the best corroboration of a ruling of death due to acute hydrogen sulfide intoxication [Nagata et al., 1990].

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EPAHO120000224

S5

General Affidavit

STATE OF TEXAS

COUNTY OF Jefferson

BEFORE ME, the undersigned Notary, Patricia Grace Kruger, on this 3 day of March, 2009, personally appeared Suzie Mock known to me to be a credible person and of lawful age, who being by me duly sworn, on her oath, deposes and says:

My name is Suzie Mock. I am over 21 years of age. I was an employee on December 18, 2008 at the Port Arthur Chemical and Environmental Services, LLC ("PACES") plant site at the time Joey Sutter passed away. I have personal knowledge and experience with the situation during the incident involving Joey Sutter. During the morning and afternoon of December 18, 2008 my personal monitor for the H_2S did not sound an alarm warning. My personal H_2S Monitor Alarm was set at 10 ppm for H_2S on December 18, 2008.

Suzie Mock
(Signature of Affiant)

Suzie Mock
(Printed Name of Affiant)

(b) (6) [redacted]
(Address of Affiant, Line 1)

(Address of Affiant, Line 2)

STATE OF TEXAS

COUNTY OF Jefferson

Sworn to and subscribed before me on this 3rd day of March, 2009, by _____.

SEAL

Patricia Grace Kruger
Notary Public
State of Texas
My Commission Expires
May 29, 2010

Patricia Grace Kruger
(Notary Public Signature)

S6

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Creatinine	1959	mg/L	5.0	002 - Urine	Colorimetry
Thiosulfate	3.4	mcg/mL	1.0	002 - Urine	IC
Thiosulfate (Creatinine corrected)	1.7	mcg/g Creat	0.51	002 - Urine	IC

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Creatinine - Urine:

   ACGIH Normal range in adults:
   300 - 3400 mg/L (mean: 1000 mg/L)
   [0.3 - 3.4 g/L (mean: 1 g/L)]
   1000 - 1600 mg/day (1.0 - 1.6 g/day).

2. Thiosulfate - Urine:

   Thiosulfate is a byproduct of the metabolic degradation of cysteine and methionine. As a result, normal endogenous levels of thiosulfate can be found in urine. However, whether normal levels of thiosulfate can be found in serum, plasma or whole blood is debatable. Certain environmental exposures, dietary conditions and pathological states can give rise to increased urinary levels of thiosulfate as well as significant concentrations in serum, plasma and/or whole blood. Hydrogen sulfide exposure is a common source of increased urinary and serum levels of thiosulfate.

   Reported endogenous thiosulfate levels in urine range from 1 - 5 mcg/mL.

3. Thiosulfate (Creatinine corrected) - Urine:

   Normal: Up to 8 mcg/g Creatinine.
   15 hours after a 60 minute exposure to air concentrations of 60 micromoles/L Hydrogen Sulfide resulted in urine concentrations up to 60 mcg/g Creatinine.

This analysis was performed under chain of custody after receipt at NMS Labs. The chain of custody documentation is on file at NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date of this report.

Analysis Summary:

Acode 4235B - Sulfhemoglobin, Blood

- Analysis by Spectrophotometry (SP) for: Sulfhemoglobin

Acode 4472U - Thiosulfate, Urine

- Analysis by Colorimetry (C) for: Creatinine
- Analysis by Ion Chromatography (IC) for: Thiosulfate, Thiosulfate (Creatinine corrected)

NMS Labs
3701 Welsh Road, PO Box 433A, Willow Grove, PA 19090-0437
Phone: (215) 657-4900 Fax: (215) 657-2972
e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

CONFIDENTIAL

Toxicology Report

Report Issued 01/20/2009 17:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	10973749
Age	Not Given
Gender	Male
Workorder	09009238

FILED
APR 2 2 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Creatinine	**1959**	**mg/L**	**Urine**
Thiosulfate	**3.4**	**mcg/mL**	**Urine**
Thiosulfate (Creatinine corrected)	**1.7**	**mcg/g Creat**	**Urine**

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	10.75 mL	Not Given	Blood	
002	Red Top Tube	9.75 mL	Not Given	Urine	

All sample volumes/weights are approximations.

Specimens received on 01/15/2009.

Testing Requested:

Analysis Code	Description
4235B	Sulfhemoglobin, Blood
4472U	Thiosulfate, Urine

S7

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) HISTORICAL GC/MS

A portion of bulk oil was placed in carbon disulfide for analysis by GC/mass spectrometry. Testing for pH was done by placing a portion of oil in water, then testing the water with pH indicator strips. Testing for H2S and SO2 in bottle headspace was done using detector tubes.

D-55599: Most abundant organic analytes were phenol, cresols and other alkyl phenols. Also found were numerous sulfides, disulfides, trisulfides, and tetrasulfides, as well as toluene, xylene, and elemental sulfur. Indicator strips gave an approximate pH of 6. H2S and SO2 were not detected in headspace over the oil.

27.Chain of Custody	Init.	Date
a. Seals Intact		Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	PH	22 JAN 2009
d. Anal. Completed	PH	23 JAN 2009
e. Calc. Checked	MEE	23 JAN 2009
f. Supr. OK'd	WP	26 JAN 2009

28 Submission number 1975-3

29 Lab Sample No. (Minutes/Type) D55599 8

30. Analyte	31. Analysis Results/	32. Sample included in calculations of
M125 Qualitative Mass-Spec Analysis	BULK	

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

33. Analyte Code	SAE Value
M125	

L	MILLIGRAMS PER LITER (URINE)	D	MICROGRAMS PER DECILITER (BLOOD)
C	PICO CURIES PER LITER (RADON GAS)	P	PARTS PER MILLION
F	FIBERS PER CUBIC CENTIMETER	X	MICROGRAMS
M	MILLIGRAMS PER CUBIC METER	%	PERCENT

EPAHO120000231

S8

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326616

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8.Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10.Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17.Exp Type	18.Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	OTH

WA calculated on actual time sampled
he I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26.Analyst's Comments (Analytical Method) HISTORICAL GC/MS

A portion of bulk oil was placed in carbon disulfide for analysis by GC/mass spectrometry. Testing for pH was done by placing a portion of oil in water, then testing the water with pH indicator strips. Testing for H2S and SO2 in bottle headspace was done using detector tubes.

D-55599: Most abundant organic analytes were phenol, cresols d other alkyl phenols. Also found were numerous sulfides, isulfides, trisulfides, and tetrasulfides, as well as toluene, xylene, and elemental sulfur. Indicator strips gave an approximate pH of 6. H2S and SO2 were not detected in headspace over the oil.

27.Chain of Custody a. Seals Intact	Init.	Date Y
b. Rec'd In Lab	DJK	21 JAN 2009
c. Rec'd by Anal.	PH	22 JAN 2009
d. Anal. Completed	PH	23 JAN 2009
e. Calc. Checked	MEE	23 JAN 2009
f. Supv. OK'd	WP	26 JAN 2009

Submission Number 1975-3
Lab Sample No. (minutes/Type) D55599 B

30. Analyte	31. Analysis Results/	32. Sample included in calculations of
M125 Qualitative Mass-Spec Analysis	BULK	

Because the results for air samples are used in further calculations, the number of figures reported in section 31 may not reflect the actual precision of the analysis. Calculated confidence limits (UCL & LCL) should be rounded to no more than three significant figures.
The precision of analysis for wipe samples and for bulk material samples justify rounding results to no more than two significant figures.

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for the calculations.
Blank values are reported for reference only. Appropriate blank corrections have been applied to the samples by the Salt Lake Technical Center. Blank results are less than the reporting limit(s) unless otherwise noted.

Analyte Code	SAE Value
M125	

MILLIGRAMS PER LITER (URINE)		D	MICROGRAMS PER DECILITER (BLOOD)
PICO CURIES PER LITER (RADON GAS)		P	PARTS PER MILLION
FIBERS PER CUBIC CENTIMETER		X	MICROGRAMS
MILLIGRAMS PER CUBIC METER		%	PERCENT

EPAHO120000233

Air Sampling Report U.S. Department of Labor Occupational Safety and Health Administration.

1. Reporting ID	2. Inspection Number	3. Sampling Number
626700	311960975	▷ 401326608

4. Establishment Name
PORT ARTHUR CHEMICAL & ENVIRONMENTAL SERVICES

5. CSHO ID	6. Sampling Date	7. Shipping Date	8. Date Result Received
V9900	18 DEC 2008	07 JAN 2009	

9. Job Title	10. Occupational Code	11. Number Exposed
Not applicable		

12. Frequency of Exposure

Exposure Summary

14. Substance Code	15. Rqstd	16. Smpl Type	17. Exp Type	18. Exp Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation information: No Cit	VTA	Over Exp	Eng	PPE	Trng	Mad	OTH

TWA calculated on actual time sampled
The I. H. is free to make changes on the Form 91B and submit them directly to IMIS

26. Analyst's Comments (Analytical Method) GC/MS ANALYSIS

Air from the closed bag was drawn through a Carbotrap 300 tube for volatiles analysis. Swatches of cloth were cut from sweat pants (2), shirt (3), and jeans (2) and extracted in carbon disulfide for GC/MS analysis. Draeger tube analysis for hydrogen sulfide and mercaptans was conducted. Swatches from shirt and jeans were extracted in water, which was tested with pH strips.

-55438: HazMat suit was not analyzed.

D-55439: Carbotrap tube: Numerous disulfide compounds including CS2, dimethyl disulfide, diethyl disulfide, dimethyl trisulfide, diethyl trisulfide, and others. Also, acetone, isopropanol, ethyl benzene, xylene, and 2-ethyl hexanol. Sweat pants: Dimethyl disulfide, fatty acids, glycerin, and long-chain alcohols and amines. Shirt: Elemental sulfur, phthalate and adipate esters, phenol and alkyl phenols, nonyl phenol isomers, alkyl cyclopentadienes, fatty acids, alcohols and amines, dimethyl disulfide, benzyl alcohol, and detergent compounds. Jeans: Elemental sulfur, phenol and alkyl phenols, alkyl cyclopentadienes, disulfide compounds, phthalate and adipate esters, and detergent compounds. Draeger tubes produced no evidence of hydrogen sulfide or mercaptans. pH on cloth swatches tested was not elevated, indicating absence of caustics such as NaOH.

27. Chain of Custody	Init.	Date Y
a. Seals Intact		
b. Rec'd In Lab	DJK	14 JAN 2009
c. Rec'd by Anal.	PH	14 JAN 2009
d. Anal. Completed	PH	21 JAN 2009
e. Calc. Checked	MEE	31 JAN 2009
f. Supr. OK'd	WP	22 JAN 2009

28 Submission number	1975-1	1975-2
29 Lab Sample No. (Minutes/Type)	D55438 B	D55439 B

30. Analyte	31. Analysis Results/ 32. Sample included in calculations of	
M125 Qualitative Mass-Spec Analysis	NA	BULK

S9

NMS LABS

FILED
APR 22 2009
Justice Court, Pct. 8

March 25, 2009

Southeast Texas Forensic Ctr. - Beaumont
Attn.: Michele Bertrand
5030 Highway 69 South, Ste. 700
Beaumont, TX 77705

Re: *SUTTER, JOEY (Patient ID 08-1253)*
NMS File Nos.: WO# 09049978 and 09-0123

Dear Ms. Bertrand:

You have requested that I provide a report discussing my opinions and conclusions regarding Mr. Joey Sutter's toxicology result as detailed in the report issued by NMS Labs on March 16, 2009. Specifically, you would like to know about the thiosulfate finding in blood and its meaning.

Per my understanding Mr. Sutter was a contract employee who was working at a site where there was a wastewater container storing hydrogen sulfide (H_2S). A decision was made to boil off its contents and, at some point, Mr. Sutter opened the dome lid. Following this action Mr. Sutter gasped twice and collapsed, and blood was seen to be gushing from his nose. Despite rescue efforts Mr. Sutter could not be revived. Subsequent testing performed on his clothing revealed the presence of multiple sulfides. Finally, thiosulfate, a metabolite of sulfide, was found at a concentration of 11 mcg/mL in cardiac blood.

By comparing Mr. Sutter's thiosulfate concentration with the concentrations listed in the table below, in conjunction with the review of other case histories, it is seen that Mr. Sutter's concentration is consistent with other thiosulfate concentrations that have been reported in hydrogen sulfide fatal case outcomes.

As a point of reference, whole blood thiosulfate concentrations in healthy persons are normally less then 0.3 mcg/mL.

Based upon the above information in conjunction with my knowledge, training and experience, it is my opinion that:

The thiosulfate concentration determined in Mr. Sutter's blood sample is consistent with other reported postmorten thiosulfate concentrations where the cause of death was attributed to hydrogen sulfide poisoning.

If you have any questions regarding this report please do not hesitate to contact me. Also, in the event additional information becomes available, that may affect the above opinion and conclusion, please forward such to me for evaluation.

Laura M. Labay, Ph.D., DABFT
Forensic Toxicologist

REFERENCES

1. Kage, S., et al. Fatal and Nonfatal Poisoning by Hydrogen Sulfide at an Industrial Waste Site. J Forensic Sci 2002; 47 (3): 652-655.

2. Kage, S., et al. A Fatal Case of Hydrogen Sulfide Poisoning in a Geothermal Power Plant. J Forensic Sci 1998; 43 (4): 908-910.

3. Ago, M., et al. Two Fatalities by Hydrogen Sulfide Poisoning: Variation of Pathological and Toxicological Findings. Legal Medicine 10 (2008) 248-152.

4. Kage, S., et al. The Usefulness of Thiosulfate as an Indicator of Hydrogen Sulfide Poisoning: Three Cases. Int J Legal Med (1997) 110: 220-222.

CASE HISTORY	THIOSULFATE CONCENTRATION
Reference 1: A man (A) enters a pit at an industrial waste site and suddenly loses consciousness. Three colleagues (B, C and D) enter the pit to attempt rescue. All lose consciousness. Workers A and B die soon after arrival at the hospital. Blood was collected at the time of the autopsies, 7 hours after the accident for Worker A and 8 hours after the accident for Worker B.	Worker A Blood: 10.53 mcg/mL Worker B Blood: 4.59 mcg/mL
Reference 2: A man enters an oil separator room in a geothermal power plant. He suddenly collapses and dies soon thereafter. The body was kept at 0°C until the autopsy was performed 20 hours after death. Blood was collected at the time of autopsy.	Blood: 16 mcg/mL
Reference 3: Several workers enter a water ballast tank to remove heavy oil and suddenly feel unwell. Two of the workers (A and B) arrive at a hospital in cardiopulmonary arrest and soon thereafter are pronounced dead. Autopsies on Worker A and Worker B were performed at 20 and 24 hours post-death, respectively.	Worker A Blood: 9.9 mcg/mL Worker B Blood: 15 mcg/mL
Reference 4: A worker enters a tank to remove sludge, suddenly collapses and dies soon after. The body was kept at room temperature until the autopsy was performed 22 hours post-death. Blood was collected at the time of autopsy.	Blood: 2.7 mcg/mL
Reference 4: Two workers (A and B) enter a pump room to repair a pump. When a check valve is opened Hydrogen Sulfide is smelled. Worker B leaves to get a ventilator and when Worker B returns, Worker A is found lying beneath a pool of sewage and died soon thereafter. The body was kept at 0°C until the autopsy was performed 24 hours after death. Blood samples were collected 4 hours after death and at the time of autopsy.	Worker A Blood (4 hr): 13 mcg/mL Blood (Autopsy): 13 mcg/mL

F4

General Affidavit

STATE OF TEXAS

COUNTY OF Jefferson

BEFORE ME, the undersigned Notary, Patricia Grace Krueger, on this 3 day of March, 2009, personally appeared Brian Weathers known to me to be a credible person and of lawful age, who being by me duly sworn, on his oath, deposes and says:

My name is Brian Weathers. I am over 21 years of age. I was the Supervisor on December 17, 2008 and on December 18, 2008 at the Port Arthur Chemical and Environmental Services, LLC ("PACES") plant site at the time Joey Sutter passed away. I have personal knowledge and experience with the PACES' personal H_2S Monitoring Equipment and Sampling of Trailers. During of December 17, 2008 my H_2S alarm at PACES did not sound an alarm warning when I obtained a sample from Trailer 267. H_2S Monitor was set at 10 ppm H_2S to alarm on December 17, 2008 when I sampled the Trailer 267.

Brian Weathers
(Signature of Affiant)

Brian Weathers
(Printed Name of Affiant)

(b) (6) [redacted]
(Address of Affiant, Line 1)

(Address of Affiant, Line 2)

STATE OF TEXAS

COUNTY OF Jefferson

Sworn to and subscribed before me on this 3 day of March, 2009, by _____.

SEAL

Patricia Grace Krueger
Notary Public
State of Texas
My Commission Expires
May 29, 2010

Patricia Grace Krueger
(Notary Public Signature)

F6

DEPARTMENT OF HEALTH AND HUMAN SERVICES • NATIONAL INSTITUTES OF HEALTH

Calculate Your Body Mass Index

National Heart Lung and Blood Institute • Obesity Education Initiative

Healthy Weight Home | Menu Planner | Portion Distortion | WeCan!

Body mass index (BMI) is a measure of body fat based on height and weight that applies to both **adult** men and women.

- Enter your weight and height using Standard or Metric measures.
- Click on "Compute BMI" and your BMI will appear in the heart of the figure.

Español

STANDARD | METRIC

Your Height: 6 (feet) 2 (inches)

Your Weight: 255 (pounds)

Compute BMI

Your BMI: 32.7

BMI Categories:

- Underweight = <18.5
- Normal weight = 18.5-24.9
- Overweight = 25-29.9
- Obesity = BMI of 30 or greater

The BMI Tables

Aim for a Healthy Weight:

- Assessing Your Risk
- Limitations of the BMI
- Controlling Your Weight
- Recipes

Note: If this does not work with your browser or for a text alternative to this page, go to our CGI based BMI Calculator

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e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

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Toxicology Report

Report Issued 01/03/2009 11:00

To: **10240**
Southeast Texas Forensic Ctr.-Beaumont
Attn: Dr. Tommy Brown
5030 Highway 69 South, Ste.700
Beaumont, TX 77705

Patient Name	SUTTER, JOEY
Patient ID	08-1253
Chain	10973687
Age	36 Y
Gender	Male
Workorder	08361311

FILED
APR 27 2009
Justice Court, Pct. 8

Positive Findings:

Compound	Result	Units	Matrix Source
Caffeine	**Positive**	**mcg/mL**	**Blood**
Cotinine	**Positive**	**ng/mL**	**Blood**
Nicotine	**Positive**	**ng/mL**	**Blood**
Theobromine	**Positive**	**mcg/mL**	**Blood**
Acetaminophen	**4.6**	**mcg/mL**	**Blood**

See Detailed Findings section for additional information

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Gray Top Tube	10.75 mL	12/19/2008	Blood	

All sample volumes/weights are approximations.

Specimens received on 12/30/2008.

Testing Requested:

Analysis Code	Description
8052B	Postmortem Toxicology - Expanded, Blood

F7

FDID *	State *	MM Incident Date *	DD Incident Date *	YYYY Incident Date *	Station	Incident Number *	Exposure *	Complete Narrative
NH715	TX	12	18	2008	2	08-0012882	000	

Narrative:

<<Logs>> 14:11:03 00005150 : sc enrte ; 14:14:36 00005062 : PER 5014 CALL BACK ADVISED FULL REST/E2 EMS ADVISED ; 14:19:30 00005062 : E2 1410 1419 ; 14:19:54 00005062 : RETONE ; 14:20:17 00005062 : W2 REQUEST R1 ASSIST ; 14:21:44 00005062 : TURN AT TALON'S/ENVIRONMENTAL//RD BEFORE IC BRIDGE ST COM ON RIGHT DOWN DIRT RD ; 14:28:08 00005145 : e2-heavy set man ontop of the tanker ; 14:30:06 00005145 : bringing him down now ; 14:33:23 00005145 : hr1 has a firefighter riding with ems to hospital enroute to pick him up ////st mary ; 14:45:56 00005145 : e2 to st marys to give information ; 14:56:51 00005145 : e2 at st mary ; 15:03:45 00005145 : told unit 3 to call the chief the hospital is treating this as a hazmat incident ; 15:19:40 00005145 : e2 leaving st mary going back to scene ; 15:31:04 00005145 : hr1 toned out of service ; 15:32:18 00005145 : e2 back on the csene ; 16:04:51 00005145 : msds is non toxic ; 16:07:20 00005145 : e2 back in service going to station ; 16:14:27 00005145 : ernout to st mary hospital ; 16:23:31 00005145 : at st mary again ; 16:45:03 00005145 : Incident Closed ;

On 12/18/2008 at 14:10:33 dispatched To 2420 S Gulfway DR /PORT ARTHUR, TX 77640. The location is a Warehouse. The incident was determined to be a(n) EMS call, excluding vehicle accident with injury.

14:19:20 arrived on scene.
The following actions were performed on scene:
Extricate, disentangle
Provide advanced life support (ALS)

Units responding were:
t E2 responded.
Unit HR1 responded.
Unit SC63 responded.

16:45:03 all units back in service.

Dispatched to difficulty breathing. While enroute the call was upgraded to a full arrest. AOSTF patient on top of a tanker. Company emloyees had begun cpr. Fire engineer Barideaux and fire fighter Delacerda climbed on top of tanker and took over cpr. Captain Peake directed resources needed for the retrieval of patient from atop the tanker. Company employee made mention that the patient may have been exposed to toxic fumes. FD backboarded the patient and lowered the patient to the ground and onto waiting Stat Care ems stretcher. Fire fighter Thibedeaux rode with patient to SMH to assist ems.
HR1 went to SMH while E2 gathered patient info. E2 went to SMH and found hospital doing a hazmat wash on patient. E2 returned to scene to take drager readings from top of tanker. Drager read 1 ppm of H2S. Obtained msds sheet on tanker contents. Msds showed chemical to be sulfurized isobutylene. Toxicological Data showed all areas to be: Practically non-toxic. E2 returned to SMH msds sheet for distribution to the hospital and JP. E2 returned to service.

HR-1 Supplement:

HR-1 responded to assist. FF Thibodeaux rode in with EMS to St. Mary. Upon arrival the EMS s f complained of a strong odor from the pt. and his clothing. Hospital staff removed clothing and placed into a biohazard bag. FD placed a meter in the bag. The meter detected no lel, no H2S, no CO, and indicated an O2 % of 20.9. The deceased was placed in a secure room ouitside of the ER. FF Thibodeaux was provided with scrubs from the hospital and was

EPAHO120000245

F13

Accutest Laboratories

Report of Analysis

Client Sample ID:	NUI		
Lab Sample ID:	T27869-1	**Date Sampled:**	04/15/09
Matrix:	AQ - Water	**Date Received:**	04/24/09
		Percent Solids:	n/a
Project:	CES		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Hydroxide Alkalinity	0.0300	5.0	0.66	mg/l	1	04/29/09 15:00	MC	SM18 4500CO2D
Sulfide	0.15 U	8.0	0.15	mg/l	1	04/29/09 13:00	KD	SM 4500S+F

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
B = Indicates a result > = SDL but < MQL

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F14

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Calculate Your Body Mass Index

National Heart Lung and Blood Institute • Obesity Education Initiative

Body mass index (BMI) is a measure of body fat based on height and weight that applies to both **adult** men and women.

- Enter your weight and height using Standard or Metric measures.
- Click on "Compute BMI" and your BMI will appear in the heart of the figure.

Español

STANDARD METRIC

Your Height: 5 (feet) 11 (inches)

Your Weight: 196 (pounds)

Compute BMI

Your BMI: 27.3

BMI Categories:

- Underweight = <18.5
- Normal weight = 18.5-24.9
- Overweight = 25-29.9
- Obesity = BMI of 30 or greater

The BMI Tables

Aim for a Healthy Weight:

- **Assessing Your Risk**
- **Limitations of the BMI**
- **Controlling Your Weight**
- **Recipes**

Note: If this does not work with your browser or for a text alternative to this page, go to our CGI based BMI Calculator

EPAHO120000249

Concentra Medical Centers

10909 I-10 East Frwy Houston, TX 77029
Phone: (713) 973-7943 Fax: (713) 973-7947

Service Date: 02/11/2006
Patient Name: Sittig, Charles B.
SSN: 437-19-0197

Medical Examination Report
FOR COMMERCIAL DRIVER FITNESS DETERMINATION

1. DRIVER'S INFORMATION — Driver completes this section

Driver's Name (Last, First, Middle)	Social Security No.	Birth Date	Age	Sex		Date of Exam
Sittig, Charles B	437-19-0197	03/31/1961	44	[X] Male [ ] Female	[ ] New Certification [✓] Recertification [ ] Follow Up	02/11/2006

Address:	City, State, ZIP Code	Work Tel:	Driver's License No.	License Class	State of Issue
3402 Preston Rd	PASADENA, TX 77505	Home Tel:(713) 302-1345	06017484	[✓] A [ ] C [ ] B [ ] D [ ] Other	TX

2. HEALTH HISTORY — Driver completes this section, but medical examiner is encouraged to discuss with driver.

Yes	No	
✓		Any illness or injury in last 5 years?
	✓	Head/Brain injuries, disorders or illnesses
	✓	Seizures, epilepsy - If Yes, list medications:
✓		Eye disorders or impaired vision (except corrective lenses)
	✓	Ear disorders, loss of hearing or balance
	✓	Heart disease or heart attack; other cardiovascular condition If Yes, list medications:
✓		Heart surgery (valve replacement/bypass, angioplasty, pacemaker)
	✓	High blood pressure If Yes, list medications:
	✓	Muscular disease
	✓	Shortness of breath
	✓	Lung disease, emphysema, asthma, chronic bronchitis
	✓	Kidney disease, dialysis
	✓	Liver disease
	✓	Digestive problems
	✓	Diabetes or elevated blood sugar controlled by: [ ] diet [ ] pills [ ] insulin
	✓	Nervous or psychiatric disorders, e.g., severe depression If Yes, list medications:
	✓	Loss of, or altered consciousness
	✓	Surgery
	✓	Fainting, dizziness
	✓	Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring
	✓	Stroke or paralysis
	✓	Missing or impaired hand, arm foot, leg, finger, toe
	✓	Spinal injury or disease
	✓	Chronic low back pain
	✓	Regular, frequent alcohol use
	✓	Narcotic or habit forming drug use

For any YES answer, indicate onset date, diagnosis, treating physician's name and address, and any current limitation. List all medications (including over-the-counter medications) used regularly or recently

I certify that the above information is complete and true. I understand that inaccurate, false or missing information may invalidate the examination and my Medical Examiner's Certificate. I authorize Concentra Health Services Inc., its subsidiaries, divisions and related entities (collectively "Concentra") to provide all or any of my medical records to my employer and release Concentra, its employees, physicians, nurses, technicians and any other employee from any and all liabilities, claims, or causes of action that may result from this authorization.

Brent Sittig — Driver's Signature — 02/11/06 — Date

Medical Examiner's Comments on Health History (The medical examiner must review and discuss with the driver any "yes" answers and potential hazards of medications, including over-the-counter medications, while driving. This discussion must be documented below.)

UNremarkable

Testing (Medical Examiner completes Section 3 through 7)

3. VISION

Standard: At least 20/40 acuity (Snellen) in each eye with or without correction. At least 70° peripheral in horizontal meridian measured in each eye. The use of corrective lenses should be noted on the Medical Examiner's Certificate.

INSTRUCTIONS: *When other than the Snellen chart is used, give test results in Snellen-comparable values. In recording distance vision, use 20 feet as normal. Report visual acuity as a ratio with 20 as numerator and the smallest type read at 20 feet as denominator. If the applicant wears corrective lenses, these should be worn while visual acuity is being tested. If the driver habitually wears contact lenses, or intends to do so while driving sufficient evidence of good tolerance and adaptation to their use must be obvious. Monocular drivers are not qualified.*

Numerical readings must be provided.

ACUITY	UNCORRECTED	CORRECTED	HORIZONTAL FIELD OF VISION
Right Eye	20/ 30	20/	Right Eye 85 °
Left Eye	20/ 30	20/	Left Eye 85 °
Both Eyes	20/ 20	20/	°

Applicant can recognize and distinguish among traffic control signals and devices showing standard red, green, and amber colors? [✓] Yes [ ] No

Applicant meets visual acuity requirement only when wearing: [ ] Corrective Lenses

Monocular Vision: [ ] Yes [✓] No

Complete next line only if vision testing is done by an ophthalmologist or optometrist

Date of Examination	Name of Ophthalmologist or Optometrist (Print)	Tel No.	License No/State of Issue	Signature

4. HEARING

Standard: a) Must first perceive forced whispered voice >= 5 ft., with or without hearing aid, or b) average hearing loss in better ear <= 40 dB

[ ] Check if hearing aid used for tests [ ] Check if hearing aid required to meet standard.

INSTRUCTIONS: *To convert audiometric test results from ISO to ANSI. -14 dB from ISO for 500Hz, -10 dB for 1,000Hz, -8.5 dB for 2,000HZ. To average, add the readings for 3 frequencies tested and divide by 3.*

Numerical reading must be recorded.

a) Record distance from individual at which forced whispered voice can first be heard.	Right Ear	Left Ear
	5 \ Feet	5 \ Feet

b) If audiometer is used, record hearing loss in decibels. (acc to ANSI Z24.5-1951)

	Right Ear			Left Ear		
	500 Hz	1000 Hz	2000 Hz	500 Hz	1000 Hz	2000 Hz
	NA	→	→	NA	→	→
	Average			Average		

5. BLOOD PRESSURE / PULSE RATE

Numerical readings must be recorded. ***Medical examiner should take at least 2 readings to confirm blood pressure.***

Blood Pressure	Systolic	Diastolic
	130	88

Driver qualified if <= 140/90

Pulse Rate - [X] Regular [ ] Irregular

Record Pulse Rate: 64

Is post exercise required? [ ] Yes [ ] No

Pulse Rate after 2 mins exercise_____ bpm

Exercise Type

Reading	Category	Expiration Date	Recertification
140-159/90-99	Stage 1	1 year	1 year if <= 140/90 One-time certificate for 3 months if 141-159/91-99
160-179/100-109	Stage 2	One-time certificate for 3 months	1 year from date of exam if <= 140/90
>= 180/110	Stage 3	Disqualified 6 months from date of exam if <= 140/90	6 months if <= 140/90

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NMS LABS

FILED
APR 22 2009
Justice Court, Pct. 8

No. 3

March 25, 2009

Southeast Texas Forensic Ctr. - Beaumont
Attn.: Michele Bertrand
5030 Highway 69 South, Ste. 700
Beaumont, TX 77705

Re: ***SUTTER, JOEY (Patient ID 08-1253)***
NMS File Nos.: WO# 09049978 and 09-0123

Dear Ms. Bertrand:

You have requested that I provide a report discussing my opinions and conclusions regarding Mr. Joey Sutter's toxicology result as detailed in the report issued by NMS Labs on March 16, 2009. Specifically, you would like to know about the thiosulfate finding in blood and its meaning.

Per my understanding Mr. Sutter was a contract employee who was working at a site where there was a wastewater container storing hydrogen sulfide (H_2S). A decision was made to boil off its contents and, at some point, Mr. Sutter opened the dome lid. Following this action Mr. Sutter gasped twice and collapsed, and blood was seen to be gushing from his nose. Despite rescue efforts Mr. Sutter could not be revived. Subsequent testing performed on his clothing revealed the presence of multiple sulfides. Finally, thiosulfate, a metabolite of sulfide, was found at a concentration of 11 mcg/mL in cardiac blood.

By comparing Mr. Sutter's thiosulfate concentration with the concentrations listed in the table below, in conjunction with the review of other case histories, it is seen that Mr. Sutter's concentration is consistent with other thiosulfate concentrations that have been reported in hydrogen sulfide fatal case outcomes.

As a point of reference, whole blood thiosulfate concentrations in healthy persons are normally less then 0.3 mcg/mL.

Based upon the above information in conjunction with my knowledge, training and experience, it is my opinion that:

The thiosulfate concentration determined in Mr. Sutter's blood sample is consistent with other reported postmorten thiosulfate concentrations where the cause of death was attributed to hydrogen sulfide poisoning.

If you have any questions regarding this report please do not hesitate to contact me. Also, in the event additional information becomes available, that may affect the above opinion and conclusion, please forward such to me for evaluation.

Laura M. Labay, Ph.D., DABFT
Forensic Toxicologist

REFERENCES

1. Kage, S., et al. Fatal and Nonfatal Poisoning by Hydrogen Sulfide at an Industrial Waste Site. J Forensic Sci 2002; 47 (3): 652-655.

2. Kage, S., et al. A Fatal Case of Hydrogen Sulfide Poisoning in a Geothermal Power Plant. J Forensic Sci 1998; 43 (4): 908-910.

3. Ago, M., et al. Two Fatalities by Hydrogen Sulfide Poisoning: Variation of Pathological and Toxicological Findings. Legal Medicine 10 (2008) 248-152.

4. Kage, S., et al. The Usefulness of Thiosulfate as an Indicator of Hydrogen Sulfide Poisoning: Three Cases. Int J Legal Med (1997) 110: 220-222.

NMS LABS

CASE HISTORY	THIOSULFATE CONCENTRATION
Reference 1: A man (A) enters a pit at an industrial waste site and suddenly loses consciousness. Three colleagues (B, C and D) enter the pit to attempt rescue. All lose consciousness. Workers A and B die soon after arrival at the hospital. Blood was collected at the time of the autopsies, 7 hours after the accident for Worker A and 8 hours after the accident for Worker B.	Worker A Blood: 10.53 mcg/mL Worker B Blood: 4.59 mcg/mL
Reference 2: A man enters an oil separator room in a geothermal power plant. He suddenly collapses and dies soon thereafter. The body was kept at 0°C until the autopsy was performed 20 hours after death. Blood was collected at the time of autopsy.	Blood: 16 mcg/mL
Reference 3: Several workers enter a water ballast tank to remove heavy oil and suddenly feel unwell. Two of the workers (A and B) arrive at a hospital in cardiopulmonary arrest and soon thereafter are pronounced dead. Autopsies on Worker A and Worker B were performed at 20 and 24 hours post-death, respectively.	Worker A Blood: 9.9 mcg/mL Worker B Blood: 15 mcg/mL
Reference 4: A worker enters a tank to remove sludge, suddenly collapses and dies soon after. The body was kept at room temperature until the autopsy was performed 22 hours post-death. Blood was collected at the time of autopsy.	Blood: 2.7 mcg/mL
Reference 4: Two workers (A and B) enter a pump room to repair a pump. When a check valve is opened Hydrogen Sulfide is smelled. Worker B leaves to get a ventilator and when Worker B returns, Worker A is found lying beneath a pool of sewage and died soon thereafter. The body was kept at 0°C until the autopsy was performed 24 hours after death. Blood samples were collected 4 hours after death and at the time of autopsy.	Worker A Blood (4 hr): 13 mcg/mL Blood (Autopsy): 13 mcg/mL

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Legal Medicine
Volume 10, Issue 3, May 2008, Pages 148-152

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Case Report

Two fatalities by hydrogen sulfide poisoning: Variation of pathological and toxicological findings

Mihoko Ago[a], **Kazutoshi Ago**[a] **and Mamoru Ogata**[a]

[a]Department of Legal Medicine, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima 890-8544, Japan

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Received 28 July 2007; revised 26 November 2007; accepted 29 November 2007. Available online 8 February 2008.

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Abstract

We report the simultaneous deaths of two individuals by inhalation of hydrogen sulfide (H_2S), produced either by the putrefaction of a large quantity of sweet corn or by heavy oil that flowed out of the fuel tank of a large stranded cargo vessel. Ten workers went into a water ballast tank of the vessel to remove remaining heavy oil and suddenly felt unwell. Two of the ten workers (patient A, a male in his early thirties, and patient B, a male in his early sixties) died. Autopsies of the two patients revealed a partial green discoloration of the skin and pulmonary edema. Toxicological analysis revealed high

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levels of thiosulfate in the blood (0.089 mmol/L in patient A and 0.142 mmol/L in patient B). From these findings, we concluded that the cause of death in both patients was H_2S poisoning. In addition, the autopsy of patient A revealed petechiae of the palpebral conjunctiva and the mucous membrane of the mouth and erosion of the respiratory tract. The autopsy of patient B failed to reveal these observations. We presumed that patient B may have been exposed to higher H_2S levels, and that the circulation and respiration of patient B may have arrested faster than patient A. Thiosulfate levels in the blood may reflect the levels of H_2S exposure. This case suggests that the pathological and toxicological findings of H_2S poisoning vary from case to case.

Keywords: Hydrogen sulfide poisoning; Thiosulfate; Pulmonary edema; Autopsy

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Article Outline

1. Introduction
2. Case report
3. Autopsy findings
    3.1. Patient A
    3.2. Patient B
4. Toxicological analysis
    4.1. Thiosulfate analysis
5. Results and discussion
References

Corresponding author. Tel.: +81 99 275 5313; fax: +81 99 275 5315.

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Legal Medicine
Volume 10, Issue 3, May 2008, Pages 148-152

EPAHO120000255

The Ulster Medical Journal, Volume 55, No. 2, pp. 181 - 183, October 1986.

Case report

Near death due to inhalation of slurry tank gases

M Spiers, O C Finnegan

Accepted 12 August 1986.

Slurry tank storage facilities are playing an increasing role in mechanised farming. Accidental poisoning from gases produced in such tanks is a recognised hazard, and multiple fatalities have been reported.[1,2] The principal constituents are methane, ammonia, carbon dioxide and hydrogen sulphide. The most dangerous of these is hydrogen sulphide which acts in a similar manner to cyanide, with reversible inhibition of the respiratory enzyme cytochrome oxidase. Concentrations above 200 parts per million (ppm) produce direct irritant effects on exposed surfaces, and pulmonary oedema on prolonged inhalation.[3] Higher levels (above 500 ppm) depress the central nervous system, with paralysis of the respiratory centre, and almost instantaneous loss of consciousness. The familiar smell of 'rotten eggs' is not a reliable warning sign as paralysis of the olfactory nerve makes the gas odourless at lethal levels.

Most reported cases have been associated with agitation of slurry prior to, or during, emptying procedures, although toxic exposure to hydrogen sulphide can also occur in sewers, mines and the chemical industry. The problem was exacerbated in 1985 by the wet summer and autumn, which made fields unworkable. Large quantities of slurry therefore remained undisturbed for long periods and subsequently more gas than usual accumulated beneath a hard crust, to be released when the tanks were eventually emptied.

CASE HISTORY

A 31-year-old farm labourer, previously in good health, was preparing to empty a tank containing approximately 6,000 gallons of slurry. This had been undisturbed since the autumn one year previously. The surface crust had been broken and the contents agitated by a tractor-driven mechanical pump prior to removal to a tanker. His workmates noticed him slumped over the drainage slats above the slurry tank inside the cowshed. Help was summoned and he was dragged outside within three minutes. The patient was noticed to be blue, pulseless and unconscious, with very weak respiratory efforts only. No attempts at cardiopulmonary resuscitation were made. Two cows in the cowshed died immediately and a calf was later destroyed.

Coleraine Hospital, Mountsandel Road, Coleraine, Co. Londonderry, BT52 1JA.
M Spiers, BM, Senior House Officer.
O C Finnegan, MRCP, Consultant Physician.
Correspondence to Dr Finnegan.

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On arrival of the ambulance about 20 minutes later, he was unconscious with no palpable carotid or femoral pulses, but there was still shallow respiration. The pupils were only moderately dilated. Oxygen was administered, and after several minutes he vomited and gradually regained consciousness. On admission to hospital the patient was orientated in person, time and place. He was not cyanosed. Blood pressure was 150/90mmHg, and his pulse irregularly irregular at 70 beats per minute. He had good bilateral air entry with normal breath sounds. Tone, power and reflexes were normal. The electrocardiogram confirmed atrial fibrillation, but was otherwise normal. The chest radiograph was normal, with no evidence of pulmonary oedema. Sinus rhythm returned within an hour of admission. Subsequent electrocardiograms and cardiac enzymes were normal. He made a rapid recovery and was discharged after two days. At follow-up one month later, he was in perfect health.

COMMENT

The reported case highlights the danger of working with slurry in a confined space. The toxic effects of slurry gases have been well documented[3] and, although no qualitative or quantitative gas analysis was made at the scene, the clinical picture is consistent with inhalation of a high concentration of hydrogen sulphide. The sudden loss of consciousness was presumably due to paralysis of the respiratory centre with resulting hypoxia. Grand mal fits and long-term neurological sequelae have been reported,[4] but despite collapse and unconsciousness our patient had no permanent ill effects. Supraventricular and sinus tachycardias have been associated with hydrogen sulphide intoxication, but we are not aware of atrial fibrillation being previously reported as a clinical complication. This arrhythmia was probably due to cardiac hypoxia although ventricular irritability would be a more expected finding. There was no indication in the patient's history, examination or investigations to suggest any pre-existing heart disease or paroxysmal tachyarrhythmia. There was no clinical or radiographic evidence of pulmonary oedema, and his initial cyanosis responded to administration of oxygen by the ambulance crew. The absence of pulmonary oedema can be explained by the sudden collapse and apnoea protecting the lungs from further toxic exposure.

Our patient must be considered lucky to have survived this episode. His rescuers were also at considerable risk when dragging him clear without breathing apparatus, but in so doing they undoubtedly saved his life. After removal from the toxic environment, further management of hydrogen sulphide is mainly supportive, with the need for oxygen administration, cardiopulmonary resuscitation and mechanical ventilation being determined by the severity of intoxication. Inhaled or intravenous nitrite has been suggested as a measure to protect and reactivate cytochrome oxidase,[5] but the need for its early, and probably pre-hospital, administration limits its efficacy. The resulting formation of methaemoglobin is, moreover, not without its own hazards.

Including this case, there have been 14 slurry tank accidents reported to the Department of Agriculture in Northern Ireland in the 17 years prior to the end of 1985.[6] Six incidents involved cattle only (with more than 35 deaths), and five involved a total of nine people, all of whom recovered, apart from one believed to have permanent brain damage. The three remaining incidents produced four human deaths. One of the victims entered the slurry tank attempting to rescue his colleague. The cause of death was in one case asphyxia by slurry gases, and in

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EPAHO120000257

three drowning in slurry probably preceded by asphyxia. Ten of the reported accidents occurred in 1985. This recent increase can be explained by the freak weather experienced in the Province that year. Hydrogen sulphide should be considered as lethal as cyanide, and clear advice has recently been given to the farming community to minimise the risks of accidental exposure when emptying slurry tanks.[7]

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5. Stine RJ, Slosberg B, Beacham BE. Hydrogen sulfide intoxication. A case report and discussion of treatment. *Ann Int Med* 1976; **85**: 756-8.
6. Duff JW. Personal communication. (Department of Agriculture, NI).
7. Duff JW. Slurry gases. *Agriculture in NI* 1985; **60**: 216-9.

CORRIGENDUM

C.A.T. scan pictures shown in Fig 1 of "Acquired Immune Deficiency Syndrome in Northern Ireland" (Vol 55, No 1, page 81) were of different levels of the brain. This was due to a mistaken submission with the final draft by R. D. Maw and W. W. Dinsmore. Comparable levels were, of course, taken and reported as showing cerebral involution.

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1: Leg Med (Tokyo). 2008 May;10(3):148-52. Epub 2008 Feb 8.

ELSEVIER FULL-TEXT ARTICLE Links

Two fatalities by hydrogen sulfide poisoning: variation of pathological and toxicological findings.

Ago M, Ago K, Ogata M.

Department of Legal Medicine, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima 890-8544, Japan.
agomiho@m.kufm.koagoshima-u.ac.jp

We report the simultaneous deaths of two individuals by inhalation of hydrogen sulfide (H(2)S), produced either by the putrefaction of a large quantity of sweet corn or by heavy oil that flowed out of the fuel tank of a large stranded cargo vessel. Ten workers went into a water ballast tank of the vessel to remove remaining heavy oil and suddenly felt unwell. Two of the ten workers (patient A, a male in his early thirties, and patient B, a male in his early sixties) died. Autopsies of the two patients revealed a partial green discoloration of the skin and pulmonary edema. Toxicological analysis revealed high levels of thiosulfate in the blood (0.089 mmol/L in patient A and 0.142 mmol/L in patient B). From these findings, we concluded that the cause of death in both patients was H(2)S poisoning. In addition, the autopsy of patient A revealed petechiae of the palpebral conjunctiva and the mucous membrane of the mouth and erosion of the respiratory tract. The autopsy of patient B failed to reveal these observations. We presumed that patient B may have been exposed to higher H(2)S levels, and that the circulation and respiration of patient B may have arrested faster than patient A. Thiosulfate levels in the blood may reflect the levels of H(2)S exposure. This case suggests that the pathological and toxicological findings of H (2)S poisoning vary from case to case.

PMID: 18262457 [PubMed - indexed for MEDLINE]

Related articles

Fatal hydrogen sulfide poisoning at a dye works. [Leg Med (Tokyo). 2004]

Fatal and nonfatal poisoning by hydrogen sulfide at an industrial waste site. [J Forensic Sci. 2002]

The usefulness of thiosulfate as an indicator of hydrogen sulfide poisoning: three cases. [Int J Legal Med. 1997]

Review Death by sewer gas: case report of a double fatality and review of the literature. [Am J Forensic Med Pathol. 2005]

Review Hydrogen sulfide (H2S) and sour gas effects on the eye. A historical perspective. [Graefes Arch Clin Exp Ophthalmol. 2006]

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Hydrogen sulfide poisoning. Report of four cases and brief review of the

Hydrogen sulfide poisoning from toxic inhalations of roofing asphalt fumes.

[Nervous system damage caused by H2S poisoning without

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1: Am J Ind Med. 1999 Feb;35(2):192-5.

Related Articles, Links

FULL TEXT AVAILABLE ONLINE WILEY InterScience

Hydrogen sulfide poisoning: clarification of some controversial issues.

Milby TH, Baselt RC.

Chemical Toxicology Institute, Foster City, California, USA. tmilby@aol.com

BACKGROUND: Hydrogen sulfide is a toxic gas about which much has been written. We discuss here several issues we believe would benefit from further clarification.
CONCLUSIONS: We conclude that: 1) Certain neurotoxic effects of exposure are probably due to a direct toxic effect on the brain, while others are almost certainly a result of hypoxia secondary to H2S-induced respiratory insufficiency; 2) pulmonary edema is a common consequence of poisoning and there is suggestive evidence of hyperactive airway responses in some individuals following brief H2S-induced unconsciousness (knockdown); 3) criteria for acceptable community levels are very different than those governing occupational standards; 4) urinary thiosulfate determinations can be useful for monitoring occupational exposure; and 5) determination of sulfide ion concentrations in blood or major organs can be useful in corroborating a diagnosis of fatal H2S toxicity, but there are many pitfalls in collecting, storing, and analyzing tissue and fluid samples.

Publication Types:
- Review

MeSH Terms:
- Air Pollutants/poisoning*
- Anoxia/chemically induced
- Brain/drug effects
- Bronchial Hyperreactivity/chemically induced
- Environment
- Humans
- Hydrogen Sulfide/poisoning*
- Occupational Exposure
- Pulmonary Edema/chemically induced
- Respiratory Insufficiency/chemically induced
- Sulfides/blood
- Thiosulfates/urine
- Unconsciousness/chemically induced

Substances:

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- Air Pollutants
- Sulfides
- Thiosulfates
- Hydrogen Sulfide

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1: Am J Forensic Med Pathol. 2005 Dec;26(4):327-9.

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Asphyxia by tracheobronchial thrombus.

Collins KA, **Presnell SE**.

Department of Pathology and Laboratory Medicine, Forensic and Autopsy Pathology, Medical University of South Carolina, Charleston, 29425, USA. collinsk@musc.edu

Asphyxia secondary to airway obstruction has numerous underlying causes, both acute and chronic. Causes of chronic airway obstruction, such as neoplasms and tracheal scarring, are often clinically apparent well prior to asphyxia. Causes of acute airway obstruction may not be as obvious to clinicians or investigators. These include infections, anaphylactic reactions, status asthmaticus, inhalational injuries, and aspirations, which may result in acute obstruction and sudden death.We report the deaths of 2 individuals, a 43-year-old female and a 78-year-old female, both with adenocarcinoma. The 43-year-old was hospitalized with a stage III, poorly differentiated infiltrating ductal carcinoma of the breast metastatic to the lymph nodes. She was intubated to treat poor respiratory function and acidosis. A bronchoalveolar lavage was consistent with alveolar hemorrhage; no organisms were identified. Blood and "clot" were in her endotracheal tube, so the endotracheal tube was replaced. She became comatose and life support was withdrawn. At autopsy, a large red-gray thrombus obstructed the trachea and extended into the right bronchus. Microscopically, the entire clot was composed of fibrin, red blood cells, and some mucus. Findings of acute respiratory distress syndrome with hyaline membranes were identified. The cause of death was listed as acute respiratory distress syndrome with tracheobronchial thrombus. Experiencing a decline in mental status, the 78-year-old had metastatic adenocarcinoma of unknown primary. She developed sudden respiratory distress and an airway obstruction was discovered. After failure to relieve the obstruction, she decompensated and died. At autopsy, a large, red-gray thrombus obstructed the distal trachea and both bronchi. Microscopically, the thrombus was composed of fibrin, platelets, and red blood cells. The cause of death was asphyxia secondary to airway obstruction by thrombus. We present these 2 unusual cases of asphyxia and review of the literature focusing on asphyxia and the etiology of airway thrombi.

PMID: 16304464 [PubMed - indexed for MEDLINE]

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Iatrogenic tracheal laceration causing asphyxia. [J Forensic Sci. 2008]

Endotracheal tube and tracheobronchial obstruction as causes of hypoventilation with high [Chest. 1994]

Review Airway obstruction arising from blood clot: three reports and a review of the literature. [Chest. 1999]

Review Sudden death due to asphyxia by esophageal polyp: two case reports and review of [Am J Forensic Med Pathol. 2005]

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1: Neurotoxicology. 2001 Jun;22(3):375-85.

ELSEVIER FULL TEXT ARTICLE Links

Neurotoxicological effects associated with short-term exposure of Sprague-Dawley rats to hydrogen sulfide.

Struve MF, Brisbois JN, James RA, Marshall MW, Dorman DC.

CIIT Centers for Health Research, Research Triangle Park, NC, USA. struve@ciit.org

Although hydrogen sulfide (H2S) is a known neurotoxic hazard, only a limited number of experimental animal studies have examined its neurochemical or behavioral effects. Our aim was to determine if short-term inhalation exposure of rats to H2S would result in altered brain catecholamnine levels or impaired learning and memory. Three groups of adult male CD rats were tested; two groups were exposed by nose-only inhalation (0, 30, 80, 200, or 400 ppm H2S) and one group was exposed by whole-body inhalation (0, 10, 30, or 80 ppm H2S) for 3 h per day forfive consecutive days. The first group (n = 10 rats per concentration) was tested immediately following each daily nose-only H2S exposure for spatial learning with a Morris water maze. Core body temperatures were also monitored in these animals during and after the last H2S exposure. The second group of rats (n = 10 rats per concentration) was tested for spontaneous motor activity immediately following the fifth exposure. These rats were then euthanized and striatal, hippocampal, and hindbrain catecholamnine levels determined. A third group of rats (n = 5-7 rats per concentration) was pretrained on a multiple fixed- interval (FI) schedule and exposed whole-body. Daily performance on the FI schedule was compared for the week pre-exposure, for the exposure week immediately following daily exposures, and for the week postexposure. We observed significant reductions in motor activity, water maze performance, and body temperature following exposure only to high concentrations (> or = 80 ppm) of H2S. Exposure to H2S did not affect regional brain catecholamine concentrations or performance on the FI schedule. Additional studies using other measures of behavior and longer-term exposure to H2S may be required to more definitively address conditions under which H2S exposure results in behavioral toxicity.

PMID: 11456338 [PubMed - indexed for MEDLINE]

Related articles

Respiratory tract toxicity of inhaled hydrogen sulfide in Fischer-344 rats [Toxicol Sci. 2004]

Cytochrome oxidase inhibition induced by acute hydrogen sulfide inhalation: correlation with [Toxicol Sci. 2002]

NTP technical report on the toxicity studies of Dibutyl Phthalate (CAS No. 84-74-2) [Toxic Rep Ser. 1995]

Review Hydrogen sulfide (H2S) and sour gas effects on the eye. A historical perspective [Clin Exp Optom. 2006]

Review Occupational exposure to hydrogen sulfide in the sour gas industry: some unresolved [Int Arch Occup Environ Health. 1994]

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1: Sci Total Environ. 2006 Aug 15;367(1):1-22. Epub 2006 May 2.

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Hydrogen sulfide (H2S) and sour gas effects on the eye. A historical perspective.

Lambert TW, Goodwin VM, Stefani D, Strosher L.

Environmental Health, Calgary Health Region, 1509 Centre St SW, Calgary Alberta, T2G 2E6, Canada. tim.lambert@calgaryheathregion.ca

The toxicology of hydrogen sulfide (H(2)S) and sour gas on the eye has a long history beginning at least with Ramazzini's observations [Ramazzini B. Diseases of Workers--De Morbis Artificum Diatriba--1713. Wright WC (trans). New York, C. Hafner Publishing Co Inc.; 1964. 98-99 pp.]. In contrast, a recent review by Alberta Health and Wellness (AHW Report) concluded that there is little evidence of eye irritation following short-term exposures to H(2)S at concentrations up to 100ppm and that the H(2)S literature on the eye is a series of unsubstantiated claims reproduced in review articles dating back to the 1930s [Alberta Health and Wellness (AHW report). Health effects associated with short-term exposure to low levels of hydrogen sulfide: a technical review, Alberta Health and Wellness, October 2002, 81pp.]. In this paper, we evaluated this claim through a historical review of the toxicology of the eye. Ramazzini noted the effects of sewer gas on the eye [Ramazzini B. Diseases of Workers--De Morbis Artificum Diatriba--1713. Wright WC (trans). New York, C. Hafner Publishing Co Inc. 1964. 98-99 pp.]. Lehmann experimentally showed eye effects in men at 70-90ppm H(2)S and also in animals [Lehmann K. Experimentalle Studien uber den Einfluss technisch und hygienisch wichtiger Gase und Dampfe auf den Organismus. Arch Hyg 1892;14:135-189]. In 1923, Sayers, Mitchell and Yant reported eye effects in animals and men at 50ppm H(2)S. Barthelemy showed eye effects in animals and men at 20ppm H(2)S [Barthelemy HL. Ten years' experience with industrial hygiene in connection with the manufacture of viscose rayon. J Ind Hyg Toxicol 1939;21:141-51]. Masure experimentally showed that H(2)S is the causative agent of eye impacts in animals and men [Masure R. La Keratoconjunctivite des filatures de viscose; etude clinique and experiementale. Rev Belge Pathol 1950;20:297-341]. Michal upon microscopic examination of the rat's cornea, found nuclear pyknosis, edema and separation of cells in the eye following exposures for 3h at 36ppm H(2)S [Michal FV. Eye lesions caused by hydrogen sulfide. Cesk Ophthalmol 1950;6;5-8]. In 1975, in Alberta, irreversible eye damage and photophobia were experimentally produced in calves exposed to 20ppm H(2)S for 1week [Nordstrom GA. A study of calf response of ammonia and hydrogen sulfide gases. Thesis, University of Alberta, Department of Agricultural Engineering, Edmonton Alberta; 1975, 218 pp.]. Alberta Environmental Centre documented clinical irritation of the eye at 40ppm H(2)S in 6 hours in rats [Alberta Environmental Centre. Morphological observations in rats exposed for six hours to an atmosphere of 0, 56, or 420mg/m(3) hydrogen sulfide. AECV86-A1. Alberta Environmental Centre, Vegreville, Alberta; 1986b. 28 pp.]. In

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Neurotoxicological effects associated with short-term exposure of Sprague-Dawley rats to [Neurotoxicology. 2001]

Olfactory neuron loss in adult male CD rats following subchronic inhalation exposure to [Toxicol Pathol. 2000]

Epidemiological study of eye irritation by hydrogen sulphide and/or carbon disulphide [Am Occup Hyg. 1995]

Review Death by sewer gas: case report of a double fatality and review of the literature. [Am J Forensic Med Pathol. 2005]

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Hydrogen sulfide (H2S) and sour gas effects on the eye. A historical

[Measurement of sulfhemoglobin (S-Hb) blood levels to determine individual

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two sour gas blow-outs in Alberta, in the early 1980s, eye injury was documented in humans and animals at 0.5 ppm H(2)S. Community studies in the United States, Europe and New Zealand suggest that acute exposure to 25ppb H(2)S is the lowest concentration to irritate the eyes; with chronic exposure, serious eye effects are suggested. In contrast to the conclusion, all of the studies, except one, cited in the AHW Report indicate toxic effects on the eye below 100ppm H(2)S [Alberta Health and Wellness (AHW report). Health effects associated with short-term exposure to low levels of hydrogen sulfide (H(2)S): a technical review, Alberta Health and Wellness, October 2002, 81pp.]. In addition, the AHW Report (2002) mis-presented two studies as 'clinical studies', claiming they reported no evidence of eye effects in humans from 2 and 30 ppm H(2)S for 30-40 minutes [Alberta Health and Wellness (AHW report). Health effects associated with short-term exposure to low levels of hydrogen sulfide (H(2)S): a technical review, Alberta Health and Wellness, October 2002, 81pp.].

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1: Ig Sanita Pubbl. 2004 Jul-Aug;60(4):201-17.

Links

[Measurement of sulfhemoglobin (S-Hb) blood levels to determine individual hydrogen sulfide exposure in thermal baths in Italy]

[Article in Italian]

Ensabella F, Spirito A, Duprè S, Leoni V, Schininà ME, Strinati F, Amiconi G.

Dipartimento di Scienze di Sanità Pubblica, Università di Roma La Sapienza.

Significant exposure to hydrogen sulfide may occur in workers at sulphureous thermal baths. Work-related exposure to hydrogen sulfide may be shown by measuring sulfhemoglobin (S-Hb) blood levels. In this study we measured S-Hb blood levels in two groups of workers at two different thermal baths and compared these with hydrogen sulfide concentrations in the air of the two work environments. Our results show that blood S-Hb levels can be considered a reliable measure of individual exposure to hydrogen sulfide.

PMID: 15583709 [PubMed - indexed for MEDLINE]

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[Effect of sulfide-hydrogen sulfide baths on sulfhydryl groups (SH) in the serum of patients] [Pol Tyg Lek. 1978]

[Mechanisms of sulfhemoglobinemia] [Folia Med Cracov. 1974]

Monitoring risks in association with exposure levels among wastewater treatment plant ... [Water Environ Res. 2007]

Review Twenty-foot fall averts fatality from massive hydrogen sulfide exposure. [Occup Med. 2001]

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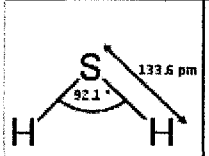
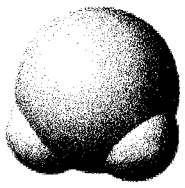
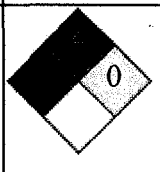
Hydrogen sulfide

From Wikipedia, the free encyclopedia

Hydrogen sulfide (or **hydrogen sulphide**) is the chemical compound with the formula H_2S. This colorless, toxic and flammable gas is partially responsible for the foul odor of rotten eggs and flatulence.

It often results from the bacterial break down of sulfites in nonorganic matter in the absence of oxygen, such as in swamps and sewers (anaerobic digestion). It also occurs in volcanic gases, natural gas and some well waters. The odor of H_2S is commonly misattributed to elemental sulfur, which is in fact odorless. Hydrogen sulfide has numerous names, some of which are archaic (see table).

Hydrogen sulfide	
	
IUPAC name	[show]
Other names	Sulfuretted hydrogen; sulfane; Hydrogen Sulfide; sulfur hydride; sour gas; sulfurated hydrogen; hydrosulfuric acid; sewer gas; stink damp; rotten egg gas; brimstone
Identifiers	
CAS number	[7783-06-4]
EC number	231-977-3
UN number	1053
RTECS number	MX1225000
ChemSpider ID	391
Properties	
Molecular formula	H_2S
Molar mass	34.082 g/mol
Appearance	Colorless gas.
Density	1.363 g/L, gas.
Melting point	-82.30 °C (190.85 K)
Boiling point	-60.28 °C (212.87 K)
Solubility in water	0.25 g/100 mL (40 °C)
Acidity (pK_a)	6.89 19±2 (*see text*)
Structure	
Molecular shape	Bent
Dipole moment	0.97 D
Hazards	
EU classification	Highly Flammable (**F+**) Very Toxic (**T+**) Dangerous for the environment (**N**)
EU Index	016-001-00-4
NFPA 704	
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Production

Hydrogen sulfide is obtained by its separation from sour gas, that is natural gas with high content of H_2S. It can be produced by reacting hydrogen gas with molten elemental sulfur at about 450 °C. Hydrocarbons can replace hydrogen in this process.[1]

Sulfate-reducing bacteria produce hydrogen sulfide under ambient conditions by the reduction of sulfate or from elemental sulfur.

The standard lab preparation is to gently heat iron sulfide (FeS) with a strong acid in a Kipp generator.

A less well known and more convenient alternative is to react aluminum sulfide with water:

$$H_2O + Al_2S_3 \rightarrow H_2S + Al_2O_3.$$

Occurrence

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Small amounts of hydrogen sulfide occur in crude petroleum but natural gas can contain up to 90%. Volcanoes and hot springs emit some H_2S, where it probably arises via the hydrolysis of sulfide minerals, i.e. $MS + H_2O \rightarrow MO + H_2S$. Normal concentration in clean air is about 0.0001-0.0002 ppm.

About 10% of total global emissions of H_2S are due to human activity. By far the largest industrial route to H_2S occurs in petroleum refineries: the hydrodesulfurization process liberates sulfur from petroleum by the action of hydrogen. The resulting H_2S is converted to elemental sulfur by partial combustion via the Claus process, which is a major source of elemental sulfur. Other anthropogenic sources of hydrogen sulfide include coke ovens, paper mills (using the sulfate method), and tanneries. H_2S arises from virtually anywhere where elemental sulfur comes into contact with organic material, especially at high temperatures.

Hydrogen sulfide can be present naturally in well water. In such cases, ozone is often used for its removal. An alternative method uses a filter with manganese dioxide. Both methods oxidize sulfides to less toxic sulfates.

	S45, S61
Flash point	flammable gas
Autoignition temperature	260 °C
Explosive limits	4.3–46%
Related compounds	
Related hydrogen chalcogenides	Water Hydrogen selenide Hydrogen telluride Hydrogen disulfide
Related compounds	Phosphine

Except where noted otherwise, data are given for materials in their standard state (at 25 °C, 100 kPa)
Infobox references

A buildup of hydrogen sulfide in the atmosphere could have caused the Permian-Triassic extinction event 252 million years ago.[2]

Uses

Production of thioorganic compounds

Several organosulfur compounds are produced using hydrogen sulfide. These include methanethiol, ethanethiol, and thioglycolic acid.

Alkali metal sulfides

Upon combining with alkali metal bases, hydrogen sulfide converts to alkali hydrosulfides such as sodium hydrosulfide and sodium sulfide, which are used in the degradation of biopolymers. The depilation of hides and the delignification of pulp by the Kraft process both are effected by alkali sulfides.

In analytical chemistry

Hydrogen sulfide used to have importance in analytical chemistry for well over a century, in the qualitative inorganic analysis of metal ions. For such small-scale laboratory use, H_2S was made as needed in a Kipp generator by reaction of sulfuric acid (H_2SO_4) with ferrous sulfide FeS. Kipp generators were superseded by the use of thioacetamide, an organic solid that converts in water to H_2S. In these analyses, heavy metal (and nonmetal) ions (e.g. Pb(II), Cu(II), Hg(II), As(III)) are precipitated from solution upon exposure to H_2S. The components of the resulting precipitate redissolve with some selectivity.

A precursor to metal sulfides

As indicated above, many metal ions react with hydrogen sulfide to give the corresponding metal sulfides. This conversion is widely exploited. In the purification of metal ores by flotation, mineral powders are often treated with hydrogen sulfide to enhance the separation. Metal parts are sometimes passivated with hydrogen sulfide. Catalysts used in hydrodesulfurization are routinely activated with hydrogen sulfide, and the behavior of metallic catalysts used in other parts of a refinery is also modified using hydrogen sulfide.

Miscellaneous applications

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Hydrogen sulfide is also used in the separation of deuterium oxide, i.e. heavy water, from normal water via the Girdler Sulfide process.

Safety

Hydrogen sulfide is a highly toxic and flammable gas. Being heavier than air, it tends to accumulate at the bottom of poorly ventilated spaces. Although very pungent at first, it quickly deadens the sense of smell, so potential victims may be unaware of its presence until it is too late. For safe handling procedures, a hydrogen sulfide material safety data sheet (MSDS) should be consulted.[3]

Toxicity

Hydrogen sulfide is considered a broad-spectrum poison, meaning that it can poison several different systems in the body, although the nervous system is most affected. The toxicity of H_2S is comparable with that of hydrogen cyanide. It forms a complex bond with iron in the mitochondrial cytochrome enzymes, thereby blocking oxygen from binding and stopping cellular respiration. Since hydrogen sulfide occurs naturally in the environment and the gut, enzymes exist in the body capable of detoxifying it by oxidation to (harmless) sulfate.[4] Hence, low levels of sulfide may be tolerated indefinitely.

At some threshold level, the oxidative enzymes will be overwhelmed. This threshold level is believed to average around 300-350 ppm. Many personal safety gas detectors, such as those used by utility, sewage and petrochemical workers, are set to alarm at as low as 5 to 10 ppm and to go into high alarm at 15 ppm.

An interesting diagnostic clue of extreme poisoning by H_2S is the discoloration of copper coins in the pockets of the victim. Treatment involves immediate inhalation of amyl nitrite, injections of sodium nitrite, inhalation of pure oxygen, administration of bronchodilators to overcome eventual bronchospasm, and in some cases hyperbaric oxygen therapy (HBO). HBO therapy has anecdotal support and remains controversial.[5][6][7]

Exposure to lower concentrations can result in eye irritation, a sore throat and cough, nausea, shortness of breath, and fluid in the lungs. These symptoms usually go away in a few weeks. Long-term, low-level exposure may result in fatigue, loss of appetite, headaches, irritability, poor memory, and dizziness. Chronic exposures to low level H_2S (around 2 ppm) has been implicated in increased miscarriage and reproductive health issues amongst Russian and Finnish wood pulp workers, but the reports hadn't (as of circa 1995) been replicated. Higher concentrations of 700-800 ppm tend to be fatal.

- 0.0047 ppm is the recognition threshold, the concentration at which 50% of humans can detect the characteristic odor of hydrogen sulfide [1], normally described as resembling "a rotten egg".
- Less than 10 ppm has an exposue limit of 8 hours per day.
- 10-20 ppm is the borderline concentration for eye irritation.
- 50-100 ppm leads to eye damage.
- At 150-250 ppm the olfactory nerve is paralyzed after a few inhalations, and the sense of smell disappears, often together with awareness of danger,
- 320-530 ppm leads to pulmonary edema with the possibility of death.
- 530-1000 ppm causes strong stimulation of the central nervous system and rapid breathing, leading to loss of breathing;
    - 800 ppm is the lethal concentration for 50% of humans for 5 minutes exposure(LC50).
- Concentrations over 1000 ppm cause immediate collapse with loss of breathing, even after inhalation of a single breath.

Hydrogen sulfide was used by the British as a chemical agent during World War One. It was not considered to be an ideal war gas, but while other gasses were in short supply it was used on two occasions in 1916.[8]

A series of suicide cases in Japan in which the victims killed themselves by producing toxic hydrogen sulfide fumes by mixing common household cleaning products have highlighted the danger posed by commonly used substances and prompted censorship of internet sites who posted advice for aspiring suicides.[9]

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Function in the body

Hydrogen sulfide is produced in small amounts by some cells of the mammalian body and has a number of biological functions. It is produced from cysteine by various enzymes. It acts as a vasodilator and is also active in the brain, where it increases the response of the NMDA receptor and facilitates long term potentiation, which is involved in the formation of memory. Eventually the gas is converted to sulfites and further oxidized to thiosulfate and sulfate. Due to its effects similar to NO (without its potential to form peroxides by interacting with superoxide), hydrogen sulfide is now recognized as a potential cardioprotective agent. [10] Vasoactivity of garlic is caused by catabolism of the polysulfide group in allicin to H_2S, a reaction which could depend on reduction mediated by glutathione.[11] In trisomy 21 (the most common form of Down syndrome) the body produces an excess of hydrogen sulfide.

Induced hibernation

In 2005 it was shown that mice can be put into a state of suspended animation-like hypothermia by applying a low dosage of hydrogen sulfide (80 ppm H_2S) in the air. The breathing rate of the animals sank from 120 to 10 breaths per minute and their temperature fell from 37 °C to just 2 °C above ambient temperature (in effect, they had become cold-blooded). The mice survived this procedure for 6 hours and afterwards showed no negative health consequences.[12] In 2006 it was shown that the blood pressure of mice treated in this fashion with hydrogen sulfide did not significantly decrease.[13]

Such hibernation occurs naturally in many mammals and also in toads, but not in mice. (Mice can fall into a state called clinical torpor when food shortage occurs). If the H_2S-induced hibernation can be made to work in humans, it could be useful in the emergency management of severely injured patients, and in the conservation of donated organs. In 2008, hypothermia induced by hydrogen sulfide for 48 hours was shown to reduce the extent of brain damage caused by experimental stroke in rats.[14]

As mentioned above, hydrogen sulfide binds to cytochrome oxidase and thereby prevents oxygen from binding, which leads to the dramatic slowdown of metabolism. Animals and humans naturally produce some hydrogen sulfide in their body; researchers have proposed that the gas is used to regulate metabolic activity and body temperature, which would explain the above findings.[15]

However, a 2008 study failed to reproduce the effect in pigs, concluding that the effects seen in mice were not present in larger mammals.[16]

Participant in the sulfur cycle

Hydrogen sulfide is a central participant in the sulfur cycle, the biogeochemical cycle of sulfur on Earth. As mentioned above, sulfur-reducing and sulfate-reducing bacteria derive energy from oxidizing hydrogen or organic molecules in the absence of oxygen by reducing sulfur or sulfate to hydrogen sulfide. Other bacteria liberate hydrogen sulfide from sulfur-containing amino acids. Several groups of bacteria can use hydrogen sulfide as fuel, oxidizing it to elemental sulfur or to sulfate by using dissolved oxygen, metal oxides (e.g. Fe oxyhydroxides and Mn oxides) or nitrate as oxidant[17]. The purple sulfur bacteria and the green sulfur bacteria use hydrogen sulfide as electron donor in photosynthesis, thereby producing elemental sulfur. (In fact, this mode of photosynthesis is older than the mode of cyanobacteria, algae and plants which uses water as electron donor and liberates oxygen.)

H_2S implicated in mass extinctions

Hydrogen sulfide has been implicated in some of the several mass extinctions that have occurred in the Earth's past. The Permian mass extinction (sometimes known as the "Great Dying") may have been caused by hydrogen sulfide. Organic residues from these extinction boundaries indicate that the oceans were anoxic (oxygen depleted) and had species of shallow plankton that metabolized H_2S. The formation of H_2S may have been initiated by massive volcanic eruptions, which emitted CO_2 and methane into the atmosphere which warmed the oceans, lowering their capacity to absorb oxygen which would otherwise oxidize H_2S. The increased levels of hydrogen sulfide could have killed oxygen-generating plants as well as

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- National Pollutant Inventory - Hydrogen sulfide fact sheet
- NIOSH Pocket Guide to Chemical Hazards
- MSDS safety data sheet
- Abstract of survey article on H_2S as used by the body, by P. Kamoun
- Computational Chemistry Wiki
- NACE (National Association of Corrosion Epal)
- Access Safety (Online H2S Awareness Training)

Retrieved from "http://en.wikipedia.org/wiki/Hydrogen_sulfide"
Categories: Sulfur compounds | Hydrogen compounds | Foul-smelling chemicals | Pollutants | Acids
Hidden categories: All articles with unsourced statements | Articles with unsourced statements since June 2007 | Articles with unsourced statements since March 2009 | Articles with unsourced statements since September 2007

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Hydrogen sulfide

IDLH Documentation

CAS number: 7783064

NIOSH REL: 10 ppm (15 mg/m^3) 10minute CEILING

Current OSHA PEL: 20 ppm CEILING, 50 ppm 10minute MAXIMUM PEAK

1989 OSHA PEL: 10 ppm (14 mg/m^3) TWA, 15 ppm (21 mg/m^3) STEL

1993-1994 ACGIH TLV: 10 ppm (14 mg/m^3) TWA, 15 ppm (21 mg/m^3) STEL

Description of Substance: Colorless gas with a strong odor of rotten eggs.

LEL:. . 4.0% (10% LEL, 4,000 ppm)

Original (SCP) IDLH: 300 ppm

Basis for original (SCP) IDLH: The chosen IDLH is based on the statements by Patty [1963] that 170 to 300 ppm is the maximum concentration that can be endured for 1 hour without serious consequences; 400 to 700 ppm is dangerous after exposure of 0.5 to 1 hour [Henderson and Haggard 1943]. AIHA [1963] reported that 400 to 700 ppm caused loss of consciousness and possible death in 0.5 to 1 hour [MCA 1950].

Existing short-term exposure guidelines: 1991 American Industrial Hygiene Association (AIHA) Emergency Response Planning Guidelines (ERPGs):

ERPG1: 0.1 ppm (60minute)

ERPG2: 30 ppm (60minute)

ERPG3: 100 ppm (60minute)

National Research Council [NRC 1985] Emergency Exposure Guidance Levels (EEGLs):

10minute EEGL: 50 ppm

24hour EEGL: 10 ppm

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ACUTE TOXICITY DATA:

Lethal concentration data:

Species	Reference	LC_{50} (ppm)	LC_{Lo} (ppm)	Time	Adjusted 0.5-hr LC (CF*)	Derived value
Rat	Back et al. 1972	713	-----	1 hr	977 ppm (1.37)	98 ppm
Mouse	Back et al. 1972	673	-----	1 hr	922 ppm (1.37)	92 ppm
Human	Lefaux 1968	-----	600	30 min	600 ppm (1.0)	60 ppm
Mouse	MacEwen and Vernot 1972	634	-----	1 hr	869 ppm (1.37)	87 ppm
Human	Tab Biol Per 1933	-----	800	5 min	354 ppm (0.44)	35 ppm
Rat	Tansey et al. 1981	444	-----	4 hr	1,141 ppm (2.57)	114 ppm

*Note: Conversion factor (CF) was determined with "n" = 2.2 [ten Berge et al. 1986].

Other human data: It has been reported that 170 to 300 ppm is the maximum concentration that can be endured for 1 hour without serious consequences [Henderson and Haggard 1943] and that olfactory fatigue occurs at 100 ppm [Poda 1966]. It has also been reported that 50 to 100 ppm causes mild conjunctivitis and respiratory irritation after 1 hour; 500 to 700 ppm may be dangerous in 0.5 to 1 hour; 700 to 1,000 ppm results in rapid unconsciousness, cessation of respiration, and death; and 1,000 to 2,000 ppm results in unconsciousness, cessation of respiration, and death in a few minutes [Yant 1930].

Revised IDLH: 100 ppm

Basis for revised IDLH: The revised IDLH for hydrogen sulfide is 100 ppm based on acute inhalation toxicity data in humans [Henderson and Haggard 1943; Poda 1966; Yant 1930] and animals [Back et al. 1972; MacEwen and Vernot 1972; Tansey et al. 1981].

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Go back to the Documentation for Immediately Dangerous To Life or Health

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Concentrations (IDLHs)

This page was last updated : 8/16/96

Go back to the NIOSH home page

or to the CDC home page.

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Clark Hickman

From: Matt Bowman
Sent: Wednesday, April 22, 2009 6:28 PM
To: Clark Hickman
Subject: FW: Autopsy Report - Joey Sutter
Attachments: Autopsy 1.pdf; Autopsy 2.pdf; Autopsy 3.pdf; Autopsy 4.pdf; Autopsy 5.pdf; Autopsy 6.pdf

From: Aaron Rubin [mailto:arubin@germer.com]
Sent: Wednesday, April 22, 2009 5:24 PM
To: Matt Bowman; Greg Bowman
Cc: Charles Goehringer; John Surma
Subject: Autopsy Report - Joey Sutter

Please see the attached documents constituting the autopsy report of Joey Sutter. I have not yet reviewed the document myself, though I obviously noticed that H2S was determined to be the cause of death.

Regards,
Aaron

Aaron M. Rubin
GERMER GERTZ, L.L.P.
P. O. Box 4915
Beaumont, Texas 77704
Direct Telephone: (409) 654-6761
Facsimile: (409) 835-2115

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Thursday, May 7, 2009

Hydrogen Sulfide Key Player in Blood Pressure Regulation

Mouse study finds 'rotten egg'-smelling gas relaxes arteries, may have broader applications

Posted October 23, 2008

HealthDay

THURSDAY, Oct. 23 (HealthDay News) -- Cells inside the blood vessels of mice -- and probably humans -- naturally make the gas hydrogen sulfide, which helps regulate blood pressure by relaxing blood vessels, according to an international team of scientists.

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Recommendations by loomia

"Now that we know hydrogen sulfide's role in regulating blood pressure, it may be possible to design drug therapies that enhance its formation as an alternative to the current methods of treatment for hypertension," study co-author Dr. Solomon H. Snyder, a neuroscientist at Johns Hopkins University, said in a Hopkins news release.

The study included mice missing a gene for an enzyme called CSE, long believed to be responsible for the production of hydrogen sulfide. When the researchers compared hydrogen sulfide levels in the CSE-deficient mice and normal mice, they found the gas was largely depleted in the cardiovascular system of the CSE-deficient mice. This shows that tissue in mammals normally use CSE to make hydrogen sulfide, the researchers said.

The researchers also found that CSE-deficient mice had blood pressure spikes of about 20 percent, comparable to serious hypertension in humans.

In another test, the researchers studied how blood vessels in CSE-deficient mice responded to the neurotransmitter methacholine, known to relax normal blood vessels. The blood

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vessels in the CSE-deficient mice showed little response, indicating that hydrogen sulfide plays a major role in blood vessel relaxation.

The findings, published Oct. 23 in the journal *Science*, may have broad applications to human physiology and disease, Snyder said.

"In terms of relaxing blood vessels, it looks like hydrogen sulfide might be as important as nitric oxide," which two decades ago was discovered to regulate blood pressure, Snyder said.

More information

The American Heart Association has more about high blood pressure.

Tags: stress | research | high blood pressure | genetics | biology | safety

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minutes (adult dose). Obtain methemoglobin level 30 minutes after administration of antidote.

- Patients with persistent neurologic findings should be considered for hyperbaric oxygen therapy (HBO). Anecdotal reports indicate a salutary effect.

Consultations

Consultation with the local hyperbaric chamber facility may be necessary for patients who are unresponsive to nitrites.

Medication

Treatment of hydrogen sulfide (H_2S) poisoning is based on the creation of methemoglobinemia.

Nitrites

Nitrite administration leads to formation of methemoglobinemia. H_2S has a much greater affinity for methemoglobin than for cellular cytochromes, leading to lower metabolic toxicity.

Sodium nitrite

Initial DOC in hydrogen sulfide poisoning.

Dosing

Adult

0.33 mL/kg of 3% solution slow IV push (2.5-5 mL/min) to maximum 10 mL

Pediatric

Administer as in adults

Interactions

Methylene blue counteracts methemoglobin formation

Contraindications

Documented hypersensitivity

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

May produce hypotension when administered intravenously in large doses or rapidly; high methemoglobin levels may exacerbate ischemia in patients with poor underlying cardiopulmonary reserve as they decrease oxygen-carrying capacity; adjust dose in severe anemia as outlined in package insert

Bronchodilators

These agents are effective in reversing acute bronchospasm of allergic or irritant origin through combined alpha-adrenergic and beta-adrenergic agonist action.

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An additional option in the management of persistent bronchospasm involves anticholinergics. These agents block action of acetylcholine at parasympathetic sites in bronchial smooth muscle, causing bronchodilation.

Albuterol sulfate (Ventolin, Proventil)

Beta agonist useful in treatment of bronchospasm refractory to epinephrine. Relaxes bronchial smooth muscle by acting on beta2 receptors with little effect on heart rate.

Dosing

Adult

2-4 mg/dose PO divided tid/qid; not to exceed 32 mg/d
Inhalant: 1-2 inhalations q4-6h; not to exceed 12 inhalations/d
Nebulizer: 0.5 mL (2.5 mg) of the 0.5% inhalation solution diluted in 1-2.5 mL of normal saline q4-6h; higher frequency may be used for intensive care patients

Pediatric

<2 years: Not established
2-6 years: 0.1-0.2 mg/kg/dose PO divided tid; not to exceed 12 mg/d
6-12 years: 2 mg/dose PO divided tid/qid; not to exceed 24 mg/d
>12 years: Administer as in adults
Inhalant dose for <12 years: Using a tube spacer, give 1-2 inhalations qid
Inhalant dose for >12 years: Administer as in adults
Nebulizer dose for <5 years: 0.25-0.5 mL (1.25-2.5 mg) of the 0.5% inhalation solution diluted in 1-2.5 mL of normal saline q4-6h in equally divided doses
Nebulizer dose for >5 years: Administer as in adults

Interactions

Beta-adrenergic blockers antagonize effects; inhaled ipratropium may increase duration of bronchodilatation by albuterol; cardiovascular effects may increase with MAOIs, inhaled anesthetics, tricyclic antidepressants, and sympathomimetic agents

Contraindications

Documented hypersensitivity

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Caution in hyperthyroidism, diabetes mellitus, and cardiovascular disorders

Follow-up

Further Inpatient Care

- Admit the patient to the ICU for any significant exposure (ie, other than chronic low-level exposure with mucous

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membrane irritation).

- Consider hyperbaric oxygen for patients who are unresponsive to intravenous nitrites or who have delayed neurologic sequelae.
- Perform a secondary survey to rule out traumatic injuries (7% of victims).
- If possible, consult with or admit the patient to a medical toxicologist.

Transfer

- Transfer the patient if hyperbaric treatment is required but unavailable at the present facility.

Complications

- Acute respiratory distress syndrome
- Acute myocardial infarction
- Delayed neuropsychiatric sequelae

Prognosis

- Occurrence of long-term neurologic sequelae from hydrogen sulfide exposure is unknown but appears to be linked to longer sublethal exposures.
- Paradoxically, high-concentration exposures of hydrogen sulfide may have no long-term effects.

Miscellaneous

Medicolegal Pitfalls

- Failure to establish the correct diagnosis and provide 100% oxygen
- Failure to protect oneself while entering exposed area during the rescue effort (SCBA protective equipment)
- Failure to provide trauma assessment and immobilization of unresponsive victims
- Failure to correct acidosis and hypovolemia
- Failure to institute antidote therapy in severely ill patients and to transport them to the HBO treatment

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Keywords

hydrogen sulfide toxicity, hydrogen sulfide exposure, hydrogen sulfide poisoning, rotten egg odor, H_2 S toxicity, H_2 S poisoning, H_2 S, inhalation of hydrogen sulfide

Contributor Information and Disclosures

Author

Sujal Mandavia, MD, FRCP(C), FACEP, Clinical Assistant Professor of Emergency Medicine, USC, Department of Emergency Medicine, Cedars-Sinai Medical Center, Los Angeles County-University of Southern California Medical Center
Sujal Mandavia, MD, FRCP(C), FACEP is a member of the following medical societies: Alpha Omega Alpha, American Academy of Emergency Medicine, and American College of Emergency Physicians
Disclosure: Nothing to disclose.

Medical Editor

David C Lee, MD, Research Director, Department of Emergency Medicine, Associate Professor, North Shore University Hospital and New York University Medical School
David C Lee, MD is a member of the following medical societies: American Academy of Emergency Medicine,

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American College of Emergency Physicians, American College of Medical Toxicology, and Society for Academic Emergency Medicine
Disclosure: Nothing to disclose.

Pharmacy Editor

John T VanDeVoort, PharmD, Regional Director of Pharmacy, Sacred Heart & St. Joseph's Hospitals
John T VanDeVoort, PharmD is a member of the following medical societies: American Society of Health-System Pharmacists
Disclosure: Nothing to disclose.

Managing Editor

John G Benitez, MD, MPH, FACMT, FACPM, FAAEM, Associate Professor, Department of Medicine, Clinical Pharmacology Division, Vanderbilt University; Managing Director, Tennessee Poison Center
John G Benitez, MD, MPH, FACMT, FACPM, FAAEM is a member of the following medical societies: American Academy of Emergency Medicine, American College of Medical Toxicology, American College of Preventive Medicine, Society for Academic Emergency Medicine, Undersea and Hyperbaric Medical Society, and Wilderness Medical Society
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John D Halamka, MD, MS is a member of the following medical societies: American College of Emergency Physicians, American Medical Informatics Association, Phi Beta Kappa, and Society for Academic Emergency Medicine
Disclosure: Nothing to disclose.

Chief Editor

Asim Tarabar, MD, Assistant Professor, Department of Surgery, Section of Emergency Medicine, Yale University School of Medicine; Consulting Staff, Department of Emergency Medicine, Yale-New Haven Hospital
Disclosure: Nothing to disclose.

Further Reading

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U.S. Department of Labor

Occupational Safety & Health Administration
Houston South Area Office
17625 El Camino Real Suite 400
Houston, Texas 77058
281/286-0583 Fax:281/286-6352

23 December 2008

Mr. Karl Guidry
HSE Manager
2420 South Gulfway Dr.
Port Arthur, TX 77640

SUBJECT: OSHA DOCUMENT REQUEST #1
INSPECTION NUMBER 311960975

Dear Mr. Guidry:

In order to facilitate the inspection, following documents in Attachment A are being requested by OSHA.

Please provide the documents by **29 December 2008**. Note that items already received have the date they were received. Should you have any questions, please contact our office at (281) 286-0583. Thank you for your time and cooperation in this matter.

Sincerely,

Mark R. Briggs
Area Director HSAO

OSHA- DOCUMENT REQUEST #1
COMPANY: Goodyear Tire & Rubber Houston Chemical Plant
INSPECTION #: 311957161
REQUESTED DATE: 17 June 2008

ATTACHMENT A

Item	Description	Date received
1	Injury & Illness logs (OSHA 300& 300A) for the past 3 years	22 Dec 08
2	Bill of ladings for the last 11 loads of SIB received	19 Dec 08
3	List of all employees	23 Dec 08
4	MSDS for sulfurized isobutylene	19 Dec 08
5	Copy of placard on the truck involved with the 18 December 2008 incident	19 Dec 08
6	List of witnesses of the 18 December 2008 incident	
7	Copy of the coroners report	

U.S. Department of Labor

Occupational Safety & Health Administration
Houston South Area Office
17625 El Camino Real Suite 400
Houston, Texas 77058
281/286-0583 Fax:281/286-6352

23 December 2008

Mr. Karl Guidry
HSE Manager
4904 Griggs Road
Houston, TX 77021

SUBJECT: OSHA DOCUMENT REQUEST #**1**
INSPECTION NUMBER 311960942

Dear Mr. Guidry:

In order to facilitate the inspection, following documents in Attachment A are being requested by OSHA.

Please provide the documents by **29 December 2008**. Note that items already received have the date they were received. Should you have any questions, please contact our office at (281) 286-0583. Thank you for your time and cooperation in this matter.

Sincerely,

Mark R. Briggs
Area Director HSAO

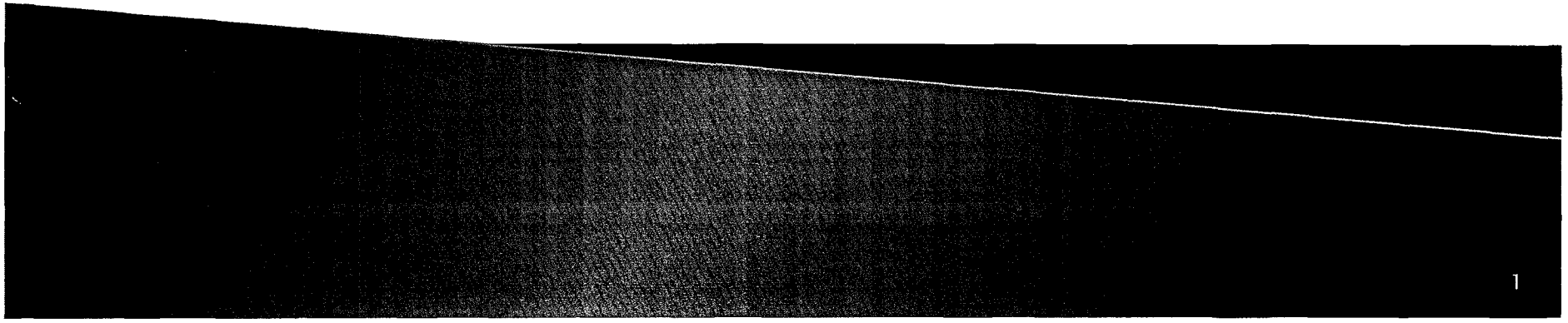
OSHA- DOCUMENT REQUEST #1
COMPANY: Goodyear Tire & Rubber Houston Chemical Plant
INSPECTION #: 311957161
REQUESTED DATE: 17 June 2008

ATTACHMENT A

Item	Description	Date received
1	Injury & Illness logs (OSHA 300& 300A) for the past 3 years	17 Dec 08
2	Incident report for the rupture on 6 December 2008	17 Dec 08
3	Piping and instrumentation drawings (P&ID) for the oxidizer	17 Dec 08
4	Chemical stream component information	17 Dec 08
5	Procedure(s) used for the activities on 16 December 2008 in and around the oxidizer unit.	
6	Detailed piping and instrumentation drawings for the "oil recycling unit" including all emission controls	
7	Listing of all employees and their job titles and area they work	

Executive Summary

CES Environmental Services
Oil Re-refinery



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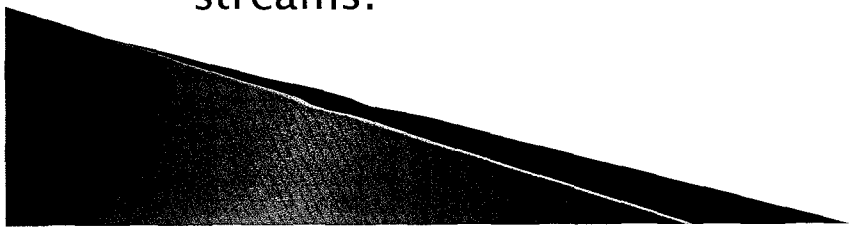
Company Background

CES Environmental Services, Inc. was founded by Matt Bowman in January 1999 with three people and a goal to provide excellent service and competitive pricing in the environmental services industry. CES has grown to 155 employees and expanded the scope of business to include logistics, recycling and chemical manufacturing.

CES currently offers a broad range of environmental services and recycling/manufacturing capabilities with a high level of vertical integration. These capabilities coupled with our dedication to customer service have driven explosive growth (Sales - 2006: $ 17 million; 2007: $ 29 million; 2008: $ 35 million). A company flier is attached.

The hydrocarbon recycling segment of the company has been in operation since 2005 and focuses on recovering base oil, black oil, and light ends (gas, diesel, and solvents) from various waste oil and organic waste streams.



EPAHO120000290

Oil Remanufacturing Project

CES is building a plant to recover useable, clean lubricating oils and diesel fuel from dirty, used crankcase oils, hydraulic oils, mist oils, and other contaminated oil streams. The process remanufactures oil and diesel through a vacuum enhanced distillation process.

To reduce cost, the system is engineered to incorporate reconditioned components where available. New and/or specially manufactured components are used where reconditioned parts are not available.

In order to leverage existing infrastructure, the process is located at our Houston facility located at 4904 Griggs Road, Houston TX 77021. The infrastructure at the Griggs Road location includes Gas/Electrical/Sewer supply, commercial wastewater treatment facility, tank farms, tank wash facility, and transportation hub.

CES will use existing market networks to purchase feedstock and sell the final product. The budget for the project estimates purchase of feedstock for $ 2.00 per gallon while the resulting base oil product is estimated to sell for $ 4.5 per gallon. The target capacity of the plant is 30,000 gallons of raw feed per day. EBITDA projections for the first year (including a 6 month start-up and maximum capacity of 80%) are $ 6.5 million. P&L projections are attached.

EPAHO120000291

Lube Oil Market Overview
The Perfect Storm

- Record crude oil prices
  - Demand Up (China/India)
  - Supply down - aging infrastructure worldwide
  - Soft dollar - speculation as commodities used as hedge
- Record high prices for Gasoline and Diesel
  - It cost extra $ 0.30 per gallon to produce lube oil
  - Margins are better for gasoline and diesel
- Reduced production capacity
  - Capacity converted to higher margin products
  - Declining margin for lube oil (crude price up faster than base oil price)

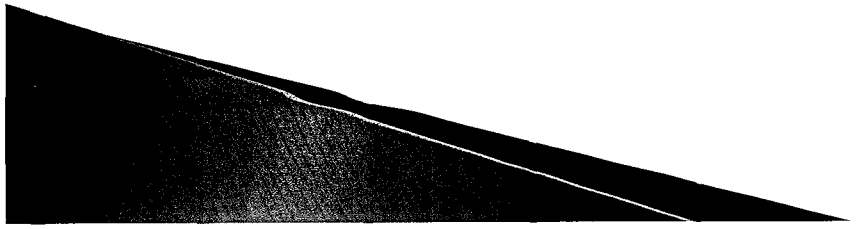
- Stable Market influences above indicate a favorable pricing market for CES Lube Oil products for the foreseeable future.

EPAHO120000292

Partial Supplier List (Feedstock)

Company	Approximate Volume (gallons)
Flex	210,000
Arrow	150,000
O'Rourke Petroleum	390,000
Intergulf Fuels	100,000
Gulf Coast Oil Recovery	60,000
CES	100,000
Atlantic Industrial	200,000
Thermal Fluids	250,000
Total	**1,460,000**

CES Requirements: 864,000 per month



EPAHO12000293

Purchasers of Oil from process

Cross Oil, Smackover AR

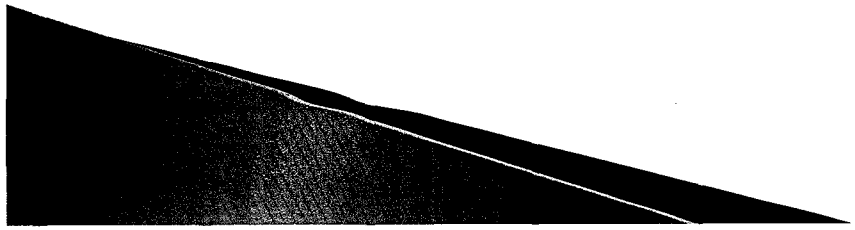
Smitty Supply, Rosedale, LA

East Coast Oils, Lake Charles, LA

Homan, Chicago, IL

Bass Oil Company, Inc., Brooklyn, NY

Warren, San Antonio, TX

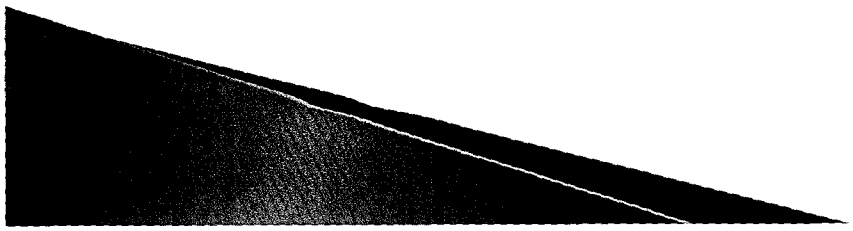


EPAHO12000294

Current Status

The project is substantially underway and scheduled to become operational in January or February 2009. Most of the major processing vessels and process controls are ready for installation or scheduled for delivery within the next 3 months. The structural framework is manufactured and ready for installation. Expected total cost of the project is $ 3.5 million.

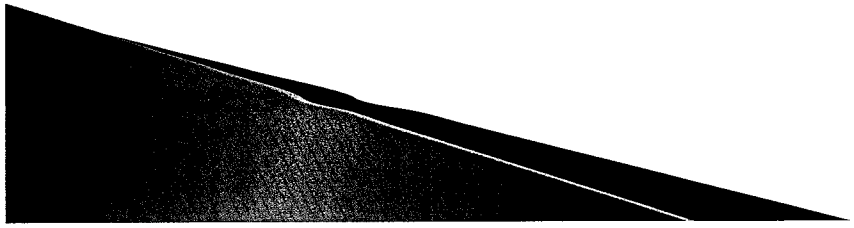
We seek to raise an additional $ 1.5 million to complete the construction, installation and start up of the facility.



EPAHO12000295

Use of Funds

PLC Process controls	$ 100,000
Fabrication of structural framework	$ 210,000
Fabrication of process vessel piping	$ 150,000
Engineering services	$ 50,000
Fabrication of Heat exchanger	$ 90,000
Erection of structural framework	$ 100,000
Upgrades to oil filter system	$ 50,000
Vacuum system	$ 200,000
Processing Vessels	$ 200,000
Electrical	$ 200,000
Piping	$ 150,000



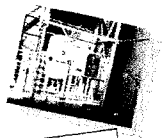
EPAHO120000296

Exhibit 1a

Oil Facility

The CES Oil Facility recovers light ends from water and recycles used oil.

CES utilizes vacuum distillation and centrifuge equipment to eliminate impurities and to reduce the water content of the processed oil to the ppm level.



Transportation and Containers

To effectively service its Customers , CES maintains the following fleet/equipment:

- **32 tractors**
- **10 vacuum trailers**
- **10 box vans**
- **40 tank trailers**
- **6 roll off trailers**
- **3 flatbeds**
- **3 air machines**
- **hazardous box vans**
- **vacuum boxes**
- **frac tanks**
- **roll-off boxes**
- **totes and drums**
- **3 barges servicing the Gulf Coast Region**

By maintaining and managing its own fleet, CES has a huge customer service and cost advantage over the competition.

Expansion Programs

A re-refining facility is currently under construction that will give CES the ability to produce base oil quality lubricants.

CES is establishing a subsidiary branch in Qatar to further expand our international business.

CES can also take Hazardous Wastewater with its new permit modification.

Additional upgrades to the existing equipment will expand sales and profits for recycling and disposal.

CONTACT US...

CES Environmental Services, Inc.
4904 Griggs Road
Houston , TX 77021

713-676-1460
www.cesenvironmental.com

Director of Sales and Marketing:	Gary Lenertz
International Sales:	Ramiz Tafilaj
Special Projects Manager:	Clark Hickman
Sales Representatives:	Joy Baker Dan Bowman Gary Brauckman Dana Carter
Customer Service/Inside Sales:	Kim Harmon Al Longoria Morgan McCarley

CES Environmental Services, Inc.

4904 Griggs Rd., Houston, TX 77021 713-676-1460

The primary goal of CES is to provide customers with compliant, safe, and cost-effective solutions to their hazardous and non-hazardous waste disposal and recycling needs.

CUSTOMER FOCUSED -
CES offers comprehensive, practical solutions for customer needs.

VERTICALLY INTEGRATED SERVICE LINES -
CES provides turnkey services to optimize efficiency and minimize costs.

OPERATIONAL FLEXIBILITY -
CES accommodates the needs of large and small customers

KNOWLEDGE OF WASTE MARKET -
CES offers flexible disposal alternatives and lower costs to customer.

INNOVATIVE RECYLCING ALTERNATIVES -
CES offers compliant waste minimization and recycling alternatives to lower cost for customers.

AGGIE 100

www.cesenvironmental.com

EPAHO120000297

Exhibit 1b

History

CES Environmental Services, Inc. was established in January of 1999 with a goal to provide excellent service and competitive pricing in the environmental services industry. CES has grown significantly over the last 9 years while maintaining that same goal.

CES offers a broad range of services with a high level of vertical integration. These services, coupled with our dedication to customer service, drive our explosive growth. Annual revenues are over $30 million and growing.

Field Services

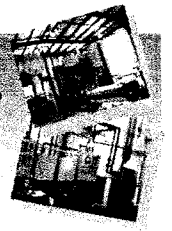
- Tank, Pit and Sump Cleaning
- Vessel and Tower Cleaning
- Pressure Washing
- Remediation
- Chemical Cleaning
- Hydroblasting Services
- On-site Waste Treatment
- Separation Operations (Centrifuge)
- Waste Sampling, Testing and Analysis
- Air Machine Services
- Pond Cleaning
- Hydro Excavation
- Jet Rodder Services
- De-watering Operations

Tank Wash

On-site tank and container wash facility provides in-house and commercial tank and container wash services with:

- Five independent wash stations
- Steam heating and temperature monitoring
- Hot/cold water and caustic wash
- High pressure water systems
- Filtered air drying system for tank interiors

Main Facility



CES built an industrial wastewater pre-treatment plant to process, treat and dispose of non-hazardous and hazardous wastewater.

The filter presses remove solids from waste streams for economical bulk disposal. This type of equipment is also used to remove solids from products to meet customer specifications.

CES is a permitted transfer station for hazardous drums before they are shipped to the appropriate disposal facility in bulk.

Drums are emptied for bulk disposal and shredded or washed and recycled.

CES has two distillation units and a reverse osmosis unit for processing products and waste. These units have scrubbers/ vapory recovery systems in place to contain or eliminate odors in accordance with our Good Neighbor Policy.

Products

CES currently recycles/recovers/processes a growing list of materials:

- Acetic Acid
- Methylene chloride
- Ethylene glycol
- Caustics
- Methanol
- Mixed Alcohols
- Inorganic Acids
- Bleach
- Polystyrene
- Base Oil
- Used Oil
- Commercial Fuel
- Viscosity improvers
- Other various hydrocarbons

This segment of business has been growing rapidly as CES is in a unique position to meet both generator and consumer needs with our processing, recovery and transportation capabilities.

Quality Control

The processing facility lab analyzes wastewater prior to discharge to ensure compliance with city, state and federal regulations.

The processing facility lab provides treatability analysis for research and development purposes as well as analysis to certify that outgoing products meet or exceed customer specifications.

By combining experience with treatability analysis, CES continues to find ways to save customers money while reducing the amount of hazardous waste disposed of in the environment.

EPAHO120000298

Exhibit 2

Project P&L Oil Rerefinery (first year)

Operating capacity	10%	22%	34%	49%	64%	79%	80%	80%	80%	80%	80%	80%	
Month	1/1/2009	2/1/2009	3/1/2009	4/1/2009	5/1/2009	6/1/2009	7/1/2009	8/1/2009	9/1/2009	10/1/2009	11/1/2009	12/1/2009	
Sales	**$ 260,100**	**$ 572,220**	**$ 884,340**	**$ 1,274,490**	**$ 1,664,640**	**$ 2,054,790**	**$ 2,080,800**	**$ 2,080,800**	**$ 2,080,800**	**$ 2,080,800**	**$ 2,080,800**	**$ 2,080,800**	**$ 19,195,380**
Feedstock	136,800	300,960	465,120	670,320	875,520	1,080,720	1,094,400	1,094,400	1,094,400	1,094,400	1,094,400	1,094,400	
Wasterwater Disposal at CES	180	396	612	882	1,152	1,422	1,440	1,440	1,440	1,440	1,440	1,440	
Direct Labor :	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	63,750	
Electrical	6,525	14,355	22,185	31,973	41,760	51,548	52,200	52,200	52,200	52,200	52,200	52,200	
Polishing Solvent	167	367	567	817	1,067	1,317	1,333	1,333	1,333	1,333	1,333	1,333	
Natural Gas	8,100	17,820	27,540	39,690	51,840	63,990	64,800	64,800	64,800	64,800	64,800	64,800	
Cooling water	1,200	2,640	4,080	5,880	7,680	9,480	9,600	9,600	9,600	9,600	9,600	9,600	
Sulfuric Acid	140	308	476	686	896	1,106	1,120	1,120	1,120	1,120	1,120	1,120	
Emulsion Breaker 600 gal/mo	720	1,584	2,448	3,528	4,608	5,688	5,760	5,760	5,760	5,760	5,760	5,760	
Safety Supplies	100	220	340	490	640	790	800	800	800	800	800	800	
Lab Supplies	400	880	1,360	1,960	2,560	3,160	3,200	3,200	3,200	3,200	3,200	3,200	
Total Direct	**$ 218,082**	**$ 403,280**	**$ 588,478**	**$ 819,975**	**$ 1,051,473**	**$ 1,282,970**	**$ 1,298,403**	**$ 1,298,403**	**$ 1,298,403**	**$ 1,298,403**	**$ 1,298,403**	**$ 1,298,403**	**$ 12,154,677**
Maintenance parts	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	
SGA	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	16,135	
Total Indirect	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 41,135**	**$ 493,620**
EBITDA	**$ 883**	**$ 127,805**	**$ 254,727**	**$ 413,380**	**$ 572,032**	**$ 730,685**	**$ 741,262**	**$ 741,262**	**$ 741,262**	**$ 741,262**	**$ 741,262**	**$ 741,262**	**$ 6,547,083**

EPAHO120000299

AIG Domestic Claims, Inc.
P & C Severity Claims
PIP Claims Department
101 Hudson Street, 29th Floor
Jersey City, New Jersey 07302
Phone: 201-631-7124
e-mail: Pamela.Redd@aig.com

January 15, 2009

Greg Bowman
CES Environmental Services
4904 Griggs Rd.
Houston, TX 77021

Dear Mr. Bowman:

This will acknowledge receipt of your claim regarding the following:

Insured:	**CES Environmental Services, Inc.**
Site:	**4904 Griggs Rd.**
Location:	**Houston, TX**
Policy:	**PROP 1065907**
Claim#:	**182-101993**

Please note that I will be handling your claim. I can be contacted via telephone at (201) 631-7124. I can also be contacted via facsimile at (201) 631-5007. My manager is Margaret Utzinger and she can be contacted at (201) 631-7344.

Should you have any questions regarding this claim, please feel free to contact this office.

Very truly yours,

Pamela Redd

Pamela Redd
Analyst
PIP Claims Department

cc: William Houstown
Insurance Alliance
1776 Yorktown, #200
Houston, TX 77056

Domestic Claims, Inc.
P&C Severity Claims
Claims Intake & Assignment Department
101 Hudson Street, 31st Floor
Jersey City, New Jersey 07302
Tel: 201-631-7156
Fax: 866-393-5260
e-mail: diana.cantin@aig.com

VIA FAX: (713) 676-1676

January 21st, 2009

Mr. Greg Bowman
CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX

Re:		
	Insured:	CES Environmental Services, Inc.
	Claimant:	City of Houston
	Site:	Houston, TX
	Claim No.:	182-102139
	Policy No:	1066007

Dear Mr. Bowman:

Please be advised that AIG Domestic Claims, Inc. ("AIGDC") is the authorized claims agent for certain member insurance companies of the American International Companies®. This letter will confirm receipt of your communication, dated January 14, 2009. AIGDC will commence its investigation of this matter and will advise you of any need for additional information.

If you require, or wish to provide, any additional information, you may contact me at the address and telephone number indicated above. Please use the claim number in connection with all future communications with us.

Please be advised that all first notices of loss involving, environmental, pollution insurance, healthcare, excess workers' compensation and toxic tort claims should be reported using the email address, severityfnol@aig.com or using the EZ link fax number, 866-260-0104. Regular mail can be sent to AIGDC CID Department 101 Hudson Street, 31st Floor Jersey City, NJ 07302.

Very truly yours,

Diana Cantin

Services Provided by Members of
American International Group, Inc.

ENDORSEMENT NO. 11

This endorsement, effective 12:01 AM: October 31, 2008

Forms a part of policy no.: PLS 5635029

Issued to: CES ENVIRONMENTAL SERVICES, INC.

By: AMERICAN INTERNATIONAL SPECIALTY LINES INS. CO.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Coverages, Limits and deductible amendment ENDORSEMENT

In consideration of additional premium of $4,503 and additional Surplus Lines Tax $218.40 and additional Stamping Fee of $2.70, it is hereby agreed that Item 3. of the Declarations is deleted in its entirety and replaced with the following:

Item 3. COVERAGES AND COVERAGE SECTION LIMITS AND DEDUCTIBLES:

This Policy includes only those Coverages as stated in Section I of the Policy for which deductibles and limits of liability appear below. If no deductible or limits of liability appears for Coverage, that Coverage does not apply.

Coverage	Deductible-Each Incident	Each Incident Limit	Coverage Section Aggregate Limit
A	NOT PURCHASED	NOT PURCHASED	NOT PURCHASED
B	NOT PURCHASED	NOT PURCHASED	NOT PURCHASED
C	$25,000	$10,000,000	$10,000,000
D	$25,000	$10,000,000	$10,000,000
E	$25,000	$10,000,000	$10,000,000
F	$25,000	$10,000,000	$10,000,000
G	NOT PURCHASED	NOT PURCHASED	NOT PURCHASED
H	NOT PURCHASED	NOT PURCHASED	NOT PURCHASED
I	$25,000	$10,000,000	$10,000,000

Coverage	Business Interruption (Days) Limit	Business Interruption ($) Limit
J	NOT PURCHASED	NOT PURCHASED

It is further agreed that Item 4. of the Declarations is deleted in its entirety and replaced with the following:

Item 4.POLICY AGGREGATE LIMIT: $ $10,000,000

All other terms, conditions and exclusions remain the same.

Authorized Representative
or countersignature (where required by law)

FORMS SCHEDULE

Named Insured: CES ENVIRONMENTAL SERVICES, INC.

Policy Number: PLS 5635029
Effective 12:01 AM: October 31, 2008

End't. No.	Form Name	Form Number/ Edition Date
11	Coverages, Limits and Deductible Amendment Endorse	MNSCPT (01/09)

CIFMSC
CI0226

AIG Domestic Claims, Inc.
P & C Severity Claims
PIP Claims Department
101 Hudson Street, 29th Floor
Jersey City, New Jersey 07302
Phone: 201-631-7124
e-mail: Pamela.Redd@aig.com

January 14, 2009

Greg Bowman
CES Environmental Services
4904 Griggs Rd.
Houston, TX 77021

Dear Mr. Bowman:

This will acknowledge receipt of your claim regarding the following:

Insured:	**CES Environmental**
Site:	**4904 Griggs Rd.**
Location:	**Houston, TX**
Policy:	**PLS 5635029**
Claim#:	**182-101988**

Please note that I will be handling your claim. I can be contacted via telephone at (201) 631-7124. I can also be contacted via facsimile at (201) 631-5007. My manager is Margaret Utzinger and she can be contacted at (201) 631-7344.

Should you have any questions regarding this claim, please feel free to contact this office.

Very truly yours,

Pamela Redd

Pamela Redd
Analyst
PIP Claims Department

cc: William Houstown
Insurance Alliance
1776 Yorktown, #200
Houston, TX 77056

AIG Domestic Claims, Inc.
P & C Severity Claims
PIP Claims Department
101 Hudson Street, 29th Floor
Jersey City, New Jersey 07302
Phone: 201-631-7124
e-mail: pamela.redd@aig.com

CERTIFIED RETURN RECEIPT REQUESTED

January 21, 2009

Greg Bowman
CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021

RE:	**Insured:**	**CES Environmental Services, Inc.**
	Site:	**4904 Griggs Rd.**
	Location:	**Houston, TX**
	Suit:	***Calhoun / Holiday Place, Inc. v. MatthewLawrence Bowman & CES Environmental Services, Inc.***
	AISLIC Policy:	**PLS 5635029 (eff. 1/15/08 to 1/25/09)**
	Coverages Purchased:	**C,D,E,F,I**
	Claim No.:	**182-101988**
	AISLIC Policy:	**PROP 1065907**
	Claim No.	**182-101993**

Dear Mr. Bowman:

AIG Domestic Claims, Inc. ("AIGDC") is the authorized representative of American International Specialty Lines Insurance Company ("AISLIC"). This office previously acknowledged receipt of the notice of claim tendered on behalf of the Insured via letters dated January 12 and 13, 2009. Please be advised that I have attempted to contact you regarding this matter on January 14, 16 and 21, 2009 to no avail. It is my understanding through your broker, Insurance Alliance, that a suit has been filed in this matter. A copy of which was received on January 20, 2009. Accordingly, it is extremely important that you contact me immediately to discuss this matter at the above number.

AIGDC submits this letter reserving all of its rights and defenses in every respect under the terms, conditions and provisions of the above-referenced policy, and any other

policies CES Environmental Services may identify, as well as all rights and defenses that may be available in law and in equity. This letter refers only to AISLIC policy PLS 5635029 and PROP 165907 and does not in any way address any other policy issued by any other insurance company. Any action taken by AIGDC shall not constitute an admission of liability or an admission of coverage and should not be deemed a waiver of any right to disclaim liability or coverage. AIGDC specifically reserves the right to amend or modify our coverage decision and to assert a defense to coverage based on any term, condition, provision or exclusion of the policies issued to CES Environmental Services, Inc.

Sincerely,

Pamela Redd
Claims Analyst
Pollution Insurance Products Claims

Cc: Chad Bingaman
Insurance Alliance
1776 Yorktown St.
Suite 200
Houston, TX 77056-4142

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL™

AIG

AIG Commercial Insurance
P&C Severity Claims - PIP Regional
101 Hudson Street, 29th Floor
Jersey City, NJ 07302

RETURN SERVICE REQUESTED

7008 1300 0000 872[illegible]

UNITED STATES POSTAGE
PITNEY BOWES
02 1M
0004226360
$ 05.32⁰
JAN 21 2009
MAILED FROM ZIP CODE 07302

Greg Bowman
CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021

77021$3208 C021

EPAHO12000307

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

January 23, 2009

BY FACSIMILE & FEDERAL EXPRESS

Manager, Pollution Insurance Products Unit
AIG Technical Services, Inc.
Environmental Claims Department / PIP Claims Department
101 Hudson Street, 31st Floor
Jersey City, NJ 07302
(201) 631-5051 (facsimile)
(866) 947-1377 (facsimile, alternate)

Re: *Jones, Jr. et al. v. CES Environmental Services, Inc.*,
Harris County (Texas) District Court, Cause No. 2009-03493

To Whom It May Concern:

The purpose of this letter is to notify AIG Technical Services that CES Environmental Services, Inc. ("CES") has received notice that the attached complaint has been filed in the above-referenced action ("the *Jones* action"), and to request defense and indemnity coverage for the *Jones* action pursuant to the following policies issued by American Surplus Lines Insurance Company ("AISLIC"): AISLIC Policy PROP 1065907, with a policy period of January, 25, 2008 to January 25, 2009; AISLIC Policy PROU 1066007, with a policy period of January, 25, 2008 to January 25, 2009; and AISLIC Policy PLS 5635029, with a policy period of January, 25, 2008 to January 25, 2009.[1]

The *Jones* Petition alleges, *inter alia*, that CES's normal business operations have caused property damage and interfered with Plaintiffs' rights and enjoyment of their respective properties. The *Jones* Petition seeks, *inter alia*, an award for the alleged property damages, as well as medical monitoring damages related to the alleged impacts arising from CES's operations. CES is taking all necessary steps to protect itself from liability in the *Jones* action.

Given the need to take immediate steps to protect CES's interests, it is imperative that AISLIC provide a prompt response to this letter. Thank you in advance for your attention to this important matter.

Sincerely,

Greg Bowman

Vice President Finance and Administration
CES Environmental Services

Enclosure

---

[1] We request that AISLIC review all of the policies issued to CES and promptly inform us if additional policies may be applicable to this matter.

AIG ENVIRONMENTAL

NOTICE OF LOSS/NOTICE OF CLAIM

INSTRUCTIONS: PLEASE ATTACH ALL CORRESPONDENCE RELATING TO THIS NOTICE OF LOSS AND MAIL COPIES OF THIS NOTICE TO EACH ADDRESS BELOW:

Manager, Pollution Insurance Products Unit
AIG Domestic Claims, Inc.
PIP Claims Department
101 Hudson Street, 31st Floor
Jersey City, NJ 07302
Fax Number: 866-947-1377
Email: PIPCLAIMS.reporting@aig.com

Date of Notice: 1/23/09

NAMED INSURED: CES ENVIRONMENTAL SERVICES, INC.

Telephone: ( ) 713.676.1460
Contact: Greg Bowman
VP Finance & Admin.

ADDRESS OF INSURED: 4904 GRIGGS RD
HOUSTON, TX 77021-3208

BROKER NAME: INSURANCE ALLIANCE

Telephone: ( ) 713.966.1784
Contact: Will Houstoun

ADDRESS OF BROKER: 1776 YORKTOWN ST
STE 200
HOUSTON, TX 77056-4142

POLICY INFORMATION:

Policy Number: PLS 5635029
Policy Period: From: January 25, 2008 To: January 25, 2009

Loss Information:

Loss Location: SEE ATTACHED CORRESPONDENCE

Date and Description Of Loss: SEE ATTACHED CORRESPONDENCE

For AIG Use Only:
Date Claim Notice Received: _____
Date of Claim: _____

Company/Person Filing Suit (if applicable): _____

NOTE: Any person who knowingly files a Statement of Claim containing any false or misleading information is subject to criminal and civil penalties.

91968 (12/06)
CI2940

INSURED'S COPY

EPAHO120000309

Filed
09 January 19 P6:05
Loren Jackson
District Clerk
Harris District

2009-03493

CAUSE NO. _____

CHARLES C. JONES, JR., DAVID L. ANDERSON, RAYFIELD BELL, FELITA WIGGINS, RODNEY HAROLD, ROGER LOINGS, RUBY JONES, ALICIA DAVIS, PAMELA BEVEL, SHALAMA REEVES, TYRONE SBELL LAM, IDA AUGUST, DALFRED GREEN, LAURA GREEN, JASON WILLIAMS, JOSE SOLIS, JUDY MARIE JONES, BETTY RILEY, WILBERT RILEY, CARLA WOMACK, MARY L. WOODARD, JACQUELINE DELMORE, CARLYLE WOODARD, JR., CARLYLE CATRESS WOODARD, III, TERRENCE TERRELL WOODARD, TREVION LEE, LARRY DOTREY, STEPHEN CARR, KENNETH FISHER, MATTIE JONES, LOUISE GARRETT, DANNIE GREEN, MARY JORDAN, DEBRA LEWIS, LEE DIXON, THELDA LEWIS, DEAN MURRELL, and CYNTHIA HAMMETT,	§	IN THE DISTRICT COURT OF
Plaintiffs,	§	
v.	§	
CES ENVIRONMENTAL SERVICES, INC.,	§	
Defendant.	§	HARRIS COUNTY, TEXAS
	§	61 JUDICIAL DISTRICT

PLAINTIFFS' ORIGINAL PETITION, REQUEST FOR CLASS CERTIFICATION, AND REQUEST FOR JURY DEMAND

TO THE HONORABLE JUDGE OF SAID COURT:

Charles C. Jones, Jr., David L. Anderson, Rayfield Bell, Felita Wiggins, Rodney Harold, Roger Loings, Ruby Jones, Alicia Davis, Pamela Bevel, Shalama Reeves, Tyrone Sbell Lam, Ida August, Dalfred Green, Laura Green, Jason Williams, Jose Solis, Judy

[redacted]

Marie Jones, Betty Riley, Wilbert Riley, Carla Womack, Mary L. Woodard, Jacqueline Delmore, Carlyle Woodard, Jr., Carlyle Catress Woodard, III, Terrence Terrell Woodard, Trovion Lee, Larry Dotrey, Stephen Carr, Kenneth Fisher, Mattie Jones, Louise Garrett, Dannie Green, Mary Jordan, Debra Lewis, Lee Dixon, Thelda Lewis, Dean Murrell and Cynthia Hammett (collectively, "Plaintiffs") sue CES Environmental Services, Inc. ("CES") and for causes of action show the following:

I.
DISCOVERY PLAN

1.1. Pursuant to TEX. R. CIV. P. 190.1, Plaintiffs intend that discovery be conducted as a Level III suit. Plaintiffs request that discovery be conducted according to a discovery control plan tailored to the circumstances of this specific case pursuant to TEX. R. CIV. P. 190.4(a).

II.
PARTIES

2.1. Plaintiff Charles C. Jones, Jr. is an individual who resides in Harris County, Texas.

2.2. Plaintiff David L. Anderson is an individual who resides in Harris County, Texas.

2.3. Plaintiff Rayfield Bell is an individual who resides in Harris County, Texas.

2.4. Plaintiff Felita Wiggins is an individual who resides in Harris County, Texas.

2.5. Plaintiff Rodney Harold is an individual who resides in Harris County, Texas.

2.6. Plaintiff Ruby Jones is an individual who resides in Harris County, Texas.

2.7. Plaintiff Alicia Davis is an individual who resides in Harris County, Texas.

EPAHO120000311

2.8. Plaintiff Pamela Bevel is an individual who resides in Harris County, Texas.

2.9. Plaintiff Shalama Reeves is an individual who resides in Harris County, Texas.

2.10. Plaintiff Tyrone Sbell Lam is an individual who resides in Harris County, Texas.

2.11. Plaintiff Ida August is an individual who resides in Harris County, Texas.

2.12. Plaintiff Dalfred Green is an individual who resides in Harris County, Texas.

2.13. Plaintiff Laura Green is an individual who resides in Harris County, Texas.

2.14. Plaintiff Jason Williams is an individual who resides in Harris County, Texas.

2.15. Plaintiff Jose Solis is an individual who resides in Harris County, Texas.

2.16. Plaintiff Judy Marie Jones is an individual who resides in Harris County, Texas.

2.17. Plaintiff Betty Riley is an individual who resides in Harris County, Texas.

2.18. Plaintiff Willie Riley is an individual who resides in Harris County, Texas.

2.19. Plaintiff Carla Womack is an individual who resides in Harris County, Texas.

2.20. Plaintiff Mary L. Woodard is an individual who resides in Harris County, Texas.

2.21. Plaintiff Jacqueline Delmore is an individual who resides in Harris County, Texas.

2.22. Plaintiff Carlyle Woodard, Jr. is an individual who resides in Harris County, Texas.

2.23. Plaintiff Carlyle Catress Woodard, III is an individual who resides in Harris County, Texas.

2.24. Plaintiff Terrence Terrell Woodard is an individual who resides in Harris County, Texas.

2.25. Plaintiff Trevion Lee is an individual who resides in Harris County, Texas.

2.26. Plaintiff Larry Dotrey is an individual who resides in Harris County, Texas.

2.27. Plaintiff Stephen Carr is an individual who resides in Harris County, Texas.

2.28. Plaintiff Kenneth Fisher is an individual who resides in Harris County, Texas.

2.29. Plaintiff Mattie Jones is an individual who resides in Harris County, Texas.

2.30. Plaintiff Louise Garrett is an individual who resides in Harris County, Texas.

2.31. Plaintiff Dannie Green is an individual who resides in Harris County, Texas.

2.32. Plaintiff Mary Jordan is an individual who resides in Harris County, Texas.

2.33. Plaintiff Debra Lewis is an individual who resides in Harris County, Texas.

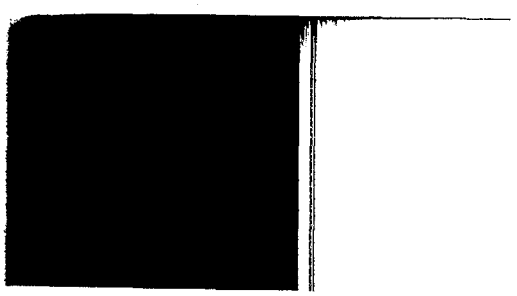
2.34. Plaintiff Lee Dixon is an individual who resides in Harris County, Texas.

2.35. Plaintiff Thelda Lewis is an individual who resides in Harris County, Texas.

2.36. Plaintiff Dean Murrell is an individual who resides in Harris County, Texas.

2.37. Plaintiff Cynthia Hammett is an individual who resides in Harris County, Texas.

2.38. Defendant CES Environmental Services, Inc. ("CES") is a Texas corporation existing under the laws of the State of Texas, with its principal office in the City of Houston, Harris County, Texas. Defendant CES may be served with process by serving its registered agent, Matthew Bowman, at 4904 Griggs Road, Houston, Texas 77021 or wherever he may be found.



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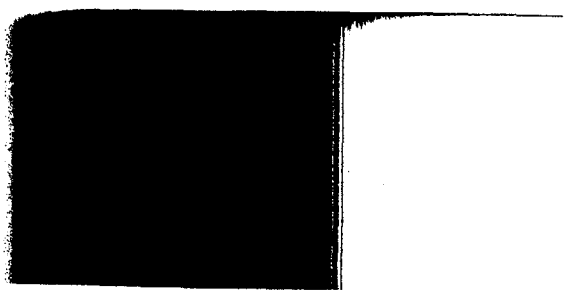
III.
VENUE AND JURISDICTION

3.1. This Court has jurisdiction over the subject matter and parties in this case. All parties reside and/or do business in Texas. The amount in controversy is within the jurisdictional limits of this Court.

3.2. Venue is proper in Harris County, Texas, pursuant to TEX. CIV. PRAC. & REM. CODE §§ 15.002(a)(1)(2), because all parties reside or do business in Harris County, Texas and all or substantially all of the events or omissions giving rise to this lawsuit occurred in Harris County, Texas.

IV.
NOTICE FACTS

4.1. This is an individual, and additionally, a class action lawsuit filed on behalf of the residents of Griggs Terrace subdivision against CES. Plaintiffs are the victims of intermittent nuisance-causing activities generated by CES' facility located at 4904 Griggs Road, Houston, Texas. Based on information and belief, Plaintitts allege that CES has and/or is also engaging in the illegal trafficking of hazardous substances through their neighborhood. Plaintiffs intend to show that CES is apparently illegally changing labels on hazardous material barrels without remediating the contents of such barrels. This mislabeling of toxins is jeopardizing Plaintiffs' health, safety, welfare, and property rights. Also, CES is causing caustic and nauseous-causing substances to be deposited and/or transported across Plaintiffs' properties. CES' conduct is offensive and illegal. CES' conduct has and is interfering with Plaintiffs' enjoyment of their property and lives, as well



as has caused physical sickness. Plaintiffs file this suit to address CES' unreasonable, illegal, and nuisance-causing conduct.

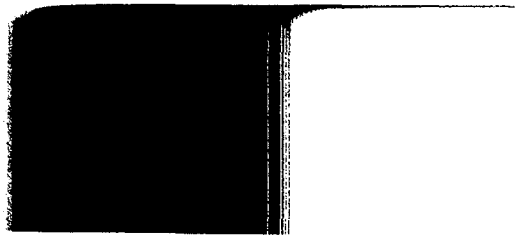
4.2. Plaintiffs are the owners and occupiers of real property adjacent to CES' Harris County facilities. Plaintiffs live in a subdivision in Houston, generally referred to as the Griggs Terrace subdivision.

4.3. CES is believed to be engaging in an illegal disposal of hazardous waste materials on, by, and/or under Plaintiffs' property. CES' business operations are believed to include, but are not limited to alleged waste minimization, waste disposal, waste recycling, waste reuse, waste classification, tank wash services, transportation services, disposal services, waste packaging, and other waste-handling activities. CES' activities constitute a nuisance to Plaintiffs and interfere with the enjoyment of their property.

4.4. Toxic, caustic, and nauseous odors, gases, vapors, and particulate matter are being deposited on and across Plaintiffs' properties. Further, such nauseous materials are interfering with Plaintiffs' rights and enjoyment of their respective properties.

4.5. CES has been cited on numerous occasions by governmental agencies and authorities for their unreasonable and nuisance conduct. Various Plaintiffs have repeatedly complained and asked CES to abate its conduct that interferes with Plaintiffs' property rights. Following is a list of known violations, complaints, and citations issued by just the City of Houston against CES' operations:

9/4/08	Notice of Violation
8/28/08	Notice of Violation
8/25/08	Notice of Violation
8/20/08	Notice of Violation
8/19/08	Complaint
8/12/08	Complaint
8/12/08	Notice of Violation



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8/12/08	Notice of Violation
8/12/08	Notice of Violation
8/8/08	Notice of Violation
8/8/08	Complaint
8/8/08	Complaint
8/7/08	Notice of Violation
8/7/08	Notice of Violation
7/29/08	Notice of Violation
7/28/08	Notice of Violation
7/27/08	Notice of Violation
7/26/08	Complaint
7/26/08	Complaint
7/23/08	Complaint
7/23/08	Complaint
7/16/08	Notice of Violation
7/14/08	Notice of Violation
7/10/08	Notice of Violation
7/10/08	Complaint
6/25/08	Notice of Violation
6/16/08	Complaint
6/16/08	Notice of Violation
6/11/08	Notice of Violation
6/6/08	Notice of Violation
6/2/08	Complaint
1/1/08	Citation
12/20/07	Citation
12/11/07	Complaint
11/28/07	Complaint
11/17/07	Complaint
11/15/07	Complaint
11/13/07	Complaint
10/31/07	Complaint
8/31/07	Complaint
7/22/07	Complaint
7/17/07	Complaint
7/14/07	Complaint
7/12/07	Complaint
7/8/07	Complaint
6/19/07	Complaint
6/12/07	Complaint
6/9/07	Citation
5/15/07	Complaint
4/18/07	Complaint

[redacted]

Notwithstanding these repeated notices, violations and complaints, CES' offensive conduct continues unabated.

4.6. For the above reasons, and such reasons as may be proved at the time of trial, Plaintiffs file this suit seeking at least the following relief:

1. To enjoin CES' conduct that impermissibly allows particulate matter and nauseous-causing materials to cross onto Plaintiffs' property;

2. From using Plaintiffs' property for unlawful waste disposal purposes;

3. To remove all CES' debris, substances, metallic objects, and explosive debris from Plaintiffs' properties, and to repair any and all damages caused to Plaintiffs' property; and

4. To abate all nuisance causing activities that cross over Plaintiffs' property line which interfere with Plaintiffs' enjoyment of their property.

In addition to the above, and alternatively, each of the Plaintiffs, individually, sues for their respective damages resulting from CES' unreasonable, offensive and outrageous conduct. Plaintiffs have incurred physical bodily injury and property damages, including but not limited to, their ability to peaceably use their property as intended because of CES' conduct. Plaintiffs assert that their individual damages can be proven in this class action by way of separate allocations and/or treatment plans/trials.

4.7. Moreover, Plaintiffs request individual damages for medical monitoring to determine the nature and extent of any individual physical harm and damages Plaintiffs may be suffering from or have suffered because of CES' conduct, invasion and trespass upon Plaintiffs' properties by their activities, chemicals and practices. The individual medical monitoring damages will be submitted as individual claims for damages in addition to all of the above, either by way of class treatment or separate submissions at the time of trial on damages.

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V.
REQUEST FOR CLASS ACTION

5.1. Pursuant to TEX. R. CIV. P. 42, Plaintiffs request the Court certify this suit, or portions of same, as a class action against CES. By later briefing, Plaintiffs intend to prove the requirements for class certification and establish the required elements of numerosity, commonality, typicality, adequacy and dominance of common issues. This suit is now filed as a putative Rule 42 class action suit on behalf of all residents of Griggs Terrace subdivision. The class would include any and all homes and persons who resided within a quarter mile radius of the physical address of 4904 Griggs Road, Houston, Texas.

VI.
CAUSES OF ACTION

6.1. Plaintiffs, reasserting by reference all of the foregoing allegations, assert that the following causes of action may be pursued, both individually and as a class action, against CES:

NEGLIGENCE PER SE

6.2. CES' conduct and operations have violated numerous laws. The City of Houston has repeatedly cited defendant for violations of the City's Air Quality Control Standards, as well as violations of its Code of Ordinances, City of Houston, Texas, Chp. 10, Art. XI, Sec. 10-451, *et seq.* The City of Houston's records show that the CES company has been cited for more than 113 separate nuisances and other violations within the last 19 months and the violations continue. CES' conduct has also violated Texas Health and Safety Code provisions, as well as requirements of the Texas Administrative

Code[1] on numerous occasions. As such, CES' conduct is unreasonable, notorious, outrageous, and continuing. For such violations, Plaintiffs ask that CES be held liable for negligence *per se* and gross negligence.

6.3. Plaintiffs assert that their damages are the result of defendant's nuisance and invasion of privacy on their property. Such damages are believed to exceed $5,000,000.00 in property damages and personal injury damages.

NUISANCE

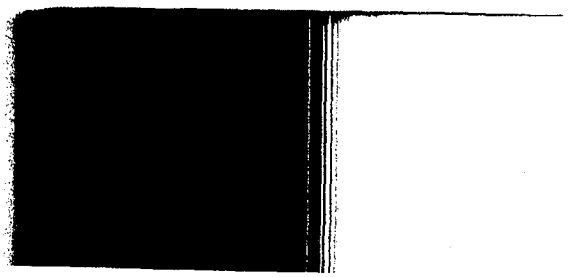
6.4. CES' business operations have resulted in foreign matter, vapors, debris, explosion litter, gases and odors crossing onto Plaintiffs' property and interfering with Plaintiffs' use, enjoyment and comfort of their property. Such conduct constitutes a nuisance and Plaintiffs seek compensation for their damages.

6.5. Plaintiffs' nuisance damages relate to injury to Plaintiffs' property, Plaintiffs' property rights, including but not limited to, the use, occupation, expansion and enjoyment of such property, contamination, as well as personal bodily injury relating to physical sicknesses and medical problems. Plaintiffs assert that their nuisance damages, individually and collectively, total more than $5,000,000.00.

TRESPASS

6.6. Plaintiffs also allege that CES is illegally trafficking hazardous waste over, onto or adjacent to Plaintiffs' property. Based on information and belief, Plaintiffs have learned that CES is illegally switching labels on hazardous waste materials and placing false non-hazardous labels on barrels of waste without making any remediation or

[1] As discovery progresses, specific section violations will be supplemented.



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alteration of the chemical makeup of such materials. This illegal switching of labels is believed to be occurring after such waste is transported across, adjacent to and/or on Plaintiffs' property. This illegal action is taking place next to Plaintiffs' property and puts at risk the value of the property and health of Plaintiffs.

6.7. Additionally, Plaintiffs complain that CES' conduct and operations generate and/or emit nuisance-causing odors, gases, vapors, debris and particulate matter that crosses Plaintiffs' property line constituting a trespass. Plaintiffs have not consented to CES utilizing their property for such purposes. As such, Plaintiffs file suit to recover damages for CES' trespass upon Plaintiffs' property. Such damages are believed to total more than $5,000,000.00.

NEGLIGENCE

6.8 Reasserting the above allegations, Plaintiffs allege that CES' conduct is also actionable in negligence. Accordingly, Plaintiffs request damages alleged herein, each and every one of them, be recovered as well from defendant because of its negligence. Such negligence damages are believed to exceed $5,000,000.00.

UNCONSCIONABLE CONDUCT

6.9 Plaintiffs also assert that CES' conduct, because of its callousness, is of such a reckless, wanton, and extreme nature that it should be actionable as unconscionable conduct and gross negligence. CES' conduct is inexcusable and should be made an example to others so that similar conduct is not repeated. CES is unreasonably jeopardizing Plaintiffs' health, safety, welfare and property rights. Plaintiffs request that punitive and actual damages be assessed in an amount not less than $10,000,000.00.

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VII.
JURY DEMAND

7.1. Plaintiffs request a jury trial and the appropriate fee has or will be paid as required by law. A jury demand is requested on factual issues only– not matters of law.

VIII.
REQUEST FOR DISCLOSURE

8.1 Pursuant to TEX. R. CIV. P. 194.2, Plaintiffs request Defendants to disclose, within fifty (50) days of service of this Original Petition, the information or material described in TEX. R. CIV. P. 194.2(a)-(l).

IX.
PRAYER

9.1 For the above reasons, Plaintiffs request CES be made to appear herein, that this Defendant be held liable as alleged herein and that judgment be entered in Plaintiff's favor against CES in the following particulars:

1) Actual and punitive damages as requested herein;

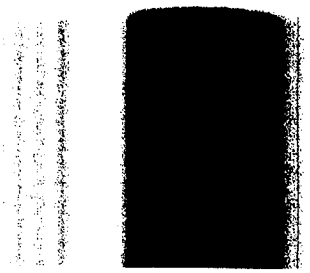
2) Class certification;

3) Attorneys' fees;

4) Pre- and post-judgment interest, as allowed by law;

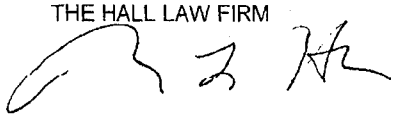
5) Costs of court; and

6) Any and all other relief to which Plaintiffs may be justly entitled.



Respectfully submitted,

THE HALL LAW FIRM



Benjamin L. Hall, III
State Bar No. 08743745
Kimberly R. Bennett
State Bar No. 24011946
530 Lovett Boulevard
Houston, Texas 77006
(713) 942-9600 (Telephone)
(713) 942-9566 (Facsimile)

ATTORNEYS FOR PLAINTIFFS

EPAHO120000322

********** -IND. XMT Journal- ********** Date JAN-23-2009 ***** Time 15:39 ********

Date/Time = JAN-23-2009 15:36

Journal No. = 010

Comm. Result = OK

Page(s) = 015

Duration = 00:02:29

File No. = 699

Mode = Memory Transmission

Destination = 12016315051

Received ID =

Resolution = Fine

-CES ENVIROMENTAL -

***** DP-C264 ********** - - ***** - 7137488664- *********

FACSIMILE TRANSMISSION

Date: 6-19-2009 Time: 3:30 PM MT

To: Greg Bowman
CES Environmental Services

Fax: 1-713-676-1676

From: Thomas H. Milby, MD
149 Wilderness Way,
Boise, ID 83716
(208) 429-1255
tmilby@aol.com

Number of pages to follow: 3

Greg: Please note Invoice # 20 was inadvertently not sent to you. Here it is.

Tom Milby

THOMAS H. MILBY, M.D.

Occupational Medicine & Medical Toxicology

tmilby@aol.com

June 19, 2009
Inv. # 24

Charles Goehringer
Germer Gertz, L.L.P
PO Box 4914
Beaumont, TX 77004

cc: Greg Bowman
4904 Griggs Road
Houston, TX 77021
(Sent by Fax: 713-676-1676)

Re: Joey Sutter and Charles Sittig matters

May 24-June 19

Continue literature search on and characterization of source, metabolism, distribution and final chemical composition of blood sulfide levels in pre- and post mortem tissues, before and after exposure to hydrogen sulfide gas.	16.25 hours.
Continue literature search of data on thiosulfate creation, distribution and duration in pre-and post mortem tissues in individuals exposed to hydrogen sulfide gas.	14.25 hours
On a number of occasions, discuss exposure issues with Clark Hickman. Discuss medical testing with defense attorneys. Assist in locating a reliable analytical laboratory. Personally contact representatives from several laboratories.	2.00 hours
Total Hours Charged:	32.50

Total Invoice: 32.50 hours @ $500.00/hour = $16,250

Total due: $16,250.00

Thomas H. Milby, M.D.

Thomas H. Milby, MD
Fed. Tax I.D. No. 94-2453998

Idaho Office
*Please reply to Idaho office
149 Wilderness Way » Boise, ID 83716 » (208) 429-1255
California Office
1990 North California Blvd., Suite 830 » Walnut Creek, CA 94596 » (925) 284-4944

THOMAS H. MILBY, M.D.

Occupational Medicine & Medical Toxicology

tmilby@aol.com

May 26, 2009
Inv. # 20

Germer Gertz, LLP
PO Box 4915
Beaumont, TX 77004

Attn: Charles Goehringer

Re: Joey Sutter and Charles Sittig matters

May 21-23, 2009

May 21	Discuss Sutter matter at length with Clark Hickman and Greg Bowman.	2.5 hours
	Review case file entitled: "May 12, 2009. CGH. PACES Two Incident Report." Report consists of information contained in 17 tabs.	4.25 hours
May 21/22	Continue case review, research and discussions with CES staff.	12.50 hours
May 22/23.	Conduct literature and computer research on usefulness and validity of various post-mortem findings and laboratory diagnostic procedures for identifying death caused by acute hydrogen sulfide intoxication. Locate, order, and review three medical publications on the central subject of blood and urine Thiosulfate concentrations as tools for the diagnosis of hydrogen sulfide poisoning.	5.25 hours

Idaho Office
*Please reply to Idaho office
149 Wilderness Way » Boise, ID 83716 » (208) 429-1255
California Office
1990 North California Blvd., Suite 830 » Walnut Creek, CA 94596 » (925) 284-4944

Pesco
Refinery

EPAHQ1200000327

Gordon,
713-428-5290
Merichem
$30,000 bill
wants paid and
has spoke to Matt.
what is status?

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
PHONE: (713) 676-1460 FAX: (713) 6761676

Order Request Form

Purchase Order No.: _____

Date: April 4, 2008

Vendor: Pesco - Beam Environmental Solutions Company, Inc
Address: 1005 Industrial Circle, SE
Roanoke Virginia, USA 24013
Contact: Lukas Staengl
Phone: 540-206-2388
Fax: 540-206-2391

ITEM NO.	DESCRIPTION	QUANTITY	$ COST
	PLC - PC Control System Using Allen Bradley Software & Hardware Per Quote Attached Date 3/21/08 for 1200gph Oil System at CES Sub. Houston Tx CES Code 6.1		$78,400.00

Submitted By: Clark Hickman (281-488-0848)
Approved By: _____
Printed Name: _____

OPS ☐ Yes ☐ No
Lab ☐

OFFICE USE ONLY

Internal Expense:

_____CS
_____FS
_____Trans
_____SGA
_____MRI
_____DRM

Job Expense:

What Job?: _____

☐ Give Vendor Re-Sale Certificate
☐ Vendor to Charge Sales Tax

CES:D24:6807

Clark Hickman

From: lukestaengl [lukestaengl@mindspring.com]
Sent: Friday, March 21, 2008 2:05 PM
To: Clark Hickman; 'Clarke Hickman'
Subject: FW: Supply agreement for PLC-PC control system
Attachments: CES Control System Quotation - 01.14.08.doc

Luke Staengl
President
PESCO-BEAM
1005 Industry Circle, SE
Roanoke, Virginia 24013
(540)206-2788 ~ cell(540)529-1588
FAX (540)206-2791 ~ Int'l (540)204-2015
lukestaengl@mindspring.com
www.pescova.com

From: lukestaengl [mailto:lukestaengl@mindspring.com]
Sent: Thursday, March 20, 2008 3:48 PM
To: Clark Hickman (chickman@cesenvironmental.com)
Subject: FW: Supply agreement for PLC-PC control system

Luke Staengl
President
PESCO-BEAM
1005 Industry Circle, SE
Roanoke, Virginia 24013
(540)206-2788 ~ cell(540)529-1588
FAX (540)206-2791 ~ Int'l (540)204-2015
lukestaengl@mindspring.com
www.pescova.com

From: lukestaengl [mailto:lukestaengl@mindspring.com]
Sent: Tuesday, March 18, 2008 4:53 PM
To: 'Clarke Hickman'; Clark Hickman
Subject: Supply agreement for PLC-PC control system

Dear Clark – here is a proposal for PESCO-BEAM to supply a PESCO-BEAM PLC-PC control system.
Please review it and get back to me with any further questions or comments.
Wishing you well,

Luke Staengl
President
PESCO-BEAM
1005 Industry Circle, SE
Roanoke, Virginia 24013
(540)206-2788 ~ cell(540)529-1588

EPAHO120000330

FAX (540)206-2791 ~ Int'l (540)204-2015
lukestaengl@mindspring.com
www.pescova.com

EPAHO120000331

PESCO-BEAM Environmental Solutions Company, Inc.
1005 Industry Circle, SE
Roanoke, Virginia, USA 24013
Voice: 1-540-206-2788
FAX: 1-540-206-2791
Web: **www.pescova.com**
Email: **lukestaengl@mindspring.com**

To: Mat Bowman, President
CES Environmental Services Inc.
Houston, TX

Dear Mat,

This is an agreement for PESCO-BEAM to supply a complete PLC-PC control system using Allen Bradley Software and Hardware and PESCO-BEAM technicians and engineers to assemble and program and test the system:

CONTROL SYSTEM DESCRIPTION

All relevant process temperatures, pressures, levels and flows will be monitored by a PLC located in the Main Control Panel. Most of these values will be redundantly reported on the skid with manual gauges. The PLC will report the process values to the HMI, Allen Bradley's RS View, running on the Control Computer located in the control room. All controlled process variables will be controlled by PID blocks in the PLC. The controllers will be monitored and controlled by the operator who will have access to all of the controller setpoints, alarms etc. at the HMI. Pump status will be reported at the control panel and on the computer. Pumps may be shut down at the computer control station.

The PLC itself will be an Allen Bradley Control Logix 5555Processor with 1.5MBYTE memory. The PLC is reading from the following I/O modules:

- 2 Analog Input Cards, 16 channel, 4 – 20 mA (1756-IF16)
- 1 Analog Input Cards, 8 channel, 4 – 20 mA (1756 – IF8)
- 5 Analog Input Cards, 6 Channel, Thermocouple (1756 – ITI)
- 2 Analog Output Cards, 8 Channel, 4 –20 mA (1756 – OF8)
- 2 Discrete Input Cards, 32 channel, 24 VDC (1756-IB32)
- 3 Discrete Out put Cards, 16 channel, Relay (1756 – OW16I)

Communications to the PLC are performed with an Ethernet card, type 1756-ENBT.

All alarming will be done by the PC Based Supervisory Control System, Allen Bradley's RS View. Operators will be informed of an alarm by an audible alarm from the PC as well as an alarm horn. An alarm summary will be located at the bottom of each control screen to inform the operator of any alarm condition in the whole plant. The operator will then have to take the appropriate action. Alarm contacts are supplied in the Process MCC. Plant management is left to buy the preferred alarm horn.

A control computer with an 18" Flat Panel monitor will be supplied as the control computer. This computer will have the HMI software running on it and it will communicate with the PLC using a CAT 5 cable. This computer is the main operator interface to the process. It is strongly advised that Plant Management have another computer on site that can act as a backup computer to be used in case of computer problems with the main control computer.

PESCO-BEAM Environmental Solutions Company, Inc.
1005 Industry Circle, SE
Roanoke, Virginia, USA 24013
Voice: 1-540-206-2788
FAX: 1-540-206-2791
Web: **www.pescova.com**
Email: **lukestaengl@mindspring.com**

This document contains the Functional Specification of the entire control system including a "Setpoints, Alarms and Interlocks" table that will list all of the proper settings of process controllers and the various alarm and interlock settings

DIGITAL CONTROL

1. All pumps will be operated locally at the skid using the local start/stop buttons. The operator must go to the skid in order to start the pump to ensure that the pump is working properly and not leaking at start up.
2. Start/Stops will be of the three-wire variety with the exception of the pumps and blowers, which are of 2 wire design:
    - P_2 (Caustic Feed Pump)
    - P_401 (Vacuum Blower)
    - P_402 (Oil Seal Vacuum Pump)
    - P_403 (R300 Decant Pump)
    - P_404 (Oxidizer Blower)
    - P_501 (Cooling Water Recirculation Pump)
    - P_502 (Cooling Tower Fan)
    - P_503 (Hot Oil Circulation Pump)
    - P_504 (Hot Oil Heater Fuel Pump)
3. Power to each pumps start circuit will come through a dry contact in the PLC. This enables operators to stop a pump from the Control Room. This feature also enables interlocking any pump through PLC programming.
4. The state of each motor contactor will be monitored on the PC based SCS.
5. Emergency shutoff buttons are also provided for each pump at each MCC panel.

PID Control Loops

All PID Controllers used to control the process will be programmed into the PLC hardware and will be accessible from the HMI. Operators will be able to view and/or change the following on each controller:

- Process Value
- Setpoint
- Controller Output
- Auto/Manual status.
- High and Low alarm settings.

The bid price for PESCO-BEAM to supply the described system is: **$78,400.00**

The cost of the system based sensors for flow, level, temperature, & pressure, is: **$32,700.00**

PESCO-BEAM Environmental Solutions Company, Inc.
1005 Industry Circle, SE
Roanoke, Virginia, USA 24013
Voice: 1-540-206-2788
FAX: 1-540-206-2791
Web: www.pescova.com
Email: lukestaengl@mindspring.com

The cost of PESCO-BEAM technicians and engineers to set the system up at site: **$18,500.00**

Terms of Payment:

30% deposit with a signed contract or purchase order: [at this point PESCO-BEAM will proceed with the detail engineering. At this point PESCO-BEAM will also proceed with the ordering and down-payment of major components with long lead-times.

25% when all the engineering is completed and client has approved the P & I Diagrams, Process layout and elevation drawings, and mass balance.

25% when the system is 50% complete, subject to the customer's inspection.

10% when the system is ready to ship, subject to customer's inspection.

10% when system has been operating for 72 hours consecutively at the design rate or greater.
Note: Any delays in this payment schedule will result in delays for the delivery of the system.

Warrantees:

The system is guaranteed to perform as specified in this offer. Our performance guarantee trials that will be conducted over a 24 hr run during commissioning will demonstrate

- Capacity of the plant
- Consumption of utilities

All performance guarantee figures on utilities and capacity will be subject to a tolerance of ±10% of rated figures.
The following provisions will have to be made while checking the guarantees:

- All the connections to the Utilities and Storage tanks will be inspected by our Engineer and cleared before commissioning;
- All ancillary equipment in clients scope of supply shall be commissioned by the respective suppliers and should perform to recommended specifications as given in this offer; if they are in clients scope.
- A PESCO / BEAM representative is present during start-up for 2 weeks
- The customer's employees will work as per instructions given by our commissioning engineer, follow good engineering practices and follow the operation and instruction manual in running and maintaining the plant.

The plant supplied is Guaranteed to perform as specified above. Components will be guaranteed by PESCO-BEAM for a period of One year from the date of receipt at Port of destination plus 30 days to allow for erection and start-up, or from the date of commissioning – whichever is sooner - normal wear and tear excepted. If commissioning is delayed due to fault of PESCO-BEAM then the date of commissioning will be the start date of the warranty period, no matter when that is.

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Email: **lukestaengl@mindspring.com**

Our liability is also limited to replacement or repair of any defective components and we are not liable for any damage to personnel, property or loss in production.

Validity of offer: This final offer is valid for 30 days for your consideration and acceptance.

Force Majeure The performance of this Agreement, except for the payment of money for services already rendered, may be suspended by either party in the event the performance of obligations are prevented by a cause or causes beyond the reasonable control of such party. Such causes shall include, but not be limited to, acts of God, acts of war, riot, fire, explosion, accident, flood, or sabotage; lack of adequate fuel, power, raw materials, labor or transportation facilities; governmental laws, regulations, requirements, orders or actions; breakage or failure of machinery or apparatus; national defense requirements; injunctions or restraining orders; labor trouble, strike, lockout or injunction (provided that neither party shall be required to settle a labor dispute against its own best judgment).

The party asserting a right to suspend performance under this Section must, within a reasonable time after he has knowledge of the effective cause, notify the other party of the cause for suspension, the performance suspended, and the anticipated duration of suspension. Upon receipt of such notice advising of a material or indefinite suspension of performance, and if such suspension substantially impairs the value of this Agreement to him, a party may, within a reasonable time (not to exceed thirty days), terminate this Agreement. If such notice of termination is not provided, this Agreement will lapse with respect to any performance suspended hereunder.

The party asserting a right to suspend performance hereunder shall advise the other party when the suspending event has ended, and when performance will be resumed.

Jurisdiction: The final contract shall be governed under the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, we have executed this contract on the date indicated below:

For PESCO-BEAM Inc. by:

_____ _____
Luke Staengl, President Date

For Your Company:

_____ _____
Signature, Title Date

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

April 16, 2008

To: Donald R. Richner, CIH
Environmental Analyst
City of Houston
Bureau of Air Quality Control
7411 Park Place Boulevard
Houston, Texas 77087

From: Karl A. Guidry
HSE Manager
CES Environmental Inc.
4904 Griggs Rd.
Houston, Texas 77021

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Dear Mr. Richner:

This correspondence is submitted in response to your discussion with CES personnel on March 25th, 2008. I am providing you with the information the City of Houston Bureau of Air Quality Control requested to have available from CES for our next meeting. Specifically you requested;

- A list of physical modifications or improvements made to CES operations in their efforts to eliminate or reduce odor emission issues (ie; scrubbers, barriers, misters, etc.) and the approximate dates when they went into operation. Also please indicate any ongoing issues with those items that have not yet been resolved by CES (ie: equipment operational or maintenance issues that still pose intermittent problems and are not yet routine).

    1. A list of any SOPs or process changes that CES made to reduce or eliminate odor issues and their dates of implementation along with any supporting documentation of employee training with those changes, if available. SOP's are attached at the end of this document.

       Additionally, CES Environmental Services, Inc. sought and received permission to engineer; construct and use a privately owned six inch sanitary force main line. Current status of this project is construction is complete and we are in the process of coordinating with the appropriate City of Houston permitting departments to insure a smooth transition to operate the privately owned sanitary line and move away from the existing City owned sanitary line. Due to existing restrictions on CES operations, we feel it is imperative all parties are in agreement that proper notices have been communicated.

2. Please provide a copy of the manufacturer's operation and maintenance manuals for the scrubber systems and mister system currently being used and a copy of any internal SOPs that have been developed for their routine operation and maintenance. SOP's are attached at the end of this document.

3. On several occasions we have been told that wastes are accepted or rejected based on internal testing criteria. Subsequently, we would like to see a copy of the SOP detailing how wastes are accepted or rejected based on chemical compatibility or if one does not exist, briefly explain what criteria is used to reject shipments by CES staff chemists. SOP is attached at the end of this document.

CES Company Policy

THINK... USE GOOD JUDGMENT	**CES Environmental Services, Inc.**	***YOUR ATTITUDE COUNTS***
Date Issued 00/00/00	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services - Sales, Finance, and Administration	Revised Date 04/15/08
Policy Number 08-045	Policy Title Odor Management	Policy Description

I. Overview:

Odor Management is EVEYONE's responsibility at CES. If odor is noticed by ANYONE on or near CES property, the Processing Manager should be notified IMMEDIATELY (unless you have had specific training otherwise). If he is unavailable, notify the Director of Processing, Vice President of Operations and Maintenance or the Special Processing Technicians. Under no circumstances should odor we ignored.

II. Process to Analyze New Streams:

All materials that come to CES (both waste and product) must have a CES Profile completed and filed in the Job Folder and in the Main Processing Facility Laboratory. The profile approval

process is documented in the Standard Operating Procedures Manual (CES for SOP on Profiles #13). An excerpt from SOP #13 follows:

> **NOTE: Due to CES's commitment to control odor, it is imperative that odor control procedures are established prior to the receipt of any odorous loads or the approval of profiles for any odorous materials. The Lab and Quality Assurance Supervisor is responsible for establishing protocols that will mitigate the odor of any materials identified as odorous to an acceptable level. These protocols will be recorded in the Treatment and Handling section of the Process Facility Information. It is the responsibility of the Sales Representatives to ensure that all odorous materials are identified as such and samples are submitted to the Lab so odor control procedures may be established prior to the receipt of any such loads.**

III. Standard Operating Procedures for identifying and handling odorous loads:
The following Standard Operating Procedures are all part of the odor control process. They are located on the shared drive in the Standard Operating Procedures Folder.

SOP on Profiles #13:
Specifically addresses identification of odorous streams and requires that the process for mitigating the odor be recorded in the Treatment and Handling section of the Process Facility Information.

SOP on Shipping and Receiving Loads – Receiving Loads #54:
Requires that the main Processing Facility Laboratory Personnel follow the Process Facility Information; specifically, the Treatment and Handling section which explains how odorous loads are to be processed to mitigate the odor.

SOP for Odor Management – Driver Operations #46:
Describes the procedures CES drivers must follow when handling odorous materials.

SOP for Odor Management – Sampling Odorous Materials #47:
Describes the processes that must be followed to verify whether or not a load is odorous and the correct sampling procedures are followed to ensure odor is contained when pulling a sample from odorous loads.

SOP for Odor Management – Tank and Trailer Transfers #48:
Explains the process for transferring materials from one container to another container to ensure no odor is released during the transfer.

SOP for Odor Management – Cleaning Tanks #49:
Explains the procedures for cleaning tank trailers, frac tanks, and vacuum boxes that contain odorous materials.

SOP for Odor Management – Changing Scrubber Liquids #50:
Describes the procedures that must be followed to change scrubber liquids without releasing odor.

SOP for Odor Management – Scrubber Repairs #51:

Describes the procedures that must be followed to repair and/or clean a scrubber in such a way that odor is not released.

SOP for Odor Management – Distillation Repairs and Cleaning #52:
Explains the procedures that must be followed to repair and/or clean the distillation unit in such as way that odor is not released.

SOP for Scrubber Operation and Maintenance #44:
Explains the process for operating, monitoring, and maintaining the scrubbers to ensure that all odor is contained during the processing of odorous materials on CES property.

IV. Complex Processing for Special Streams:

Streams that are identified as complex for processing purposes will require additional training of all employees who will be processing the stream. These streams are identified as Complex if there are any safety concerns or if the "Treatment and Handling" section of the Process Facility Information is too complicated to fit in the allotted space. The Processing Manager and/or the Lab and Quality Assurance Manager should be contacted if someone is unsure of processing instructions.

V. Training and Documentation:

All employees will be trained on odor the Odor Control Policy and SOP's listed above according to their job responsibilities. It will be responsibility of the immediate supervisor, manager, or director to ensure that all employees who may possibly be in a position to handle odorous materials are properly trained.

Name _____ Date _____

Odor Management Policy (#45) Training Document

1. Whose responsibility is odor management?

2. Who should immediately be notified if odor is detected on or near CES property?

   If that person is unavailable, who should be contacted?

3. Under what circumstances should odor be ignored?

4. Where is this odor policy located?

5. Where are the SOP's for odor management located?

6. Who should be contacted if the Processing Technicians are unsure how to process an odorous load?

   A.

   B.

7. Write the name of the people who currently hold the following positions:

   Processing Manager _____

   Lab and Quality Assurance Manager _____

   Director of Processing _____

   Vice President of Operations and Maintenance _____

After this quiz has been checked and reviewed, you may consider yourself trained. I,

_____, am now responsible for this information.

Nombre_____ Fecha _____

Manejamiento de olor poliza (#45) docomento de entrenamiento

1. De quien es la responsabilidad del manejamiento de olores?

2. A quien deben notificar si detectan olores en o sercas de CES?

   Si lapersona no esta disponible , a quien deben contactar?

3. Bajo qué circunstancias deben ignorer los olores?

4. Donde esta la poliza de olores localizada?

5. Donde esta el SOP 's de manejamiento de olores localizada?

6. A quien pueden contactar encaso que el technico de prosesamiento no esta seguro como presesar una carga olorosa?

A.

B.

7. Escriba el nombre de la persona que tengan las posisiones sigientes:

Director de prosesamiento _____

Laboratorio y director de certeza de calidad _____

Director de prosesamiento_____

Vise presidente de operasiones y Mantenimiento_____

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services	Revised Date 00/00/00
Policy Number 08-047	SOP Title: Odor Management - Sampling Odorous Materials	SOP Description: Describes the procedures for pulling samples of odorous materials on the CES yard

The following procedure should be followed when sampling a load coming in or leaving CES environmental Services yard. The Main Processing Facility Personnel are responsible for alerting whoever will be pulling the samples that the load is odorous so that these procedures will be followed.

1) Trailer should be parked in the wastewater unloading bay.
2) Scrubber unit should be checked and turned on and all valves (except the valve you need opened) should be closed
3) Vent line should be hooked up to scrubber unit and the vent valve moved to the open position.
4) Have sample jar and sampling device ready and open dome lid on trailer. Only open dome lid as much as you need to get the sample of the incoming or outgoing load. Sample should be pulled quickly. If odor is too bad, stop the sampling and notify a supervisor
5) When pulling a sample on a product trailer that is going out for sale two samples need to be pulled. By pulling two samples this will prevent us from having to open the dome lid again and any potential for a release.

Name _____ Date _____

Odor Management – Sampling Odorous Materials Training Document Quiz

1. Who is responsible for informing the person who will pull a sample that the load is odorous?

2. When should the Odor Management Procedures be followed?

   a. b. c.

3. For odorous loads, where must the trailer be parked before a sample may be pulled?

4. What should be checked and turned on prior to pulling a sample?

5. All valves (except the valve you will be using) must be

   _____ at all times.

6. The vent line should be hooked up to the _____ _____ and the valve moved to the open position.

7. The dome lid should be open as _____ (much, little) as possible; therefore all equipment should be ready and the sample should be pulled as _____ as possible.

8. What should be done if the odor is too bad?

9. If this is a sample product going out for resale, why should you pull two samples?

After this quiz has been checked and reviewed, you may consider yourself trained. I,

_____, am now responsible for this information.

Nombre _____ Fecha _____

Manejamiento de olores –documento de entrnamiento para muestras de materiales olorosos.

1. quien es responsible que va a tomar lamuestra del cargo oloroso?

2. Cuando deberian los procedimentos de manejamiento de olor se seguidos ?

A.

B

C

3. Para cargos olorosos, donde deberia ser el remolque estacionado para tomar una muestra?

4. Que deveria ser revisado y prendido ante de tomar una muestra ?

5. Todas las valvulas (exepto la valvula que se estara usando) debe estar _____ siempre.

6. La linea de ventilazion debe serconectada a la _____ _____ y la valvula movida ala posision habierta.

7. La tapa del remolque debe ser habierta lo _____ (mucho , menos) possible; por lo tanto todo el equipo debe estar listo y la muestra debe ser sacada lo mas _____ possible.

8. Que debe hacer si el olor es muy fuerte?

9. Si esta es un amuestra de producto que sera vendida, poque se tiene que sacar dos muestras ?

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

EPAHO120000344

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services	Revised Date 00/00/00
Policy Number 08-050	SOP Title: Odor Management - Changing Scrubber Liquids	SOP Description: Operations and Maintenance of Scrubbers

FIRST STOP ALL OPERATIONS THAT REQUIRE SCRUBBING

Changing Scrubber Liquid

- Notify area supervisor and close valves to areas being scrubbed.
- Clear lines by allowing pumps to run for a couple of minutes.
- Turn vfd off and associated pumps and lock out all.
- Liquid may be removed with a diaphragm pump and totes or a vacuum trailer.
- Vacuum truck scrubber exhaust must be hosed to a drum with detergent so that the odor is not blown out to the atmosphere.
- Totes must have hoses going to detergent drums as well.
- Once vats are emptied, add mild detergent water to the vats.
- Remove associated pump locks and run pumps for approx. 30 minutes.
- Turn pumps of f and open vats to ensure that they are odor free.
- Remove all detergent water and clean vats
- Install new liquids and put man way lids back on.
- Remove all locks and turn recirculation pumps on.
- Turn on vfd and slowly ramp up to speed.
- Notify area supervisor of completion and open up valves to areas being scrubbed.
- Work with the Warehouse Manager to determine disposal of spent liquid in totes.

Name _____ Date _____

Odor Management – Changing Scrubber Liquids Training Document Quiz

1. What is the FIRST thing that should be done before changing scrubber liquid?

2. How do you clear the lines?

3. What is the next step after you clear the lines?

4. How is the scrubber liquid removed?

5. The vacuum truck scrubber exhaust MUST be hosed to what?

   Why?

6. Totes must have hoses going to _____ _____.

7. What should be done after vats are emptied?

8. How long should the pumps run with the detergent in the vat?

9. Once the pumps have run for 30 minutes, open the vat and check for what?

10. What is the next step once the vats are odor free?

11. Who should be notified once the scrubber liquid has been changed?

12. What should be done with the spent liquid in the totes?

After this quiz has been checked and reviewed, you may consider yourself trained. I, _____, am now responsible for this information.

Nombre _____ **Fecha**_____

Manegamiento de olores-Examen documentalde entrenamiento cambiando liquidos del Scrubber

1. Que es la primera cosa que se debe hacer antes de cambiar el liquido del Scrubber?
2. Como limpias las linias?
3. Que es el Segundo paso despues que limpias las linias?
4. Como se quita el liquido del Scrubber?
5. La traila aspiradora de escape debe estar conectada a que?
6. Los totes deben tener mangeras llendo a _____.
7. Que se debe hacer una vez que el vats sea basiado
8. Cuanto tiempo debe las pompas corer con detergente en el vat?
9. una vez que las pompas haigan corridor por 30 minutos , Habra el vat y busque?
10. Cual es el paso siguiente una vez que el vats no tenga olor?
11. A quien se le debe informar despues que el liquido del scrubber haiga sido cambiado?
12. Que se debe hacer con el liquido usado en los totes?

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services Tankwash	Revised Date 00/00/00
Policy Number 08-049	SOP Title Odor Management – Cleaning Tanks	SOP Description: Explains procedures for cleaning tank trailers, frac tanks, and vacuum boxes that contain odorous materials such that the odor is sufficiently mitigated.

Cleaning Tanks with Odor

CHECK WITH YOUR SUPERVISOR TO ENSURE OUR AIR PERMIT AUTHORIZES US TO CLEAN THE TANK BEFORE YOU DO ANYTHING ELSE.

Before attempting to clean any tank that may cause an unpleasant odor, an assessment should be made to determine how to negate the odor by scrubbing or neutralizing. We also need to consider the mechanics of controlling the vapor with regard to pressure, volume of vapor being scrubbed, chemical reactions and pipe fittings and connections you will need to make. To sum it up, figure out how and what you are going to do before you do it and if you are not sure ask your supervisor before you proceed.

Cleaning tank trailers

- Park the tank trailer in the bay, chalk the wheels and ground the trailer
- Use all proper PPE and safety procedures for cleaning tanks on the wash rack
- Check tank for pressure by checking the pressure gage; if tank has pressure, connect an air hose to the scrubber then open the bleeder valve on the trailer a quarter open and bleed air pressure to the scrubber.
- Once pressure is relieved, remove a clean out port and install a fitting that will connect to the overhead vapor scrubber.
- Connect the scrubber hose to the clean out port and open the valve to the overhead vapor scrubber to begin scrubbing the vapor.
- Then open the dome lid and check for heel; if heel is present, shut the dome lid, drain the heel into a drum by connecting a hose to the bottom discharge of the

trailer and the other end of the hose to the 2 inch bung on a drum. Vent the drum to the liquid scrubber or a bucket of water.

- After heel is drained, connect a steam line to another clean our port add a quart of NUETRALINE to the trailer and begin steaming slowly for 15 minutes. After 15 minutes increase steam slightly and steam for 30 more minutes. Drain the condensate slowly checking it for odor if the condensate has odor, catch it in a drum using the same procedure as draining heel until the condensate no longer has odor.
- Once the condensate has no odor finish cleaning the tank normally.

Frac tanks

Do not attempt to clean a frac tank that has an odor that we can not chemically neutralize before we begin cleaning.

- Park the tank in the bay, chalk the wheels and ground the frac tank.
- Spray the entire frac tank with NUETRALINE to neutralize odor
- Check the tank to ensure odor is neutralized
- Clean the frac tank with normal cleaning procedures

Vacuum boxes

- Vacuum boxes can be done using the same method as a tank trailer with the exception that the flanges will be used to steam and scrub since they have no clean out ports.
- If the box had sludge, the only option may be to attempt to neutralize with NUETRALINE
- If controlling the odor is too difficult, contact your supervisor

Name _____ Date _____

Odor Management – Cleaning Tanks Training Document Quiz

1. What is the VERY FIRST thing you should do before you start to clean a tank?

2. Before attempting to clean a tank that may have odor, we must determine how to

_____ the odor.

3. Therefore, you should figure out what you are going to do _____ you do it. What should you do if you are not sure what to do?

TANK TRAILERS:

4. What procedures should be followed to bleed pressure if the tank has pressure?

5. Once pressure is relieved, remove a clean out port and install a fitting that will connect the clean out port to what?

6. Therefore, no odorous tank trailers should be cleaned until the tank trailer is connected to a

_____ such that all vapors may be scrubbed.

7. What procedures should be followed if there is heel in the tank trailer?

8. How should the drum with heel be vented to contain the odor?

9. After heel is drained, connect a steam line to another clean out port add a quart of _____ to the trailer and begin steaming slowly for _____ minutes. After _____ minutes increase steam slightly and steam for _____ more minutes.

10. What procedures should be followed if the condensate has odor?

FRAC TANKS:

11. What should you be sure of before you begin to clean a frac tank that has odor?

12. Spray the entire frac tank with _____ to neutralize odor.

13. What should you be sure of before you clean the frac tank with normal cleaning procedures?

VACUUM BOXES:

14. Vacuum boxes can be cleaned using the same method as a _____ _____

With the exception that _____ will be used to steam and scrub since there are no clean out ports.

15. What should you do if you cannot control the odor?

After this quiz has been checked and reviewed, you may consider yourself trained. I,

_____, am now responsible for this information.

Nombre _____ Fecha_____

Manejamiento de olores - Entrenamiento documental de limpieza de tanque (examen)

1. Que es la primera cosa que deben hacer antes de limpiar un tanque ?

2. Antes de tartar de limpiar un tanque que pueda tener algun olor, tenemos que determiner como _____ el olor.

3. Por lo tanto tu debes figurar que vaz a hacer _____ y lo haces . Que debes hacer sino sabes que hacer ?

4. que prosedimientos debes seguir para sacar presion si el tanque tiene presion ?

5. Una vez que la presion sea sacada, remueva el clean out port y instale un cople que va a conectar el clean out port a que ?

6.Por lo tanto ningun remolque de tanque debe ser limpiado hasta que el remolque este coectado a _____ tanto que todos los vapores se puedan restregar .

7. Que procedimiento se debe seguir si hay heel en el tanque?

8. Como debe que el contenedor con heel ser descargado, para contener el olor?

9. Despues que el heel sea removido , conecte la linia de vapores para otro y agrege un quarto de _____ al remolque y comiense vaporizando lentamente por _____ minutos . Despues de _____ minutos subale al steam por _____ mas minutos.

10. que prosedimiento se debe seguir si el condensate tiene olor?

Frac Tank:

11. De que debe estar seguro antes de limpiar un frac tank que tiene olor.

12. Rocie en todo el frac tank con _____ para neutralizar el olor.

13. De que debe estar seguro antes de limpiar un frac tank con productos normales?

Cajas Aspiradoras:

14. Las cajas aspiradoras se pueden limpiar usando el mismo metodo como con _____. Con la excepsion que _____se debe usar con vapor porque no hay puertos limpiadores.

15. Que debe hacer si no puede controlar el olor?

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services	Revised Date 00/00/00
Policy Number 08-052	SOP Title: Odor Management - Distillation Repairs and Cleaning	SOP Description:

FIRST STOP ALL OPERATIONS!

Distillation repairs and cleaning

- Shut off steam
- Bring down boilers, or block and lock valves and lines.
- Allow chillers to run until unit is completely cooled down.
- Lock out all associated pumps and remove valve handles.
- Unhook top vapor hose and hook up tower to scrubber and begin scrubbing.
- Open manway and check for odor. If odor is still present, close and allow to scrub until all odors are gone.
- Open manway and install air meter to determine atmosphere inside is safe.
- If entry is necessary, fill out a confined space entry permit and follow all procedures.
- Consult with the Warehouse Manager on any debris removed to ensure proper disposal
- For any repairs that don't require entry, block in all valves on unit and remove valve handles before repairs are performed.
- Once repairs/cleaning are complete, close up manways, reconnect all hoses and reinstall valve handles.
- Remove locks, load up vessel, check for leaks and prepare to operate.

Name _____ Date _____

Odor Management – Distillation Repairs and Cleaning Training Document

1. What is the FIRST thing that must be done before attempting to clean or repair the distillation unit?

2. Shut off _____.

3. Bring all the _____ down or _____ valves and lines.

4. Allow chillers to run until _____.

5. Lockout _____ and remove _____.

6. Unhook top vapor hose and hook up tower to _____ and begin _____.

7. Open manway and check for odor. What should be done if you detect odor?

8. What should you do if entry is necessary?

9. Who should be consulted for proper disposal of any debris removed?

10. For any repairs that don't require entry, _____ all valves on unit and remove _____ before repairs are performed.

After this quiz has been checked and reviewed, you may consider yourself trained. I, _____, am now responsible for this information.

Nombre _____ Fecha_____

Manejamiento de olores – Examen de documento de entrenamiento de reparacion y limpieza de destillacion .

1. Que es lo primero que se debe hacer antes de intentar limpiar o reparar la unidad de destillacion?

2. Apagen el _____.

3. Baje todos los _____ o _____ valvulas y lineas .

4. Permita que los chillers corran hasta que _____.

5. Cierre y _____ remueva _____.

6. Dsenganche mangera del vapor y conecte la torre al _____y comiense a

   _____.

7. Habra el manway y revise por algun olor . Que se debe hacer si usted detecta algun olor ?

8. Que debe hacer si la entrada es necesaria ?

9. Quién deberia ser consultado de la disposición apropiada de cualquier escombro?

10. Para cualquier repaaracion que no se necesite entrar _____ todas las valvulas de la unidad y quite _____ antes de que alguna reparacion se tenga que hacer.

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services	Revised Date 00/00/00
Policy Number 08-046	SOP Title Odor Management – Driver Operations	SOP Description: Driver operations procedures to be followed when handling odorous loads

Due to CES's commitment to control odor, it is imperative that odor control procedures are established and followed by ALL CES Employees.

This Standard Operating Procedure covers all activities where CES Drivers may transport, handle or manager odorous materials. All Drivers MUST follow these Standard Operating Procedures carefully. Failure to follow SOP's is grounds for disciplinary action.

Odor Identification:

Any time drivers notice odor, they should immediately take steps to contain the odor and then follow the odorous management procedures listed below.

Bleeding Off Pressure in Trailers:

- If a trailer has odor, bleed pressure off into a drum of deodorizer.
- Don't open dome lids or vent lines on trailers containing odorous material.
- If the trailer has odor inside, get with processing to connect trailer to scrubber before opening the dome lid.
- If unloading (off site) with air/nitrogen, bleed pressure off trailer before leaving site (if allowed

Vacuuming on the Yard:

- If there is an odor inside a trailer, DO NOT start the vacuum pump on CES yard. This will allow the odorous air inside the trailer to come out.

- If asked to pump out container on CES yard that is odorous, get with your logistics and/or processing supervisor for further instructions. We do not want to create an odor by loading stinky material.
- Do not drain scrubber on the yard if material has an odor. If material has an odor, get with processing to drain the scrubber and contain odor.
- If you are able to drain scrubber, drain into 5 gallon bucket and get with processing for proper management.

Name _____ Date _____

Odor Management – Driver Operations Training Document Quiz

1. Due to CES's commitment to control odor, Odor Management Procedures must be followed by

   _____.

2. Any time drivers notice odor, they should immediately take steps to _____

   the odor and then follow _____.

Bleeding Off Pressure in Trailers:

3. If a trailer has odor, bleed off the pressure into _____.

4. DO NOT _____ or _____ on trailers containing odorous materials until you are confident the odor can be contained.

5. Any trailer with odor must be connected to a _____ before opening the dome

   lid. Get with _____ .

6. If unloading off site, bleed pressure _____ if possible.

Vacuuming on the Yard:

7. If there is odor in a trailer, DO NOT _____ on the CES yard.

   Why do we have this rule?

8. What should you do if you are asked to pump out a container on the CES yard that contains odorous material?

9. What should you NOT do if the scrubber has an odor?

   What should you do?

10. If you are able to drain a scrubber, what should you do with the liquid?

After this quiz has been checked and reviewed, you may consider yourself trained. I,

_____, am now responsible for this information.

Nombre _____ Fecha _____

Manejamiento de olores – Entrenamiento documental de las operaciones del conductor
(examen)

1. Debido que CES tiene un compromiso por controlar olores el el procedimiento de manejamiento de olores debe se seguido por _____.

2. Una vez que el conductor note olor , tiene que imediatamente tomar pasos para _____ el olor y depuses seguir _____.

Sacar presion del remolque

3. Si el remolque tiene olores ponga la presion dentro _____.
4. Nunca _____ o _____ en el remolque que contengan materiales olorosos asta que esten seguro que el olor puede ser contenido.
5. Cualquier remolque que tenga olor debe esta conectado a _____ antes de habrir la tapa de cupula _____y conectarse con _____.
6. Si descargan en fuera de sitio , sacen la presion _____ si es posible.

Aspirando en la yarda:

7. Si hay olor en el remolque NO _____en la yarda de ces.
   Porque tenemos esta regal?

8. Que debes hacer sit e piden que descargues un contenedor en CES que contengan materiales olorosos?

9. Que no debes hacer si el scrubber tiene olores?

   Que debes hacer?

10. Si no puedes descargar el scrubber , que debes hacer con el liquido?

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacio

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services	Revised Date 00/00/00
Policy Number 08-051	SOP Title: Odor Management - Scrubber Repairs	SOP Description: Procedure to control odor while stopping scrubber operations and repairing the scrubber.

FIRST STOP ALL OPERATIONS THAT REQUIRE SCRUBBING

Scrubber repairs procedures

- Notify area supervisor of situation and prepare to bring scrubber down.
- Close all valves to areas being scrubbed and allow time to clear system.
- Turn vfd controller off and turn associated pumps off.
- Install locks on all electrical switches.
- If repairing a pump, close suction & discharge valves and remove handles.
- Open unions slowly to drain residual liquid onto spill pads.
- Pull pump and put spill pads in open pipes.
- When repairing hoses, use same procedure as pump removal.
- When opening towers, or vats, ensure that there are no odors.
- If odors are present, add mild detergent water to vats and run pumps for 30 minutes to clean system.
- Remove detergent water using the same procedures as explained in the "changing scrubber liquid" procedures.
- Never enter vats or towers without a confined space entry permit.
- If repairs to the blower/stack system are needed, close butterfly valves and remove handles.
- Drain all residual liquids in same manner as above
- Once repairs are complete, install valve handles, open, and inspect for leaks.
- If no leaks are present, remove locks and bump test the repaired pump.

- If no leaks or unusual sounds, turn vfd on and ramp up to operating speed slowly.
- Once operating normally, tell the area supervisor and open valves to areas being scrubbed.

Name _____ Date _____

Odor Management – Scrubber Repairs Training Document Quiz

1. What is the FIRST thing that should be done before attempting to repair a scrubber?

2. Who should be notified before you bring the scrubber down?

3. Close all valves to the area being scrubbed and allow time for what?

4. Turn _____ off and associated _____ off.

5. Install locks on all _____ _____.

6. What is the next step if you are repairing a pump?

7. Open unions slowly and drain _____ _____ onto _____ _____.

8. Pull pump and put spill pads in _____ _____.

9. What is the procedure when repairing hoses?

10. When opening towers or vats, of what must you be sure?

11. What should you do if odors are present?

12. How is detergent water removed?

13. Never enter vats or towers without what?

14. What should be done if repairs to the blowers/stack system are required?

15. What should be done with residual liquids?

16. Once repairs are complete and valve handles are installed, what should you check for?

17. Once repairs are completed, who should be notified?

After this quiz has been checked and reviewed, you may consider yourself trained. I,

_____, am now responsible for this information.

Nombre _____ Fecha_____

Manejamiento de olores – Documento de entrenamiento de reparaciones del Scrubber Examen

1. Que es la primera cosa que debe hacer antes de intentar reparrar el Scrubber?

2. Quien deberia ser notificado antes de bajar el scrubber?

3. Serrar todas las valvulas del area que se va a trabajar y dejar tiempo para que ?

4. Voltear _____ a posision apagada y associados_____ apagado .
5. Installar cerraduras en todos _____.
6. Cual es el sigiente paso si va a reparar una pompa?

7. Habrir la unidades despacio y drenar _____ hacia _____.
8. Jale pompas y ponga garras en _____.
9. Cual es el procedimiento a reparar mangeras?

10. Cuando habre los vats y torres, de que debe estar seguro?

11. Que debe hacer si hay olores presentes?

12. Como es el agua detergente removido ?

13. Nunca entre a las torres o vats sin que?

14. Que debe hacer si el sistema de sopladores y stack son requeridas?

15. Que debe hacer con residios de liquidos ?

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16. Una ves que las reparasiones estan completas y los asideros de las valvulas instaladas , Que debe verificar?

17. Cuando terminan con reparaciones a quien deben notificar?

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/07/08	DEPARTMENT (S) - Operations - Processing - Maintenance and Field Services Tankwash	Revised Date 00/00/00
Policy Number 08-048	SOP Title: Odor Management – Tank and Trailer Transfers	SOP Description: Explains the correct process for transferring odorous products or waste between tanks and trailers.

Trailer to Trailer Transfers:
When a load arrives at CES that will need to be taken from one trailer to another trailer the following steps will need to be taken to ensure that no odor will be released during the transfer:

1) Locate vent valve on both trailers and hook one end of the hose to trailer A and the other end to trailer B.
2) Open the vent valves on both trailers. This will cause the pressure or vapors to equalize between the two trailers.
3) Open the discharge valve on trailer A and the fill valve on trailer B and start filling trailer B by turning on the pump.
4) Once Trailer B is full and Trailer A is empty, close the suction valve on trailer A and connect the line to air blow-down (allowing the pump to run) until the line is clean. This will ensure that there are no spills and the lines are empty.
   Note: Air should be used for non-flammable materials only; for flammable materials nitrogen must be used to blow the lines. Furthermore, a minimal amount of pressure should be used when blowing lines.
5) Once lines are empty close fill line on Trailer B.
6) Shut both vent and remove the air line.

Trailer to Tank Transfers:
When a load arrives at CES that will need to be taken from a trailer to a tank the following steps will need to be taken to ensure that no odor will be released during the transfer:

1) Locate (but do not open) the vent valve on the Tank you are loading into and the vent valve on the trailer you are loading from; hook one end of the vent hose to the tank and the other end to trailer.
2) Open the vent valves on both the Tank and the Trailer. This will cause the pressure or vapors to equalize between the Tank and the Trailer.

3) Open the discharge valve on the trailer and the fill valve on tank and start filling the tank by turning on the pump.
4) Once the Tank is full and Trailer is empty, close the suction valve on the Trailer and connect the line to air blow-down (allowing the pump to run) until the line is clean. This will ensure that there are no spills and the lines are empty.

   Note: Air should be used for non-flammable materials only; for flammable materials nitrogen must be used to blow the lines. Furthermore, a minimal amount of pressure should be used when blowing lines.
5) Once lines are empty close fill line on the Tank.
6) Shut both vent valves and remove the air line.

Tank to Trailer Transfers:
When a load of odorous material needs to be loaded from a tank to a trailer on the CES yard, the following steps must be followed to ensure that no odor will be released during the transfer:

1) Locate (but do not open) the vent valve on the Trailer you are loading into and the vent valve on the Tank you are loading from; hook one end of the vent hose to the tank and the other end to trailer.
2) Open the vent valves on both the Tank and the Trailer. This will cause the pressure or vapors to equalize between the Tank and the Trailer.
3) Open the discharge valve on the tank and the fill valve on trailer and start filling the trailer by turning on the pump.
4) Once the Trailer is full, close the suction valve on the Tank and connect the line to air blow-down (allowing the pump to run) until the line is clean. This will ensure that there are no spills and the lines are empty.

   Note: Air should be used for non-flammable materials only; for flammable materials nitrogen must be used to blow the lines. Furthermore, a minimal amount of pressure should be used when blowing lines.
5) Once lines are empty close fill line on the Trailer.
6) Shut both vent valves and remove the air line.

Name _____ Date _____

Odor Management – Tank and Trailer Transfers Training Document Quiz

Trailer to Trailer Transfers:

1. Locate the _____ on both trailers and hook one end to trailer A and the other end to trailer B.

2. What is the next step?

   Why?

3. Open the _____ on trailer A (loaded trailer) and the _____ valve on trailer B (empty trailer) and start filling trailer B by filling the pump.

4. When you are though transferring, close the _____ valve on trailer A and connect the line to _____ until _____.

5. What will the above procedure ensure?

6. Once the lines are empty, close the _____ for trailer B.

7. Shut both _____ and remove the _____.

Trailer to Tank Transfers:

8. Locate (but do not _____) the vent valve on the Tank you are loading into and the vent valve on the Trailer you are loading from; hook one end of the vent hose to the _____ and the other end to _____.

9. Open the _____ on both the Tank and the Trailer. This will cause the pressure or _____ between the Tank and the Trailer.

10. Open the _____ on the trailer and the _____ on the tank and start filling the tank by turning on the pump.

11. Once the tank is full and the trailer is empty, what is the next step?

12. Once the lines are empty, close the _____ on the tank.

13. Shut both _____ and remove the _____.

Tank to Trailer Transfers:

14. Locate (but do not _____) the vent valve on the Trailer you are loading into and the vent valve on the Tank you are loading from; hook one end of the vent hose to the _____ and the other end to _____.

15. Open the _____ on both the Tank and the Trailer. This will cause the pressure or _____ between the Tank and the Trailer.

16. Open the _____ on the tank and the _____ on the trailer and start filling the trailer by turning on the pump.

11. Once the trailer is full and the tank is empty, what is the next step?

12. Once the lines are empty, close the _____ on the trailer.

13. Shut both _____ and remove the _____.

After this quiz has been checked and reviewed, you may consider yourself trained. I, _____, am now responsible for this information.

Nombre_____ Fecha_____

Manejamiento de olores – Entrenamiento documental de transferencia de tanques y remolques

Transferencia de Remolque a Remolque

1. Localize la _____ en los dos remolques y enganche ala parete de atras del remolque A a la parte de atras del remolque B.

2. Cual es el Segundo paso ?

   Porque?

3. Habra el _____ en el remolque A (remolque cargado) y la

   _____valvula en el remolque B (remolque bacio) empieze llenando el remolque B llenando las pompas .

4. Cuando terminen transfiriendo , sierre la _____ valvula en el remolque

   A y conecte la linea a _____ hasta_____.

5. Que asegura el procedimiento anterior?

6.Una vez que las lineas esten bacias , sierra la _____ del remolque B.

7. Sierre los dos_____ y remueva el _____.

Transferencia de Remolques a Tanques

8. Localize (pero no _____) la valvula de ventilasion en el tanque usted lo va a carjar a la valvula de ventilasion del remolque del que usted esta cargando;

   enganche la parte de atras de la mangera de ventilasion al _____ y la parte

   de atras del otro_____.

9. Habra los _____ en los dos tanque y remolque . Esto va a causar a la

   presion o _____ enmedio del tanque y el remolque .

10. Habra la _____del remolque y el _____ del tanque y empieze a llenar el tanque prendiendo la pompa.

11. Una vez que el tanque este lleno y el remolque bacio , cual es el paso a seguir?

12. Una vez que las lineas esten bacias, sierre los _____ del tanque

13. Apage los dos _____ y remueva el _____.

Transferencia de Tanque a Remolque

14. Localize (pero no _____) la valvula de ventilasion en el remolque usted lo va a carjar a la valvula de ventilasion del tanque del que usted esta cargando ;

enganche la parte de atras de la mangera de ventilasion al _____ y la parte

de atras del otro_____.

15. Habra los _____ en los dos tanque y remolque . Esto va a causar a la

presion o _____ enmedio del tanque y el remolque .

16. Habra la _____del tanque y el _____ del remolque y empieze a llenar el remolque prendiendo la pompa.

17. Una vez que el remolque este lleno y el tanque bacio , cual es el paso a seguir?

18. Una vez que las lineas esten bacias, sierre los _____ del remolque.

19. Apage los dos _____ y remueva el _____.

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued 04/08/08	DEPARTMENT (S) - Operations - Processing - Maintenance	Revised Date 04/14/08
Policy Number 08-044	SOP Title: Scrubber Operation and Maintenance	SOP Description: Operation and Maintenance of Scrubbers located on CES yard

This SOP details our procedures for operating and maintaining the scrubbers.

Scrubbers should be used to scrub the vapors of any odorous loads when processing the load or performing any activity such that the vapors may be discharged into the air. The Oil Area Scrubber must be used anytime odorous loads are processed through the centrifuge.

Procedure for starting a scrubber:

1. Pull a sample of the scrubber liquid for analysis by Main Processing Facility Lab; check the levels of the fluids (caustic/bleach vat and the deodorizer vat) using the sight glass or by opening the vats. Follow the instructions of the Main Processing Facility Lab concerning additions to the scrubber liquid.
2. Turn on the scrubber pumps (both of them) and make sure liquid is flowing through the scrubber flow meters.
3. Check that the floats are working by partially turning the valve to each float to decrease the flow. The floats should sink when the flow decreases and rise again when the flow in increased. (Do not turn the valve completely off and leave off).
4. Turn the blower motor on; start the blower motor at 15- 20 Hz.
5. Open the vapor outlet and check for odor.
6. Open the header valve for the tank containing the material to be scrubbed.

   Note: If odor is present, shut down the scrubber and stop the activity needing the scrubbing and notify the **Processing Manager** immediately.

Scrubber Monitoring:

If odor is detected at any time, the **Processing Manager** should be notified immediately for further action.

Each scrubber has a mailbox labeled **Scrubber Maintenance Log** located adjacent to the scrubber that contains forms to be completed daily.

> The mailbox by the Warehouse Scrubber contains the Daily Operator Checklist for Warehouse Scrubber and Scrubber Maintenance Checklist (Warehouse).
>
> The mailbox by the Oil Area Scrubber contains the Daily Operator Checklist for Oil Area Scrubber and Scrubber Maintenance Checklist (Oil Area).

The **Special Processing Technicians** will complete the Daily Operator Checklist for each scrubber unit to document that the scrubber has been evaluated for any problems. This checklist will be completed at the same time a sample of the scrubber liquid is pulled (either prior to start-up or by 7:30 am each day). If any problems are noted (if "no" is checked for anything), the **Processing Manager** will be notified so corrective action can be taken.

The **Processing Manager** will collect the Daily Operator Checklist for Warehouse Scrubber and the Daily Operator Checklist for Oil Area Scrubber office and place them in the in-box of the **Systems Analysis and Quality Assurance Personnel** who will actually file the forms in the Daily Operator Checklist for Scrubbers notebook located in the **HSE Office**. It is the responsibility of the **Systems Analysis and Quality Assurance Personnel** to monitor and ensure this process is being followed.

Scrubber Liquid Sampling and Evaluation:

Prior to starting a scrubber or by 7:30 am (for a scrubber that is running continuously), a sample of the scrubber liquid must be tested. The sample will be taken to the **Main Processing Facility Lab** and tested to determine the concentration of the scrubber liquid. Once the concentration is known, the **Processing Manager** will instruct the **Special Processing Technicians** to use the scrubber liquid, add chemicals to the scrubber liquid, or pump out and replace the scrubber liquid. The results of the lab tests will be recorded and filed in the Scrubber Log notebook located in the **HSE Office**.

The **Processing Manager** or the **Main Processing Facility Laboratory Lead Man** will bring the forms to the front office and place them in the in-box of the **Systems Analysis and Quality Assurance Personnel** who will actually file the forms in the notebook. It is the responsibility of the **Systems Analysis and Quality Assurance Personnel** to monitor and ensure this process is being followed.

Scrubber Maintenance:

The **Facility Maintenance and Construction Technicians** will initial and date the Scrubber Maintenance Checklist (for Warehouse and for Oil Facility Scrubbers). This form monitors the maintenance of the scrubber. If any maintenance is required, the **Facility**

Maintenance and Construction Technicians will coordinate with the **Special Processing Technicians** or the **Wastewater Lead Man** to make the necessary repairs or perform the maintenance in a timely manner while minimally impeding operations. If major repairs/maintenance are necessary, the **Facility Maintenance and Construction Technicians** will contact the **Facility Maintenance and Construction Manager**.

The Scrubber Maintenance Checklists will be given to the **Processing Manager** at the end of each month to be turned in and filed with the Daily Operator Checklists (see below).

Scheduled Maintenance:

The **Facility Maintenance and Construction Manager** and the **Processing Manager** will decide when a scrubber will be down for cleaning and routine maintenance. (See SOP on Odor Control – Changing Scrubber Liquid and SOP on Odor Control – Scrubber Repairs)

Procedure for Stopping Scrubber Operation:

1. Turn the blower motor off
2. Turn the scrubber pumps off (both of them).
3. Close the header valve for the tank containing the material to be scrubbed.

Name _____ Date _____

Scrubber Operation and Maintenance Training Quiz

1. When should scrubbers be used?
   A. When processing odorous loads in the warehouse
   B. When performing any activity where odorous vapors may be discharged into the air.
   C. When processing odorous loads through the centrifuge
   D. All of the above

2. When should the scrubber liquid be sampled and tested?
   A. Prior to starting the scrubber or daily before 7:30 am
   B. After the scrubber has been running for 15 minutes
   C. After the scrubber has been running for at least an hour
   D. After the load is through processing and the scrubber has been turned off.

3. Put the following scrubber start-up steps in the correct order by placing a number in the blank.

   _____ Check that the floats are working
   _____ Open the vapor outlet and check for odor
   _____ Check the levels of the fluids using the sight glass or by opening vats
   _____ Turn the blower motor on
   _____ Turn on the scrubber pumps and check that liquid flows to scrubber
   _____ Open the header valve to tank containing material to be scrubbed

4. What is the correct procedure for checking that the floats are working?
   A. Check that they are not sitting on the bottom of sight tube
   B. Close the valve all the way and then open the valve all the way and see if float moves.
   C. Close the valve partially and then open again and see if the float moves.
   D. Shake the tube and see if the float moves.

5. What should be done if odor is detected at any time during scrubber start-up?
   A. Contact the Processing Manager
   B. Shut down the scrubber, stop activity needing scrubbing, and contact the Processing Manager
   C. Let the scrubber continue to run to clear the odor
   D. Contact Matt Bowman

6. Who is responsible for completing the Daily Operator Checklist for the Warehouse Scrubber?
   A. The Special Processing Technicians complete it daily
   B. The Special Processing Technicians complete it if there is a problem
   C. The Hydrocarbon Processing Technicians complete it daily
   D. The Hydrocarbon Processing Technicians complete it if there is a problem

7. Where are the Daily Operator Checklists (both) and the Maintenance Checklists located?
   A. In the Main Processing Facility Lab
   B. In the "mailboxes" adjacent to each scrubber.
   C. In the Processing Manager's Office
   D. In the Main Office

8. Facility Maintenance and Construction Technicians responsible for reviewing and/or initialing which of the following forms to determine if scrubber repairs or maintenance are required?
   A. The Daily Operator Checklist for the Warehouse Scrubber
   B. The Daily Operator Checklist for the Oil Facility Scrubber
   C. The Maintenance Checklist for each scrubber
   D. All of the above

9. What is the purpose of sampling the scrubber liquid?
   A. To determine if any additional chemicals need to be added to the scrubber liquid
   B. To determine if the scrubber liquid needs to be replaced
   C. To determine if the scrubber liquid has been spent
   D. All of the above

10. Which of the following steps for stopping scrubber operations is in the correct order?
   A. Turn the scrubber pumps off, turn the blower motor off, close the header valve (of tank containing material to be scrubbed).
   B. Turn the blower motor off, turn the scrubber pumps off, close the header valve (of tank containing material to be scrubbed).
   C. Close the header valve, turn the scrubber pumps off, turn the blower motor off
   D. Close the header valve, turn the blower motor off, turn the scrubber pumps off

11. Whose responsibility is it to notify the Processing Manager any time odor is detected?
   A. The Processing Technicians
   B. The Lab Personnel
   C. The Drivers
   D. Everyone employed by CES

After this quiz has been checked and reviewed, you may consider yourself trained. I, _____, am now responsible for this information.

Nombre_____ Fecha_____

Examen De Entrenamiento De Operacion Y Mantenimiento Para El Scrubber

1. cuando debe ser el Scrubber usado?
   a. Cuando prosesan cargas olorosas en el warehouse .
   b. Cuando practican cualquier actividad donde vapores olorosos son descargados al aire.
   c. Cuando prosesan cargas olorosas por el centrifuge.
   d. Todas las anteriores

2. Cuando debe el liqido del scrubber ser probado ?
   a. Antes de empezar el Scrubber o antes de las 7:30 am
   b. Despues que el Scrubber hayga corridor por 15 minutos.
   c. Despues que el Scrubber hayga corridor por al menos una hora.
   d. Despues que el Scrubber hayga terminado procesando y este apagado.

3. Ongan los siguientes pasos en orden como empezar el Scrubber poniendole un numero en la linea.
   ____Verifique que los flotadores esten funsionando .
   ____ Habra la tapa de cupula para revisar si hay olor.
   ____ Revise los niveles de los liqidosutilizar el vidrio vidente o habrir el vats.
   ____ Prender el motor del soplador .
   ____ Prenda las pompas del Scrubber y revise el liqido flullente del Scrubber .
   ____ Habra la valvula Header al tanque que contienen materiales que nesecitan ser restregados.

4 Cual es el prosedimiento correcto para revisar si los flotantes estan funsionando?

   e. Revise que no esten abajo del tubo vidente.
   f. Sierre toda la valvula y despues habrala otra vez y fijese si el flotante se mueve.
   g. Sierre la valvula un poquito y vuelva a habrir y mire si el flotante se mueve.
   h. Sacuda el tubo y mire si el flotante se mueve

5. Que debe hacer si se detecta un olor al inisiar el scrubber
   i. Contactar a su director de procesamiento
   j. Apage el Scrubber y conacte a su director de procesamiento
   k. Permita el Scrubber que siga corriendo para limpiar el olor.
   l. Contacte a Matt Bowman

6. Quien es reponsable por completar lista de verificación diaria de operario para el Scrubber de la Warehouse ?
   m. El procesamiento especial de técnicos lo completan diario.
   n. El procesamiento especial de técnicos lo completan sia hay un problema.
   o. Los técnicos de procesamiento de Hydrocarbon lo completan diario.
   p. Los técnicos de procesamiento de Hydrocarbon lo completan si hay un problema.

7. Donde se encuentran la lista diaria del operarioy la lista de verificacion ?
   a. En el laboratorio principal de procesamiento.
   b.En el correo que esta en cada Scrubber.
   c. En la officina del director de prosesamiento
   d. En la officina principal

8. El Mantenimiento de la facilidad y técnicos de construcción son responsables de revisar y/o iniciar cuales de las siguientes formas son para determinar si el Scrubber necesita reparasiones o mantenimiento?
   a.La lista de verificación Diaria del Operario para el Scrubber del almacén
   b.La lista de verificación diaria del operario para el Scrubber la facilidad del petróleo.
   c.La lista de verificación del mantenimiento para cada Scrubber.
   d.Todas las anteriores

9. Cual es el porpositode la muestra de liqido del Scrubber?
   a. Para derterminar si un chimico adisional es necesariopara ser agregado al liqido del Scrubber.
   b. Para determinar si el liqido del Scrubber nesecita ser remplasado.
   c. Para determinar si el liqido del Scrubber a sido gastado.
   d. Todas las anteriores.

10. Cual se los Sigientes pasos para parar las operasiones esta en el orden correcto?
   a. Apage las pompas del Scrubber, apage el motor del soplador, sierra la valvula de encabezamiento. (del tanque que contiene material que va ser restregado.)
   b. Apage el motor del soprador, apage las pompas del Scrubber, Sierre la valvula de encabezamiento. . (del tanque que contiene material que va ser restregado.)
   c. Sierre la valvula de encabezamiento , apage las pompas del Scrubber, apage el motor del soplador.
   d. Sierre la valvula de encabezamiento, apage el motor del soplador,apage las pompas del Scrubber.

11. Quien es responsable de notificar al director de procesamiento cada vez que detecta un olor ?
   a. Técnico de procesasion.
   b. El personal del laboratorio
   c. Los conductors
   d. Todos los empleados de CES

Despues de terminar el examen y que sea revizado, te consideras entrenado. Yo, _____ , ahora soy responsable de esta informacion.

CONFIDENTIAL - DRAFT

CES COMPLAINTS

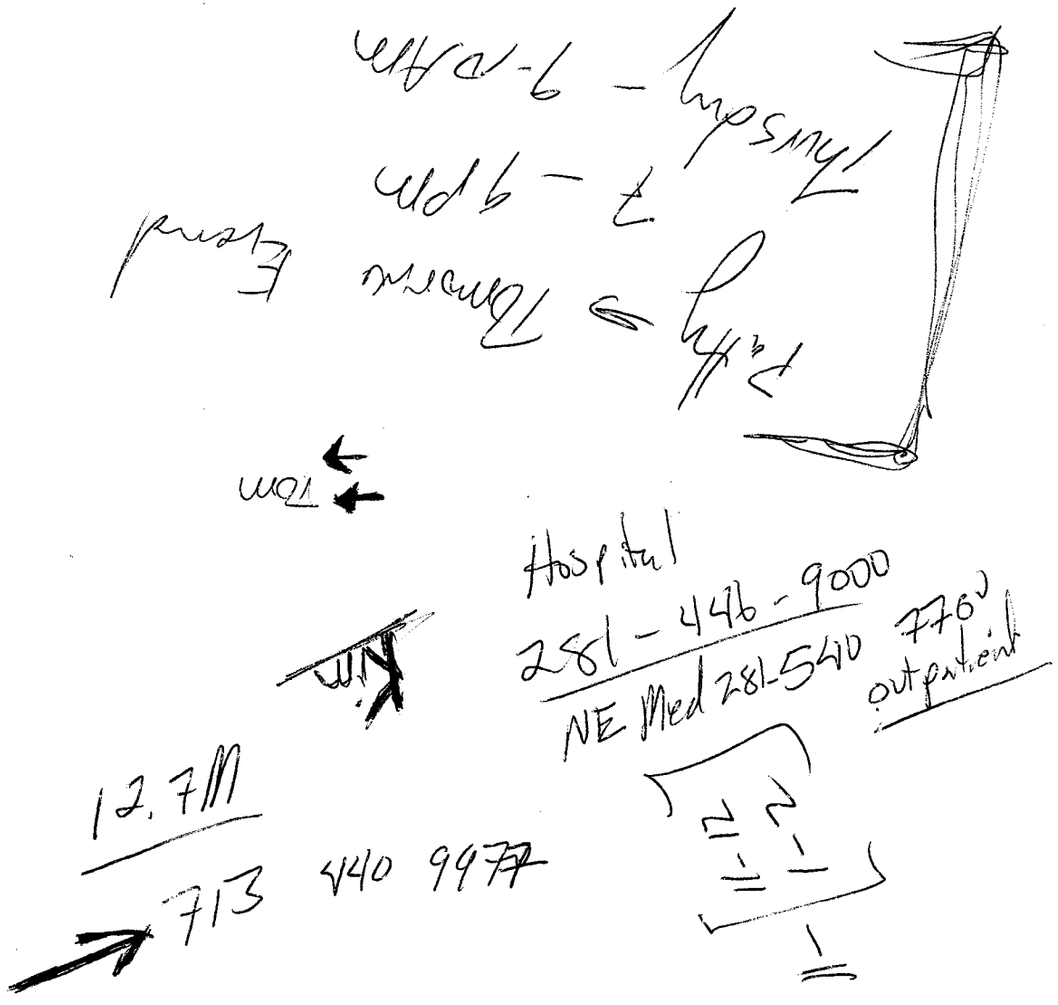
	Total Complaints	Confirmed Complaints	NOVs & Citations
2005	3	0	0
2006	7	3	1
2007	30	4	3
2008 Jan - April	19	3	3
May - Aug	90	53	31

Current as of 8/19/08

CONFIDENTIAL

→ Valve open on truck?
→ Espanol valve open yesterday?
→

EPAHO120000380



EPAHO120000381

CES ENVIRONMENTAL SERVICES, INC.

Houston, Texas

ANNUAL FINANCIAL REPORT

December 31, 2007

WEINSTEIN SPIRA & COMPANY

Certified Public Accountants
and Business Advisors

EPAHO120000382

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WEINSTEIN SPIRA & COMPANY

Certified Public Accountants
and Business Advisors

August 14, 2008

To the Stockholders
CES Environmental Services, Inc.
Houston, Texas

We have reviewed the accompanying Balance Sheet of CES Environmental Services, Inc., as of December 31, 2007, and the related Statement of Earnings, Statement of Changes in Stockholders' Equity and Statement of Cash Flows for the year then ended, in accordance with Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants. All information included in these financial statements is the representation of the management of CES Environmental Services, Inc.

A review consists principally of inquiries of Company personnel and analytical procedures applied to financial data. It is substantially less in scope than an audit in accordance with auditing standards generally accepted in the United States of America, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

Based on our review, we are not aware of any material modifications that should be made to the accompanying financial statements in order for them to be in conformity with accounting principles generally accepted in the United States of America.

Our review was made for the purpose of expressing limited assurance that there were no material modifications that should be made to the financial statements in order for them to be in conformity with accounting principles generally accepted in the United States of America. The information included in the accompanying Schedule of Direct and Indirect Costs and Schedule of Operating Expenses for the year ended December 31, 2007, is presented only for supplementary analysis purposes. Such information has been subjected to the inquiry and analysis procedures applied in the review of the basic financial statements, and we are not aware of any material modifications that should be made thereto.

Weinstein Spira & Company, P.C.

Three Greenway Plaza, Suite 1750 • Houston, Texas 77046 • 713.622.7000 • Fax: 713.843.4800
email@weinsteinspira.com • www.weinsteinspira.com
A Member of AGN International, Ltd.
A worldwide association of separate and independent accounting and consulting firms.

CES ENVIRONMENTAL SERVICES, INC.
BALANCE SHEET
December 31, 2007

ASSETS

Current Assets		
Cash and cash equivalents		$ 1,057,668
Accounts receivable:		
Trade, net of allowance for doubtful accounts of $62,300	$ 4,066,153	
Employees	19,033	4,085,186
Prepaid expenses		4,911
Total Current Assets		5,147,765
Property, Plant and Equipment		
Land and land improvements	1,140,517	
Building and improvements	1,158,742	
Equipment	6,231,969	
Furniture, fixtures and office equipment	180,048	
Transportation equipment	723,963	
Construction in progress	1,157,976	
	10,593,215	
Less: Accumulated depreciation	1,832,419	8,760,796
Other Assets		
Restricted cash	46,181	
Long-lived asset (asset retirement cost), net of accumulated amortization of $24,102	61,596	
Waste Water Capacity License	280,868	
Investment	22,000	410,645
		$ 14,319,206

EPAHO120000385

LIABILITIES

Current Liabilities		
Notes payable - current maturities		$ 1,397,987
Capital leases - current maturities		185,513
Due to stockholder - current portion		224,589
Accounts payable		2,957,110
Accrued expenses		483,028
Income tax payable		404,000
Deferred income tax		50,000
Total Current Liabilities		5,702,227
Asset Retirement Obligation		90,431
Long-Term Debt, net of current maturities		4,807,700
Long-Term Capital Leases, net of current maturities		484,048
Due to Stockholder, net of current maturities		288,066
Deferred Tax Liability		379,000
		11,751,472

STOCKHOLDERS' EQUITY

Common Stock - $1 par value, 100,000 shares authorized, 1,000 shares issued, 469 outstanding	$ 1,000	
Retained Earnings	3,129,234	
Less: Treasury Stock, at cost, 531 shares	(562,500)	2,567,734
		$ 14,319,206

See accountants' review report and notes to financial statements.

EPAHO120000386

CES ENVIRONMENTAL SERVICES, INC.
STATEMENT OF EARNINGS
For the Year Ended December 31, 2007

	Amount	Percentage
Revenues	$ 29,223,548	100.0%
Direct Costs	17,192,570	58.8
Indirect Costs	4,860,598	16.6
	22,053,168	75.4
Gross Profit	7,170,380	24.6
Operating Expenses	4,405,900	15.1
Income From Operations	2,764,480	9.5
Other Income (Expense)		
Interest income	45,181	.1
Interest expense	(317,068)	(1.1)
	(271,887)	(1.0)
Earnings Before Income Taxes	2,492,593	8.5
Income Taxes		
Current	917,865	3.2
Deferred	59,445	.2
	982,310	3.4
Net Earnings	$ 1,510,283	5.1%

See accountants' review report and notes to financial statements.

EPAHO120000387

CES ENVIRONMENTAL SERVICES, INC.
STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY
For the Year Ended December 31, 2007

	Common Stock		Retained	Treasury Stock		
	Shares	Amount	Earnings	Shares	Amount	**Total**
Balance - December 31, 2006	1,000	$ 1,000	$ 1,618,951	531	$ (562,500)	$ **1,057,451**
Net Earnings			1,510,283			**1,510,283**
Balance - December 31, 2007	1,000	$ 1,000	$ 3,129,234	531	$ (562,500)	$ **2,567,734**

See accountants' review report and notes to financial statements.

EPAHO12000388

CES ENVIRONMENTAL SERVICES, INC.
STATEMENT OF CASH FLOWS
For the Year Ended December 31, 2007

Cash Flows From Operating Activities	
Net earnings	$ 1,510,283
Adjustments to reconcile net earnings to net cash provided by operating activities:	
Depreciation	667,612
Amortization on long-lived asset (asset retirement cost)	9,038
Interest expense on asset retirement obligation	12,138
Provision for bad debt expense	52,914
Deferred income tax provision	59,445
Increase in:	
Accounts receivable	(1,524,576)
Prepaid expenses	(4,911)
Other assets	(309,993)
Accounts payable	1,494,836
Accrued expenses	483,028
Income tax payable	213,208
Net Cash Provided by Operating Activities	2,663,022
Cash Flows From Investing Activities	
Capital expenditures	(4,732,379)
Net Cash Used in Investing Activities	(4,732,379)
Cash Flows From Financing Activities	
Proceeds from debt	3,320,175
Payments on debt	(564,788)
Payments on capital leases	(158,573)
Due to stockholder	465,455
Net Cash Provided by Financing Activities	3,062,269
Net Increase in Cash and Cash Equivalents	992,912
Cash and Cash Equivalents - Beginning of Year	64,756
Cash and Cash Equivalents - End of Year	$ 1,057,668
Supplemental Disclosures of Cash Flow Information	
Cash paid during the year for:	
Interest	$ 338,858
Income taxes	$ 709,657
Supplemental Schedule of Non-Cash Investing and Financing Activities	
Acquisition of property and equipment through capital leases	$ 2,188,535
Change in estimate of asset retirement obligation	$ 2,094

See accountants' review report and notes to financial statements.

EPAHO120000389

Note 1 - Accounting Policies and Description of Business

The Company maintains its accounts on the accrual method of accounting in accordance with accounting principles generally accepted in the United States of America. Accounting principles followed by the Company and the methods of applying those principles which materially affect the determination of financial position, results of operations and cash flows are summarized below.

Description of Business

The Company provides environmental and waste management services to petrochemical, manufacturing and other industries. The Company performs remediation services, tankwash services, waste treatment and disposal, tank cleaning, waste transportation, recycling, brokering, manufacturing and waste packaging services throughout the greater Gulf Coast region and overseas.

Cash and Cash Equivalents

The Company considers all short-term investments with an original maturity of three months or less to be cash equivalents. As of December 31, 2007, the Company had cash and cash equivalents in financial institutions in excess of federally insured limits.

Accounts Receivable

Accounts receivable are primarily the result of credit sales of waste management services to petrochemical, manufacturing and other industries throughout the Gulf Coast region. Receivables normally do not require a pledge of collateral. The Company investigates the credit worthiness of those to whom it extends credit and may file suits to protect the Company's interests. Management is not aware of any significant concentrations of credit or market risk other than those disclosed in these financial statements.

The Company uses the allowance method for bad debts based on historical collection experience.

Property, Plant and Equipment

Property, plant and equipment are stated at cost. Depreciation of property, plant and equipment is provided on the straight-line method for financial reporting purposes over the estimated useful lives of the assets with salvage value of 10% as follows:

EPAHO120000390

Building and improvements	15 - 39 years
Equipment	3 - 10 years
Furniture, fixtures and office equipment	5 - 7 years
Transportation equipment	5 - 10 years

Costs of property and equipment include costs to improve the assets. Expenditures for repairs and maintenance are expensed when incurred.

In connection with the construction in progress, the Company capitalizes interest during the construction period. The Company capitalized interest of approximately $47,000 in 2007.

Property Under Capital Leases

Property under capital leases is presented at the present value of future minimum lease payments. Depreciation is computed on the straight-line method over five to seven years, which approximates the assets' useful lives.

Income Taxes

The Company computes federal and state income taxes based upon the rates prevailing at year end. The Company provides deferred income taxes for the expected future tax consequences of temporary differences between tax bases and financial reporting bases of assets and liabilities.

In May, 2006, the State of Texas adopted House Bill 3, which modified the state's franchise tax structure, replacing the previous tax based on capital or earned surplus with a margin tax (the Margin Tax). Under the provisions of House Bill 3, the Company is subject to the Margin Tax for the year ended December 31, 2007. The Company has accrued $205,000 as of December 31, 2007 related to the Margin Tax.

Restricted Cash

At December 31, 2007, the Company had cash of $46,181 that was restricted by a trust company to fund the future asset retirement obligation.

Investments

The Company has an investment in a corporation, CES International, which is included in other assets and is accounted for by the equity method. At year end, the Company had a 49% ownership interest in CES International which maintains its accounts on the accrual method of accounting. The Company owns the majority of the voting stock. Had the Company consolidated this entity, the results would not be materially different.

EPAHO120000391

Asset Retirement Obligation

Statement of Financial Accounting Standards (SFAS) No. 143, *Accounting for Asset Retirement Obligations*, requires that the fair value of a liability for an asset retirement obligation be recognized in the period in which it is incurred and capitalized as part of the carrying amount of the long-lived asset.

The Company provides an obligation for the present value of the estimated costs at current prices of the clean-up and decontamination of related facilities. Such costs are amortized over the estimated lives of the facilities using the unit of production method.

The carrying amount of asset retirement obligations recognized by the Company was $90,431 at December 31, 2007.

The following table shows changes in the carrying amount of the Company's asset retirement obligations:

	2007
Balance at January 1	$ 76,199
Interest expense	12,138
Revisions in estimate	2,094
Balance at December 31	$ 90,431

Advertising

Advertising costs are expensed as incurred.

Sales Tax

The Company records sales taxes collected from customers on a net basis, whereby no sales taxes are included in revenues, and records a payable to the taxing authority.

Shipping and Handling Fees and Costs

All amounts billed to a customer in a sales transaction related to shipping and handling represent revenues earned and are reported as revenue. Costs incurred by the Company for shipping and handling are reported as cost of sales.

EPAHO120000392

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and certain assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Note 2 - Debt

Debt at December 31, 2007 consisted of the following:

Note payable to a financial institution, secured by vehicles and guaranteed by stockholder, due in monthly installments of interest only at 7.25%, maturing March 2008	$ 2,000,000
Note payable to a financial institution, secured by property and guaranteed by stockholder, due in monthly installments of $10,002, including interest at 7.10%, maturing October 2024	1,162,651
Note payable to a financial institution, secured by property and guaranteed by stockholder, due in monthly installments of $9,270, including interest at 7.36%, maturing January 2022	973,797
Note payable to a financial institution, secured by oil processing facility and guaranteed by stockholder, due in monthly installments of $10,091, including interest at 7.50%, maturing November 2017	701,322
Notes payable to a financial institution, secured by vehicles and equipment and guaranteed by stockholder, due in monthly installments aggregating $23,588, including interest with rates varying from 7.00% to 9.42%, maturing May 2009 through June 2012	555,437
Notes payable to stockholder, secured by vehicles and equipment, due in monthly installments aggregating $18,551, including interest at 8.25%, maturing December 2009 through April 2012	591,911

EPAHO120000393

Note payable to individual, secured by property and guaranteed by stockholder, due in monthly installments of $2,278, including interest at 4.00%, maturing October 2016	203,137
Note payable to a financial institution, secured by equipment and guaranteed by stockholder, due in monthly installments of $1,783, including interest at 4.95%, maturing October 2008	17,432
	6,205,687
Less: Current portion	1,397,987
	$ 4,807,700

On March 25, 2008, the Company repaid a portion of its $2,000,000 note payable to a financial institution and refinanced the remaining balance of $1,457,250. The refinanced note payable is due in aggregate monthly installments of $34,200 plus interest at an annual rate of 5.875%, maturing in March 2012. The future maturities at December 31, 2007 reflect the refinanced terms.

Future maturities of debt are as follows:

For the Year Ending December 31,	
2008	$ 1,397,987
2009	875,252
2010	756,743
2011	735,852
2012	320,340
Thereafter	2,119,513
	$ 6,205,687

Note 3 - Capital Leases

The Company has entered into leases for the acquisition of certain property and equipment, which are required to be capitalized in accordance with Statement of Financial Accounting Standard No. 13, *Accounting for Leases* (SFAS 13). SFAS 13 requires capitalization of leases meeting certain criteria, with the related asset being recorded on property and equipment and an offsetting amount recorded as a liability. The following is a schedule of future minimum lease payments under the capital leases:

EPAHO120000394

Year Ending December 31,	
2008	$ 232,633
2009	231,353
2010	183,857
2011	116,288
2012	5,365
Total minimum lease payments	769,496
Less: Amount representing interest	99,935
Present value of net minimum lease payments	669,561
Less: Current portion	185,513
Long-term portion of present value of net minimum lease payments	$ 484,048

Assets recorded under capital leases at December 31, 2007, consist of:

Property and equipment	$ 898,275
Less: Accumulated depreciation	139,419
Net Book Value	$ 758,856

Note 4 - Provision for Income Taxes

The income tax provision for the year ended December 31, 2007, consists of the following:

Current:	
Federal	$ 673,743
State	249,122
	922,865
Deferred:	
Federal	59,445
Net income tax provision	$ 982,310

A reconciliation of income tax expense (benefit) at the statutory rate to income tax expense at the effective rate for the year ended December 31, 2007 is as follows:

Income tax at statutory rate (34%)	$ 847,482
Effect of non-deductible expenses	14,003
State income taxes, net of federal benefit	164,421
Correction of prior year's provisions	(25,485)
Other	(18,111)
	$ 982,310

EPAHO120000395

The components of the deferred income tax liabilities as of December 31, 2007 are as follows:

Deferred Income Tax Liabilities - Current:	
Allowance for doubtful accounts	$ 21,000
Cash to accrual adjustment	(71,000)
	$ (50,000)
Deferred Income Tax Liabilities - Long-Term:	
Accumulated depreciation and amortization	$ (389,000)
Accumulated amortization on long-lived asset	8,000
Accumulated interest on asset retirement obligation	2,000
	$ (379,000)
Deferred Income Tax Liability	$ (429,000)

Note 5 - Related Party Transactions

As further discussed in Note 2, at December 31, 2007, the Company had notes payable to a stockholder of $591,911. Interest expense related to these notes payable was $41,779 for the year ended December 31, 2007.

At December 31, 2007, the Company had a payable to a stockholder of $512,655. Subsequent to year end, the Company made partial payments and the remaining amount owed on the payable was converted to a subordinated note payable along with additional subsequent amounts borrowed from the stockholder. The subordinated note payable is due in monthly installments, beginning July 2008, of $8,055 including interest of 7.50%, and matures June 2013. The current and long-term portions of the due to stockholder as of December 31, 2007, reflects the 2008 payments made to the stockholder and future payments due under the terms of the subsequent note payable.

Note 6 - Significant Customers

For the year ended December 31, 2007, the Company had one significant customer that accounted for approximately 18% of revenue.

Note 7 - Contingencies

The Company is, and from time to time may be, subject to various other claims and legal proceedings which arise in the ordinary course of business that involve activities that are subject to federal, state, and local environmental laws and regulations. In the opinion of management, there are no matters that are likely to have a material adverse effect on the Company's financial position, results of operations or cash flows.

EPAHO120000396

Note 8 - Subsequent Events

In 2008, the Company has agreed to purchase a building and land for approximately $3,000,000. The Company has also agreed to purchase a second piece of land for approximately $2,000.000. The purchases of building and land are to be financed through the issuance of notes payable.

As discussed in Note 5, in 2008 the Company converted a portion of the due to stockholder into a subordinated note payable.

As discussed in Note 2, in 2008 the Company refinanced its $2,000,000 note payable to a financial institution.

EPAHO120000397

ACCOMPANYING INFORMATION

CES ENVIRONMENTAL SERVICES, INC.
SCHEDULE OF DIRECT AND INDIRECT COSTS
For the Year Ended December 31, 2007

	Amount	Percentage
Direct Costs:		
Payroll expenses	$ 3,824,874	13.0%
Delivery cost	3,421,924	11.8
Disposal	1,714,986	5.9
Waste management fees	1,680,181	5.7
Fuel	1,410,581	4.8
Equipment rentals	1,032,609	3.5
Third party processing	778,298	2.7
Lease payments	658,726	2.3
Commissions	629,504	2.2
TSDF disposal	538,482	1.8
Recycling	445,417	1.5
Sub transportation	369,048	1.3
Job material	168,029	.6
Analyticals	104,099	.4
Operational error	98,966	.3
Contract labor	67,778	.2
Equipment rental	57,965	.2
TSDF recycling	41,418	.1
Washouts outside	37,008	.1
TCEQ waste fee	35,308	.1
Energy assessment fee	27,785	.1
4% City franchise fee	18,988	.1
Chemical cleaning	16,194	.1
Container repair	8,252	
Purchases for resale	6,150	
	17,192,570	58.8

See accountants' review report.

EPAHO120000399

CES ENVIRONMENTAL SERVICES, INC.
SCHEDULE OF DIRECT AND INDIRECT COSTS (Continued)
For the Year Ended December 31, 2007

	Amount	Percentage
Indirect Costs:		
Insurance	1,127,581	4.0%
Utilities	874,277	3.0
Depreciation	636,356	2.1
Supplies and tools	393,687	1.3
Truck costs	340,889	1.2
Chemical costs	334,390	1.1
Payroll expenses	232,648	.8
Equipment repair	221,078	.8
Contract labor	134,670	.5
Trailer costs	132,518	.5
Equipment rental	96,816	.3
Personal property taxes	94,753	.3
Analyticals	68,547	.2
CES disposal	54,469	.2
Uniforms	54,335	.2
Tire repairs	20,423	.1
Box repairs and supplies	10,945	
Labels and placards	8,704	
CES plant trash disposal	6,430	
Fines and tickets	5,591	
Consulting and clean up	3,306	
Miscellaneous expense	8,185	
	4,860,598	16.6
	$ 22,053,168	75.4%

See accountants' review report.

EPAHO120000400

CES ENVIRONMENTAL SERVICES, INC.
SCHEDULE OF OPERATING EXPENSES
For the Year Ended December 31, 2007

	Amount	Percentage
Salaries	$ 2,224,827	7.7%
Payroll tax expense	510,817	1.7
Professional fees	376,222	1.3
Commissions	269,499	.9
Travel	207,930	.7
Safety supplies	145,235	.5
Telephone and communications	106,469	.4
Facility maintenance	96,968	.3
Meals and entertainment	82,368	.3
Office expense	67,066	.2
Bad debt expense	52,914	.2
Promotional	39,092	.1
Depreciation	31,256	.1
Bank service charges	28,315	.1
Facility equipment repairs	24,629	.1
Contributions	22,092	.1
Dues/subscriptions	16,249	.1
Licenses/permits	16,241	.1
Postage	15,419	.1
Training class	14,949	.1
Moving/relocation expenses	11,967	
Amortization	9,038	
Printing	8,747	
Medical expenses	8,172	
Freight/delivery	5,515	
Utilities	1,965	
Advertising	1,408	
Employee welfare	1,214	
Miscellaneous expense	9,317	
	$ 4,405,900	15.1%

See accountants' review report.

EPAHO120000401

HURRICANE IKE

Form **1120**
Department of the Treasury
Internal Revenue Service

U.S. Corporation Income Tax Return

For calendar year 2007 or tax year
beginning _____ , ending _____

OMB No. 1545-0123

2007

A Check if:
1a Consolidated return (attach Form 851) ☐
b Life/nonlife consolidated return ☐
2 Personal holding co. (attach Sch. PH) ☐
3 Personal service corp. (see instructions) ☐
4 Schedule M-3 attached ☒

Use IRS label. Otherwise, print or type.

Name: CES ENVIRONMENTAL SERVICES, INC.
Number, street, and room or suite no. If a P.O. box, see instructions.: 4904 GRIGGS ROAD
City or town, state, and ZIP code: HOUSTON, TX 77021

B Employer identification number: 76-0592985
C Date incorporated: 02/15/1999
D Total assets (see instructions): $ 14,319,207.

E Check if: (1) ☐ Initial return (2) ☐ Final return (3) ☐ Name change (4) ☐ Address change

Income	1a Gross receipts or sales: 29,223,548. b Less returns and allowances:	c Bal ▶	1c	29,223,548.
	2 Cost of goods sold (Schedule A, line 8)		2	21,205,721.
	3 Gross profit. Subtract line 2 from line 1c		3	8,017,827.
	4 Dividends (Schedule C, line 19)		4	
	5 Interest SEE STATEMENT 1		5	45,181.
	6 Gross rents		6	
	7 Gross royalties		7	
	8 Capital gain net income (attach Schedule D (Form 1120))		8	
	9 Net gain or (loss) from Form 4797, Part II, line 17 (attach Form 4797)		9	
	10 Other income (attach schedule) SEE STATEMENT 2		10	208,467.
	11 **Total income.** Add lines 3 through 10	▶	11	8,271,475.
Deductions (See instructions for limitations on deductions.)	12 Compensation of officers (Schedule E, line 4)		12	1,315,398.
	13 Salaries and wages (less employment credits)		13	1,384,428.
	14 Repairs and maintenance		14	121,597.
	15 Bad debts		15	29,102.
	16 Rents		16	
	17 Taxes and licenses SEE STATEMENT 3		17	760,441.
	18 Interest		18	304,930.
	19 Charitable contributions SEE STATEMENT 4 AND SEE STATEMENT 5		19	22,092.
	20 Depreciation from Form 4562 not claimed on Schedule A or elsewhere on return (attach Form 4562)		20	1,136,584.
	21 Depletion		21	
	22 Advertising		22	1,408.
	23 Pension, profit-sharing, etc., plans		23	
	24 Employee benefit programs		24	1,214.
	25 Domestic production activities deduction (attach Form 8903)		25	
	26 Other deductions (attach schedule) SEE STATEMENT 6		26	1,137,783.
	27 **Total deductions.** Add lines 12 through 26	▶	27	6,214,977.
	28 Taxable income before net operating loss deduction and special deductions. Subtract line 27 from line 11		28	2,056,498.
	29 Less: a Net operating loss deduction 29a			
	b Special deductions (Schedule C, line 20) 29b		29c	
Tax and Payments	30 **Taxable income.** Subtract line 29c from line 28 (see instructions)		30	2,056,498.
	31 **Total tax** (Schedule J, line 10)		31	699,209.
	32 a 2006 overpayment credited to 2007 32a			
	b 2007 estimated tax payments 32b 500,227.			
	c 2007 refund applied for on Form 4466 32c ( ) d Bal ▶	32d 500,227.		
	e Tax deposited with Form 7004	32e 50,000.		
	f Credits: (1) Form 2439 _____ (2) Form 4136 _____	32f	32g	550,227.
	33 Estimated tax penalty (see instructions). Check if Form 2220 is attached ▶ ☒		33	1,520.
	34 **Amount owed.** If line 32g is smaller than the total of lines 31 and 33, enter amount owed		34	150,502.
	35 **Overpayment.** If line 32g is larger than the total of lines 31 and 33, enter amount overpaid		35	
	36 Enter amount from line 35 you want: Credited to [illegible] Refunded ▶		36	

TAXPAYER'S COPY

Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

▶ Signature of officer _____ Date _____ ▶ Title _____

May the IRS discuss this return with the preparer shown below? ☒ Yes ☐ No

Paid Preparer's Use Only

Preparer's signature ▶ _____ Date 11/14/08 Check if self-employed ☐ Preparer's SSN or PTIN 036-48-6910

Firm's name (or yours if self-employed), address, and ZIP code ▶ WEINSTEIN SPIRA & COMPANY, P.C.
THREE GREENWAY PLAZA, SUITE 1750
HOUSTON, TEXAS 77046

EIN 74-2181616
Phone no. (713)622-7000

Schedule A Cost of Goods Sold (see instructions)

1	Inventory at beginning of year	1	
2	Purchases	2	983,730.
3	Cost of labor	3	3,852,022.
4	Additional section 263A costs (attach schedule)	4	
5	Other costs (attach schedule) SEE STATEMENT 8	5	16,369,969.
6	**Total.** Add lines 1 through 5	6	21,205,721.
7	Inventory at end of year	7	
8	**Cost of goods sold.** Subtract line 7 from line 6. Enter here and on page 1, line 2	8	21,205,721.

9 a Check all methods used for valuing closing inventory:
- (i) ☐ Cost
- (ii) ☐ Lower of cost or market
- (iii) ☐ Other (Specify method used and attach explanation.) ▶

b Check if there was a writedown of subnormal goods ▶ ☐

c Check if the LIFO inventory method was adopted this tax year for any goods (if checked, attach Form 970) ▶ ☐

d If the LIFO inventory method was used for this tax year, enter percentage (or amounts) of closing inventory computed under LIFO — 9d

e If property is produced or acquired for resale, do the rules of section 263A apply to the corporation? ☐ Yes ☒ No

f Was there any change in determining quantities, cost, or valuations between opening and closing inventory? If "Yes," attach explanation ☐ Yes ☒ No

Schedule C Dividends and Special Deductions (see instructions)

		(a) Dividends received	(b) %	(c) Special deductions (a) x (b)
1	Dividends from less-than-20%-owned domestic corporations (other than debt-financed stock)		70	
2	Dividends from 20%-or-more-owned domestic corporations (other than debt-financed stock)		80	
3	Dividends on debt-financed stock of domestic and foreign corporations		see instructions	
4	Dividends on certain preferred stock of less-than-20%-owned public utilities		42	
5	Dividends on certain preferred stock of 20%-or-more-owned public utilities		48	
6	Dividends from less-than-20%-owned foreign corporations and certain FSCs		70	
7	Dividends from 20%-or-more-owned foreign corporations and certain FSCs		80	
8	Dividends from wholly owned foreign subsidiaries		100	
9	**Total.** Add lines 1 through 8			
10	Dividends from domestic corporations received by a small business investment company operating under the Small Business Investment Act of 1958		100	
11	Dividends from affiliated group members		100	
12	Dividends from certain FSCs		100	
13	Dividends from foreign corporations not included on lines 3, 6, 7, 8, 11, or 12			
14	Income from controlled foreign corporations under subpart F (attach Form(s) 5471)			
15	Foreign dividend gross-up			
16	IC-DISC and former DISC dividends not included on lines 1, 2, or 3			
17	Other dividends			
18	Deduction for dividends paid on certain preferred stock of public utilities			
19	**Total dividends.** Add lines 1 through 17. Enter here and on page 1, line 4 ▶			

20 **Total special deductions.** Add lines 9, 10, 11, 12, and 18. Enter here and on page 1, line 29b ▶

Schedule E Compensation of Officers

(see instructions for page 1, line 12)
Note: Complete Schedule E only if total receipts (line 1a plus lines 4 through 10 on page 1) are $500,000 or more.

	(a) Name of officer	(b) Social security number	(c) Percent of time devoted to business	Percent of corporation stock owned (d) Common	Percent of corporation stock owned (e) Preferred	(f) Amount of compensation
1	STATEMENT 7					

2	Total compensation of officers	1,315,398.
3	Compensation of officers claimed on Schedule A and elsewhere on return	
4	Subtract line 3 from line 2. Enter the result here and on page 1, line 12	1,315,398.

EPAHO120000403

Schedule J Tax Computation (see instructions)

1	Check if the corporation is a member of a controlled group (attach Schedule O (Form 1120)) ▶ ☐			
2	Income tax. Check if a qualified personal service corporation (see instructions) ▶ ☐ STMT 9		2	699,209.
3	Alternative minimum tax (attach Form 4626)		3	
4	Add lines 2 and 3		4	699,209.
5a	Foreign tax credit (attach Form 1118)	5a		
b	Credits from Forms 5735 and 8834	5b		
c	General business credit. Check applicable box(es): ☐ Form 3800 ☐ Form 5884 ☐ Form 6478 ☐ Form 8835, Section B ☐ Form 8844 ☐ Form 8846	5c		
d	Credit for prior year minimum tax (attach Form 8827)	5d		
e	Bond credits from: ☐ Form 8860 ☐ Form 8912	5e		
6	**Total credits.** Add lines 5a through 5e		6	
7	Subtract line 6 from line 4		7	699,209.
8	Personal holding company tax (attach Schedule PH (Form 1120))		8	
9	Other taxes. Check if from: ☐ Form 4255 ☐ Form 8611 ☐ Form 8697 ☐ Form 8866 ☐ Form 8902 ☐ Other (attach schedule)		9	
10	**Total tax.** Add lines 7 through 9. Enter here and on page 1, line 31		10	699,209.

Schedule K Other Information (see instructions)

		Yes	No
1	Check accounting method: a ☐ Cash b ☒ Accrual c ☐ Other (specify) ▶		
2	See the instructions and enter the:		
	a Business activity code no. ▶ 562000		
	b Business activity ▶ SERVICE		
	c Product or service ▶ ENVIRONMENTAL		
3	At the end of the tax year, did the corporation own, directly or indirectly, 50% or more of the voting stock of a domestic corporation? (For rules of attribution, see section 267(c).)		X
	If "Yes," attach a schedule showing: (a) name and employer identification number (EIN), (b) percentage owned, and (c) taxable income or (loss) before NOL and special deduction of such corporation for the tax year ending with or within your tax year.		
4	Is the corporation a subsidiary in an affiliated group or a parent-subsidiary controlled group?		X
	If "Yes," enter name and EIN of the parent corporation ▶		
5	At the end of the tax year, did any individual, partnership, corporation, estate, or trust own, directly or indirectly, 50% or more of the corporation's voting stock? (For rules of attribution, see section 267(c).) STATEMENT 10	X	
	If "Yes," attach a schedule showing name and identifying number. (Do not include any information already entered in 4 above.) Enter percentage owned ▶ 95.00		
6	During this tax year, did the corporation pay dividends (other than stock dividends and distributions in exchange for stock) in excess of the corporation's current and accumulated earnings and profits? (See sections 301 and 316.)		X
	If "Yes," file **Form 5452**, Corporate Report of Nondividend Distributions.		
	If this is a consolidated return, answer here for the parent corporation and on **Form 851**, Affiliations Schedule, for each subsidiary.		

		Yes	No
7	At any time during the tax year, did one foreign person own, directly or indirectly, at least 25% of (a) the total voting power of all classes of stock of the corporation entitled to vote or (b) the total value of all classes of stock of the corporation?		X
	If "Yes," enter: (a) Percentage owned ▶ and (b) Owner's country ▶		
c	The corporation may have to file **Form 5472**, Information Return of a 25% Foreign-Owned U.S. Corporation or a Foreign Corporation Engaged in a U.S. Trade or Business. Enter number of Forms 5472 attached ▶		
8	Check this box if the corporation issued publicly offered debt instruments with original issue discount ▶ ☐		
	If checked, the corporation may have to file **Form 8281**, Information Return for Publicly Offered Original Issue Discount Instruments.		
9	Enter the amount of tax-exempt interest received or accrued during the tax year ▶ $		
10	Enter the number of shareholders at the end of the tax year (if 100 or fewer) ▶ 2		
11	If the corporation has an NOL for the tax year and is electing to forego the carryback period, check here ▶ ☐		
	If the corporation is filing a consolidated return, the statement required by Regulations section 1.1502-21(b)(3) must be attached or the election will not be valid.		
12	Enter the available NOL carryover from prior tax years (Do not reduce it by any deduction on line 29a.) ▶ $		
13	Are the corporation's total receipts (line 1a plus lines 4 through 10 on page 1) for the tax year **and** its total assets at the end of the tax year less than $250,000?		X
	If "Yes," the corporation is not required to complete Schedules L, M-1, and M-2 on page 4. Instead, enter the total amount of cash distributions and the book value of property distributions (other than cash) made during the tax year. ▶ $		

Schedule L Balance Sheets per Books	Beginning of tax year (a)	Beginning of tax year (b)	End of tax year (c)	End of tax year (d)
Assets				
1 Cash		64,761.		1,057,669.
2a Trade notes and accounts receivable	2,645,579.		4,128,453.	
b Less allowance for bad debts	(38,488.)	2,607,091.	(62,300.)	4,066,153.
3 Inventories				
4 U.S. government obligations				
5 Tax-exempt securities				
6 Other current assets (att. sch.) STMT 11		193,059.		1,181,920.
7 Loans to shareholders				
8 Mortgage and real estate loans				
9 Other investments (att. sch.) STMT 12				22,000.
10a Buildings and other depreciable assets	4,719,008.		8,783,119.	
b Less accumulated depreciation	(1,164,579.)	3,554,429.	(1,832,191.)	6,950,928.
11a Depletable assets				
b Less accumulated depletion	( )		( )	
12 Land (net of any amortization)		650,237.		650,237.
13a Intangible assets (amortizable only)	2,571.		283,439.	
b Less accumulated amortization	(916.)	1,655.	(916.)	282,523.
14 Other assets (att. sch.) STMT 13		39,056.		107,777.
15 Total assets		7,110,288.		14,319,207.
Liabilities and Shareholders' Equity				
16 Accounts payable		1,447,623.		3,006,508.
17 Mortgages, notes, bonds payable in less than 1 year		440,617.		1,217,479.
18 Other current liabilities (att. sch.) STMT 14		130,370.		1,073,143.
19 Loans from shareholders		47,200.		1,104,565.
20 Mortgages, notes, bonds payable in 1 year or more		3,232,389.		4,396,298.
21 Other liabilities (att. sch.) STMT 15		537,566.		953,479.
22 Capital stock: a Preferred stock				
b Common stock	1,000.	1,000.	1,000.	1,000.
23 Additional paid-in capital				
24 Retained earnings - Appropriated (attach schedule)				
25 Retained earnings - Unappropriated		1,836,023.		3,129,235.
26 Adjustments to shareholders' equity (attach schedule)				
27 Less cost of treasury stock		(562,500.)		(562,500.)
28 Total liabilities and shareholders' equity		7,110,288.		14,319,207.

Schedule M-1 Reconciliation of Income (Loss) per Books With Income per Return

Note: Schedule M-3 required instead of Schedule M-1 if total assets are $10 million or more - see instructions

1 Net income (loss) per books		7 Income recorded on books this year not included on this return (itemize): Tax-exempt interest $	
2 Federal income tax per books			
3 Excess of capital losses over capital gains			
4 Income subject to tax not recorded on books this year (itemize):		8 Deductions on this return not charged against book income this year (itemize): a Depreciation $ b Charitable contributions $	
5 Expenses recorded on books this year not deducted on this return (itemize): a Depreciation $ b Charitable contributions $ c Travel and entertainment $			
6 Add lines 1 through 5		9 Add lines 7 and 8	
		10 Income (page 1, line 28) - line 6 less line 9	

Schedule M-2 Analysis of Unappropriated Retained Earnings per Books (Line 25, Schedule L)

1 Balance at beginning of year	1,836,023.	5 Distributions: a Cash	
2 Net income (loss) per books	1,293,212.	b Stock	
3 Other increases (itemize):		c Property	
		6 Other decreases (itemize):	
		7 Add lines 5 and 6	
4 Add lines 1, 2, and 3	3,129,235.	8 Balance at end of year (line 4 less line 7)	3,129,235.

EPAHO120000405

Form **4626**
Department of the Treasury
Internal Revenue Service

Alternative Minimum Tax - Corporations

▶ See separate instructions.
▶ Attach to the corporation's tax return.

OMB No. 1545-0175

2007

Name: CES ENVIRONMENTAL SERVICES, INC.

Employer identification number: 76-0592985

Note: See the instructions to find out if the corporation is a small corporation exempt from the alternative minimum tax (AMT) under section 55(e).

1	Taxable income or (loss) before net operating loss deduction			1	2,056,498.
2	**Adjustments and preferences:**				
a	Depreciation of post-1986 property			2a	212,751.
b	Amortization of certified pollution control facilities			2b	
c	Amortization of mining exploration and development costs			2c	
d	Amortization of circulation expenditures (personal holding companies only)			2d	
e	Adjusted gain or loss			2e	
f	Long-term contracts			2f	
g	Merchant marine capital construction funds			2g	
h	Section 833(b) deduction (Blue Cross, Blue Shield, and similar type organizations only)			2h	
i	Tax shelter farm activities (personal service corporations only)			2i	
j	Passive activities (closely held corporations and personal service corporations only)			2j	
k	Loss limitations			2k	
l	Depletion			2l	
m	Tax-exempt interest income from specified private activity bonds			2m	
n	Intangible drilling costs			2n	
o	Other adjustments and preferences		*	2o	
3	Pre-adjustment alternative minimum taxable income (AMTI). Combine lines 1 through 2o			3	2,269,249.
4	**Adjusted current earnings (ACE) adjustment:**				
a	ACE from line 10 of the ACE worksheet in the instructions	4a	2,269,249.		
b	Subtract line 3 from line 4a. If line 3 exceeds line 4a, enter the difference as a negative amount (see instructions)	4b	0.		
c	Multiply line 4b by 75% (.75). Enter the result as a positive amount	4c			
d	Enter the excess, if any, of the corporation's total increases in AMTI from prior year ACE adjustments over its total reductions in AMTI from prior year ACE adjustments (see instructions). **Note:** You **must** enter an amount on line 4d (even if line 4b is positive)	4d	424.		
e	ACE adjustment. • If line 4b is zero or more, enter the amount from line 4c • If line 4b is less than zero, enter the **smaller** of line 4c or line 4d as a negative amount			4e	0.
5	Combine lines 3 and 4e. If zero or less, stop here; the corporation does not owe any AMT			5	2,269,249.
6	Alternative tax net operating loss deduction (see instructions)			6	
7	**Alternative minimum taxable income.** Subtract line 6 from line 5. If the corporation held a residual interest in a REMIC, see instructions			7	2,269,249.
8	**Exemption phase-out** (if line 7 is $310,000 or more, skip lines 8a and 8b and enter -0- on line 8c):				
a	Subtract $150,000 from line 7 (if completing this line for a member of a controlled group, see instructions). If zero or less, enter -0-	8a			
b	Multiply line 8a by 25% (.25)	8b			
c	Exemption. Subtract line 8b from $40,000 (if completing this line for a member of a controlled group, see instructions). If zero or less, enter -0-			8c	0.
9	Subtract line 8c from line 7. If zero or less, enter -0-			9	2,269,249.
10	Multiply line 9 by 20% (.20)			10	453,850.
11	Alternative minimum tax foreign tax credit (AMTFTC) (see instructions)			11	
12	Tentative minimum tax. Subtract line 11 from line 10			12	453,850.
13	Regular tax liability before applying all credits except the foreign tax credit and the American Samoa economic development credit			13	699,209.
14	**Alternative minimum tax.** Subtract line 13 from line 12. If zero or less, enter -0-. Enter here and on Form 1120, Schedule J, line 3, or the appropriate line of the corporation's income tax return			14	0.

JWA **For Paperwork Reduction Act Notice, see the instructions.**

Form **4626** (2007)

* SEE ALSO STMT 16

717001
12-27-07

EPAHO120000406

Adjusted Current Earnings (ACE) Worksheet

▶ See ACE Worksheet Instructions.

1	Pre-adjustment AMTI. Enter the amount from line 3 of Form 4626				1	2,269,249.
2	ACE depreciation adjustment:					
a	AMT depreciation			2a 923,833.		
b	ACE depreciation:					
(1)	Post-1993 property	2b(1)	923,833.			
(2)	Post-1989, pre-1994 property	2b(2)				
(3)	Pre-1990 MACRS property	2b(3)				
(4)	Pre-1990 original ACRS property	2b(4)				
(5)	Property described in sections 168(f)(1) through (4)	2b(5)				
(6)	Other property	2b(6)				
(7)	Total ACE depreciation. Add lines 2b(1) through 2b(6)			2b(7) 923,833.		
c	ACE depreciation adjustment. Subtract line 2b(7) from line 2a				2c	
3	Inclusion in ACE of items included in earnings and profits (E&P):					
a	Tax-exempt interest income			3a		
b	Death benefits from life insurance contracts			3b		
c	All other distributions from life insurance contracts (including surrenders)			3c		
d	Inside buildup of undistributed income in life insurance contracts			3d		
e	Other items (see Regulations sections 1.56(g)-1(c)(6)(iii) through (ix) for a partial list)			3e		
f	Total increase to ACE from inclusion in ACE of items included in E&P. Add lines 3a through 3e				3f	
4	Disallowance of items not deductible from E&P:					
a	Certain dividends received			4a		
b	Dividends paid on certain preferred stock of public utilities that are deductible under section 247			4b		
c	Dividends paid to an ESOP that are deductible under section 404(k)			4c		
d	Nonpatronage dividends that are paid and deductible under section 1382(c)			4d		
e	Other items (see Regulations sections 1.56(g)-1(d)(3)(i) and (ii) for a partial list)			4e		
f	Total increase to ACE because of disallowance of items not deductible from E&P. Add lines 4a through 4e				4f	
5	Other adjustments based on rules for figuring E&P:					
a	Intangible drilling costs			5a		
b	Circulation expenditures			5b		
c	Organizational expenditures			5c		
d	LIFO inventory adjustments			5d		
e	Installment sales			5e		
f	Total other E&P adjustments. Combine lines 5a through 5e				5f	
6	Disallowance of loss on exchange of debt pools				6	
7	Acquisition expenses of life insurance companies for qualified foreign contracts				7	
8	Depletion				8	
9	Basis adjustments in determining gain or loss from sale or exchange of pre-1994 property				9	
10	**Adjusted current earnings.** Combine lines 1, 2c, 3f, 4f, and 5f through 9. Enter the result here and on line 4a of Form 4626				10	2,269,249.

717021
12-28-07

EPAHO120000407

SCHEDULE M-3
(Form 1120)

Department of the Treasury
Internal Revenue Service

Net Income (Loss) Reconciliation for Corporations With Total Assets of $10 Million or More

▶ Attach to Form 1120 or 1120-C.
▶ See separate instructions.

OMB No. 1545-0123

2007

Name of corporation (common parent, if consolidated return)

CES ENVIRONMENTAL SERVICES, INC.

Employer identification number

76-0592985

Check applicable box(es): (1) [X] Non-Consolidated return (2) [ ] Consolidated return (Form 1120 only)
(3) [ ] Mixed 1120/L/PC group (4) [ ] Dormant subsidiaries schedule attached

Part I Financial Information and Net Income (Loss) Reconciliation (see instructions)

1a Did the corporation file SEC Form 10-K for its income statement period ending with or within this tax year?
[ ] Yes. Skip lines 1b and 1c and complete lines 2a through 11 with respect to that SEC Form 10-K.
[X] No. Go to line 1b. See instructions if multiple non-tax-basis income statements are prepared.

b Did the corporation prepare a certified audited non-tax-basis income statement for that period?
[ ] Yes. Skip line 1c and complete lines 2a through 11 with respect to that income statement.
[X] No. Go to line 1c.

c Did the corporation prepare a non-tax-basis income statement for that period?
[ ] Yes. Complete lines 2a through 11 with respect to that income statement.
[X] No. Skip lines 2a through 3c and enter the corporation's net income (loss) per its books and records on line 4.

2a Enter the income statement period: Beginning _____ Ending _____

b Has the corporation's income statement been restated for the income statement period on line 2a?
[ ] Yes. (If "Yes," attach an explanation and the amount of each item restated.)
[ ] No.

c Has the corporation's income statement been restated for any of the five income statement periods preceding the period on line 2a?
[ ] Yes. (If "Yes," attach an explanation and the amount of each item restated.)
[ ] No.

3a Is any of the corporation's voting common stock publicly traded?
[ ] Yes.
[ ] No. If "No," go to line 4.

b Enter the symbol of the corporation's primary U.S. publicly traded voting common stock ..... [ ][ ][ ][ ][ ]

c Enter the nine-digit CUSIP number of the corporation's primary publicly traded voting common stock ..... [ ][ ][ ][ ][ ][ ][ ][ ][ ]

4	Worldwide consolidated net income (loss) from income statement source identified in Part I, line 1	4	1,293,212.
5a	Net income from nonincludible foreign entities (attach schedule)	5a	( )
b	Net loss from nonincludible foreign entities (attach schedule and enter as a positive amount)	5b	
6a	Net income from nonincludible U.S. entities (attach schedule)	6a	( )
b	Net loss from nonincludible U.S. entities (attach schedule and enter as a positive amount)	6b	
7a	Net income (loss) of other disregarded entities (attach schedule)	7a	
b	Net income (loss) of other includible entities (attach schedule)	7b	
8	Adjustment to eliminations of transactions between includible entities and nonincludible entities (attach schedule)	8	
9	Adjustment to reconcile income statement period to tax year (attach schedule)	9	
10a	Intercompany dividend adjustments to reconcile to line 11 (attach schedule)	10a	
b	Other statutory accounting adjustments to reconcile to line 11 (attach schedule)	10b	
c	Other adjustments to reconcile to amount on line 11 (attach schedule)	10c	
11	**Net income (loss) per income statement of includible corporations.** Combine lines 4 through 10	11	1,293,212.

Name of corporation (common parent, if consolidated return): CES ENVIRONMENTAL SERVICES, INC.
Employer identification number: 76-0592985

Check applicable box(es): (1) ☐ Consolidated group (2) ☐ Parent corp (3) ☐ Consolidated eliminations (4) ☐ Subsidiary corp (5) ☐ Mixed 1120/L/PC group
Check if a sub-consolidated: (6) ☐ 1120 group (7) ☐ 1120 eliminations

Name of subsidiary (if consolidated return):
Employer identification number:

Part II Reconciliation of Net Income (Loss) per Income Statement of Includible Corporations With Taxable Income per Return (see instructions)

Income (Loss) Items (Attach schedules for lines 1 through 8)	(a) Income (Loss) per Income Statement	(b) Temporary Difference	(c) Permanent Difference	(d) Income (Loss) per Tax Return
1 Income (loss) from equity method foreign corporations				
2 Gross foreign dividends not previously taxed				
3 Subpart F, QEF, and similar inc inclusions				
4 Section 78 gross-up				
5 Gross foreign distributions previously taxed				
6 Income (loss) from equity method U.S. corporations				
7 U.S. dividends not eliminated in tax consolidation				
8 Minority interest for includible corporations				
9 Income (loss) from U.S. partnerships (attach schedule)				
10 Income (loss) from foreign partnerships (attach schedule)				
11 Income (loss) from other pass-through entities (attach schedule)				
12 Items relating to reportable transactions (attach details)				
13 Interest income (attach Form 8916-A)	45,181.			45,181.
14 Total accrual to cash adjustment				
15 Hedging transactions				
16 Mark-to-market income (loss)				
17 Cost of goods sold (attach Form 8916-A)	(21,205,721)			(21,205,721)
18 Sale versus lease (for sellers and/or lessors)				
19 Section 481(a) adjustments				
20 Unearned/deferred revenue				
21 Income recognition from long-term contracts				
22 Original issue discount and other imputed interest				
23a Income statement gain/loss on sale, exchange, abandonment, worthlessness, or other disposition of assets other than inventory and pass-through entities				
b Gross capital gains from Schedule D, excluding amounts from pass-through entities				
c Gross capital losses from Schedule D, excluding amounts from pass-through entities, abandonment losses, and worthless stock losses				
d Net gain/loss reported on Form 4797, line 17, excluding amounts from pass-through entities, abandonment losses, and worthless stock losses				
e Abandonment losses				
f Worthless stock losses (attach details)				
g Other gain/loss on disposition of assets other than inventory				
24 Capital loss limitation and carryforward used				
25 Other income (loss) items with differences (attach sch) STMT 17		208,467.		208,467.
26 **Total income (loss) items.** Combine lines 1 through 25	-21160540.	208,467.		-20952073.
27 **Total expense/deduction items** (from Part III, line 36)	-2,101,351.	-428,965.	983,784.	-1,546,532.
28 Other items with no differences STMT 19	24,555,103.			24,555,103.
29a Mixed groups, see instructions. All others, add lines 26 through 28	1,293,212.	-220,498.	983,784.	2,056,498.
b PC insurance subgroup reconciliation totals				
c Life insurance subgroup reconciliation totals				
30 **Reconciliation totals.** Combine lines 29a through 29c	1,293,212.	-220,498.	983,784.	2,056,498.

Note. Line 30, column (a), must equal the amount on Part I, line 11, and column (d) must equal Form 1120, page 1, line 28.

EPAHO120000409

Name of corporation (common parent, if consolidated return)
CES ENVIRONMENTAL SERVICES, INC.

Employer identification number
76-0592985

Check applicable box(es): (1) ☐ Consolidated group (2) ☐ Parent corp (3) ☐ Consolidated eliminations (4) ☐ Subsidiary corp (5) ☐ Mixed 1120/L/PC group

Check if a sub-consolidated: (6) ☐ 1120 group (7) ☐ 1120 eliminations

Name of subsidiary (if consolidated return)

Employer identification number

Part III Reconciliation of Net Income (Loss) per Income Statement of Includible Corporations With Taxable Income per Return - Expense/Deduction Items (see instructions)

Expense/Deduction Items	(a) Expense per Income Statement	(b) Temporary Difference	(c) Permanent Difference	(d) Deduction per Tax Return
1 U.S. current income tax expense	942,600.		-942,600.	
2 U.S. deferred income tax expense				
3 State and local current income tax expense				
4 State and local deferred income tax expense				
5 Foreign current income tax expense (other than foreign withholding taxes)				
6 Foreign deferred income tax expense				
7 Foreign withholding taxes				
8 Interest expense (attach Form 8916-A)	309,663.	-4,733.		304,930.
9 Stock option expense				
10 Other equity-based compensation				
11 Meals and entertainment	82,368.		-41,184.	41,184.
12 Fines and penalties				
13 Judgments, damages, awards, and similar costs				
14 Parachute payments				
15 Compensation with section 162(m) limitation				
16 Pension and profit-sharing				
17 Other post-retirement benefits				
18 Deferred compensation				
19 Charitable contribution of cash and tangible property	22,092.			22,092.
20 Charitable contribution of intangible property				
21 Charitable contribution limitation/carryforward				
22 Domestic production activities deduction				
23 Current year acquisition or reorganization investment banking fees				
24 Current year acquisition or reorganization legal and accounting fees				
25 Current year acquisition/reorganization other costs				
26 Amortization/impairment of goodwill				
27 Amortization of acquisition, reorganization, and start-up costs				
28 Other amortization or impairment write-offs	24,102.	-11,462.		12,640.
29 Section 198 environmental remediation costs				
30 Depletion				
31 Depreciation	667,612.	468,972.		1,136,584.
32 Bad debt expense	52,914.	-23,812.		29,102.
33 Corporate owned life insurance premiums				
34 Purchase versus lease (for purchasers and/or lessees)				
35 Other expense/deduction items with differences (attach schedule)				
36 **Total expense/deduction items.** Combine lines 1 through 35. Enter here and on Part II, line 27	2,101,351.	428,965.	-983,784.	1,546,532.

Form **2220**

Department of the Treasury
Internal Revenue Service

Underpayment of Estimated Tax by Corporations

▶ See separate instructions.
▶ Attach to the corporation's tax return.

OMB No. 1545-0142

2007

Name: CES ENVIRONMENTAL SERVICES, INC.

Employer identification number: 76-0592985

Note: Generally, the corporation is not required to file Form 2220 (see Part II below for exceptions) because the IRS will figure any penalty owed and bill the corporation. However, the corporation may still use Form 2220 to figure the penalty. If so, enter the amount from page 2, line 34 on the estimated tax penalty line of the corporation's income tax return, but **do not** attach Form 2220.

Part I Required Annual Payment

1 Total tax (see instructions)		1	699,209.
2 a Personal holding company tax (Schedule PH (Form 1120), line 26) included on line 1	2a		
b Look-back interest included on line 1 under section 460(b)(2) for completed long-term contracts or section 167(g) for depreciation under the income forecast method	2b		
c Credit for Federal tax paid on fuels (see instructions)	2c		
d **Total.** Add lines 2a through 2c		2d	
3 Subtract line 2d from line 1. If the result is less than $500, **do not** complete or file this form. The corporation does not owe the penalty		3	699,209.
4 Enter the tax shown on the corporation's 2006 income tax return (see instructions). **Caution: If the tax is zero or the tax year was for less than 12 months, skip this line and enter the amount from line 3 on line 5**		4	141,633.
5 **Required annual payment.** Enter the **smaller** of line 3 or line 4. If the corporation is required to skip line 4, enter the amount from line 3		5	141,633.

Part II Reasons for Filing - Check the boxes below that apply. If any boxes are checked, the corporation **must** file Form 2220 even if it does not owe a penalty (see instructions).

6 ☐ The corporation is using the adjusted seasonal installment method.
7 ☐ The corporation is using the annualized income installment method.
8 ☐ The corporation is a "large corporation" figuring its first required installment based on the prior year's tax.

Part III Figuring the Underpayment

		(a)	(b)	(c)	(d)
9 **Installment due dates.** Enter in columns (a) through (d) the 15th day of the 4th (**Form 990-PF filers:** Use 5th month), 6th, 9th, and 12th months of the corporation's tax year	9	04/17/2007	06/15/2007	09/17/2007	12/17/2007
10 **Required installments.** If the box on line 6 and/or line 7 above is checked, enter the amounts from Sch A, line 38. If the box on line 8 (but not 6 or 7) is checked, see instructions for the amounts to enter. If none of these boxes are checked, enter 25% of line 5 above in each column.	10	35,408.	35,409.	35,408.	35,408.
11 Estimated tax paid or credited for each period (see instructions). For column (a) only, enter the amount from line 11 on line 15	11		20,000.	90,000.	158,227.
Complete lines 12 through 18 of one column before going to the next column.					
12 Enter amount, if any, from line 18 of the preceding column	12				3,775.
13 Add lines 11 and 12	13		20,000.	90,000.	162,002.
14 Add amounts on lines 16 and 17 of the preceding column	14		35,408.	50,817.	
15 Subtract line 14 from line 13. If zero or less, enter -0-	15			39,183.	162,002.
16 If the amount on line 15 is zero, subtract line 13 from line 14. Otherwise, enter -0-	16		15,408.		
17 **Underpayment.** If line 15 is less than or equal to line 10, subtract line 15 from line 10. Then go to line 12 of the next column. Otherwise, go to line 18	17	35,408.	35,409.		
18 **Overpayment.** If line 10 is less than line 15, subtract line 10 from line 15. Then go to line 12 of the next column	18			3,775.	

Go to Part IV on page 2 to figure the penalty. Do not go to Part IV if there are no entries on line 17 - no penalty is owed.

Part IV Figuring the Penalty

		(a)	(b)	(c)	(d)
19 Enter the date of payment or the 15th day of the 3rd month after the close of the tax year, whichever is earlier (see instructions). **(Form 990-PF and Form 990-T filers:** Use 5th month instead of 3rd month.)	19	STATEMENT	21		
20 Number of days from due date of installment on line 9 to the date shown on line 19	20				
21 Number of days on line 20 after 4/15/2007 and before 1/1/2008	21				
22 Underpayment on line 17 x Number of days on line 21 / 365 x 8%	22	$	$	$	$
23 Number of days on line 20 after 12/31/2007 and before 4/1/2008	23				
24 Underpayment on line 17 x Number of days on line 23 / 366 x 7%	24	$	$	$	$
25 Number of days on line 20 after 3/31/2008 and before 7/1/2008	25				
26 Underpayment on line 17 x Number of days on line 25 / 366 X *%	26	$	$	$	$
27 Number of days on line 20 after 6/30/2008 and before 10/1/2008	27				
28 Underpayment on line 17 x Number of days on line 27 / 366 x *%	28	$	$	$	$
29 Number of days on line 20 after 9/30/2008 and before 1/1/2009	29				
30 Underpayment on line 17 x Number of days on line 29 / 366 x *%	30	$	$	$	$
31 Number of days on line 20 after 12/31/2008 and before 2/16/2009	31				
32 Underpayment on line 17 x Number of days on line 31 / 365 x *%	32	$	$	$	$
33 Add lines 22, 24, 26, 28, 30, and 32	33	$ 790.	$ 730.	$	$

34 **Penalty.** Add columns (a) through (d) of line 33. Enter the total here and on Form 1120; line 33; or the comparable line for other income tax returns ..... 34 $ 1,520.

* **For underpayments paid after March 31, 2008:** For lines 26, 28, 30, and 32, use the penalty interest rate for each calendar quarter, which the IRS will determine during the first month in the preceding quarter. These rates are published quarterly in an IRS News Release and in a revenue ruling in the Internal Revenue Bulletin. To obtain this information on the Internet, access the IRS website at **www.irs.gov.** You can also call 1-800-829-4933 to get interest rate information.

Form **4562**

Department of the Treasury
Internal Revenue Service

Depreciation and Amortization
(Including Information on Listed Property) OTHER

▶ See separate instructions. ▶ Attach to your tax return.

OMB No. 1545-0172

2007

Attachment Sequence No. **67**

Name(s) shown on return	Business or activity to which this form relates	Identifying number
CES ENVIRONMENTAL SERVICES, INC.	OTHER DEPRECIATION	76-0592985

Part I **Election To Expense Certain Property Under Section 179** Note: *If you have any listed property, complete Part V before you complete Part I.*

1	Maximum amount. See the instructions for a higher limit for certain businesses	1	125,000.
2	Total cost of section 179 property placed in service (see instructions)	2	
3	Threshold cost of section 179 property before reduction in limitation	3	500,000.
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	

6	(a) Description of property	(b) Cost (business use only)	(c) Elected cost

7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	
9	Tentative deduction. Enter the **smaller** of line 5 or line 8	9	
10	Carryover of disallowed deduction from line 13 of your 2006 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5	11	
12	Section 179 expense deduction. Add lines 9 and 10, but do not enter more than line 11	12	
13	Carryover of disallowed deduction to 2008. Add lines 9 and 10, less line 12 ▶	13	

Note: *Do not use Part II or Part III below for listed property. Instead, use Part V.*

Part II **Special Depreciation Allowance and Other Depreciation (Do not include listed property.)**

14	Special allowance for qualified New York Liberty or Gulf Opportunity Zone property (other than listed property) and cellulosic biomass ethanol plant property placed in service during the tax year	14	
15	Property subject to section 168(f)(1) election	15	
16	Other depreciation (including ACRS)	16	

Part III **MACRS Depreciation (Do not include listed property.)** (See instructions.)

Section A

17	MACRS deductions for assets placed in service in tax years beginning before 2007	17	648,851.
18	If you are electing to group any assets placed in service during the tax year into one or more general asset accounts, check here ▶ ☐		

Section B - Assets Placed in Service During 2007 Tax Year Using the General Depreciation System

	(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only - see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a	3-year property		1,965,800.	3 YRS.	MQ	200DB	163,818.
b	5-year property		598,581.	5 YRS.	MQ	200DB	130,111.
c	7-year property		850,687.	7 YRS.	MQ	200DB	168,427.
d	10-year property						
e	15-year property		371,402.	15 YRS.	MQ	150DB	18,405.
f	20-year property						
g	25-year property			25 yrs.		S/L	
h	Residential rental property	/		27.5 yrs.	MM	S/L	
		/		27.5 yrs.	MM	S/L	
i	Nonresidential real property	SEE STATEMENT 22		39 yrs.	MM	S/L	5,197.
		/			MM	S/L	

Section C - Assets Placed in Service During 2007 Tax Year Using the Alternative Depreciation System

20a	Class life					S/L	
b	12-year			12 yrs.		S/L	
c	40-year	/		40 yrs.	MM	S/L	

Part IV **Summary** (see instructions)

21	Listed property. Enter amount from line 28	21	1,775.
22	**Total.** Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations - see instr.	22	1,136,584.
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

EPAHO120000413

Part V **Listed Property** (Include automobiles, certain other vehicles, cellular telephones, certain computers, and property used for entertainment, recreation, or amusement.)

Note: *For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete* **only** *24a, 24b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.*

Section A - Depreciation and Other Information (Caution: *See the instructions for limits for passenger automobiles.*)

24a Do you have evidence to support the business/investment use claimed? [X] Yes [ ] No 24b If "Yes," is the evidence written? [X] Yes [ ] No

(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/ investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/ Convention	(h) Depreciation deduction	(i) Elected section 179 cost
25 Special allowance for qualified Gulf Opportunity Zone property placed in service during the tax year and used more than 50% in a qualified business use						25		
26 Property used more than 50% in a qualified business use:								
F550 FORD 1		%						
TON	081700	100.00 %	34,558.	34,558.	5.00	200DB-HY	1,775.	
		%						
27 Property used 50% or less in a qualified business use:								
		%				S/L -		
		%				S/L -		
		%				S/L -		
28 Add amounts in column (h), lines 25 through 27. Enter here and on line 21, page 1						28	1,775.	
29 Add amounts in column (i), line 26. Enter here and on line 7, page 1						29		

Section B - Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other "more than 5% owner," or related person.
If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle		(b) Vehicle 1		(c) Vehicle		(d) Vehicle		(e) Vehicle		(f) Vehicle	
30 Total business/investment miles driven during the year (**do not** include commuting miles)												
31 Total commuting miles driven during the year												
32 Total other personal (noncommuting) miles driven												
33 Total miles driven during the year. Add lines 30 through 32												
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
34 Was the vehicle available for personal use during off-duty hours?				X								
35 Was the vehicle used primarily by a more than 5% owner or related person?			X									
36 Is another vehicle available for personal use?			X									

Section C - Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who **are not** more than 5% owners or related persons.

	Yes	No
37 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?		
38 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See the instructions for vehicles used by corporate officers, directors, or 1% or more owners		
39 Do you treat all use of vehicles by employees as personal use?		
40 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		
41 Do you meet the requirements concerning qualified automobile demonstration use?		

Note: *If your answer to 37, 38, 39, 40, or 41 is "Yes," do not complete Section B for the covered vehicles.*

Part VI **Amortization**

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2007 tax year:					
WASTE WATER LICENSE	051007	280,868.		180M	12,483.
43 Amortization of costs that began before your 2007 tax year				43	157.
44 **Total.** Add amounts in column (f). See the instructions for where to report				44	12,640.

EPAHO120000414

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
11	OFFICE 2000	10,15,99	197	36M	43	249.		249.	0.
14	ORGANIZATION COSTS	02,01,99	248	60M	43	688.		688.	0.
157	SOFTWARE QUICKBOOKS	12,10,04	SL	3.00	17	1,164.	582.	485.	97.
291	COMPUTER SOFTWARE	01,01,06		36M	43	470.		157.	157.
563	WASTE WATER LICENSE	05,10,07		180M	42	280,868.			12,483.
	* OTHER TOTAL OTHER					283,439.	582.	1,579.	12,737.
	BUILDINGS								
68	FENCE	06,11,02	SL	15.00	17	10,000.	3,000.	2,102.	467.
69	ASPHALT	06,11,02	SL	15.00	17	10,000.	3,000.	2,102.	467.
75	BUILDING	06,11,02	SL	39.00	17	133,600.		15,560.	3,426.
150	DRUM FACILITY	06,01,05	SL	39.00	17	714,947.		28,262.	18,332.
279	PARKING LOT	10,17,06	SL	15.00	17	18,853.		157.	1,257.
293	OFFICE REMODEL	02,15,07	SL	39.00	19I	28,457.			639.
300	SHOWER ROOM DEPOSIT	03,01,07	SL	39.00	19I	24,989.			507.
314	SHOWER ROOM INSTALLMENT 2	01,01,07	200DB	7.00	19C	64,972.			16,243.
321	OFFICE REMODEL	01,05,07	150DB	15.00	19E	15,239.			1,334.
343	IMPROVEMENTS TO WAYLAND ST.	02,20,07	150DB	15.00	19E	6,923.			606.
344	IMPROVEMENTS TO WAYLAND ST.	02,22,07	150DB	15.00	19E	1,935.			170.
348	BUILDING IMPROVEMENTS - WAYLAND STREET	02,23,07	150DB	15.00	19E	8,897.			779.
349	BUILDING IMPROVEMENTS - WAYLAND STREET	02,28,07	150DB	15.00	19E	378.			33.
352	BUILDING IMPROVEMENTS	03,06,07	150DB	15.00	19E	2,136.			187.
353	BUILDING IMPROVEMENTS	03,08,07	150DB	15.00	19E	137.			12.
354	CONTAINMENT SLAB & SITEWORK	03,09,07	150DB	15.00	19E	47,425.			4,150.
355	CONTAINMENT SLAB & SITEWORK	03,09,07	150DB	15.00	19E	32,614.			2,853.
356	BUILDING IMPROVEMENTS	03,13,07	150DB	15.00	19E	4,123.			361.
357	BUILDING IMPROVEMENTS	03,13,07	150DB	15.00	19E	1,243.			109.
359	BUILDING IMPROVEMENTS - WAYLAND STREET	03,15,07	150DB	15.00	19E	3,755.			329.

EPAHO120000415

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
361	BUILDING IMPROVEMENTS	03/26/07	150DB	15.00	19E	1,421.			124.
363	BUILDING IMPROVEMENTS	03/27/07	150DB	15.00	19E	2,417.			212.
365	BUILDING IMPROVEMENTS - WAYLAND STREET	03/30/07	150DB	15.00	19E	794.			69.
366	BUILDING IMPROVEMENTS	04/04/07	150DB	15.00	19E	2,209.			138.
367	BUILDING IMPROVEMENTS	04/04/07	150DB	15.00	19E	906.			57.
369	BUILDING IMPROVEMENTS - SHOWER ROOM	04/09/07	200DB	7.00	19C	3,490.			623.
370	BUILDING IMPROVEMENTS	04/10/07	150DB	15.00	19E	99.			6.
371	BUILDING IMPROVEMENTS - SHOWER ROOM	04/11/07	200DB	7.00	19C	10,179.			1,818.
374	BUILDING IMPROVEMENTS	04/16/07	150DB	15.00	19E	418.			26.
375	BUILDING IMPROVEMENTS	05/08/07	150DB	15.00	19E	14,640.			915.
380	PROPERTY IMPROVEMENTS	05/23/07	150DB	15.00	19E	1,500.			94.
388	BUILDING IMPROVEMENTS	06/08/07	SL	39.00	19I	1,856.			26.
389	BUILDING IMPROVEMENTS	06/08/07	SL	39.00	19I	1,856.			26.
392	BUILDING IMPROVEMENTS	06/12/07	150DB	15.00	19E	3,623.			226.
397	PROPERTY IMPROVEMENTS	06/20/07	150DB	15.00	19E	1,305.			82.
405	PROPERTY IMPROVEMENTS	07/16/07	SL	39.00	19I	139,411.			1,639.
440	BUILDING IMPROVEMENTS	08/13/07	150DB	15.00	19E	38,000.			1,425.
449	BUILDING IMPROVEMENTS - WAYLAND STREET	08/27/07	150DB	15.00	19E	12,680.			476.
455	BUILDING IMPROVEMENTS - WAYLAND STREET	08/30/07	150DB	15.00	19E	837.			32.
457	AIR CONDITIONING UNIT	08/31/07	150DB	15.00	19E	4,900.			184.
466	MOBILIZATION DRAW	09/24/07	SL	39.00	19I	5,975.			45.
467	BUILDING IMPROVEMENTS - WAYLAND STREET	09/26/07	150DB	15.00	19E	23,941.			898.
469	PROPERTY IMPROVEMENTS	09/27/07	150DB	15.00	19E	2,383.			89.
471	PROPERTY IMPROVEMENTS - WAYLAND ST.	09/30/07	SL	39.00	19I	97,775.			731.
472	PROPERTY IMPROVEMENTS - FORCE MAIN DESIGN	09/30/07	150DB	15.00	19E	16,000.			600.
473	PROPERTY IMPROVEMENTS	09/30/07	150DB	15.00	19E	1,377.			52.
474	PROPERTY IMPROVEMENTS - COH ENCROACHMENT PERMIT	09/30/07	150DB	15.00	19E	1,106.			42.

EPAHO120000416

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
476	BUILDING IMPROVEMENTS - OFFICES/BATHROOMS	10 12 07	150DB	15.00	19E	31,500.			394.
477	BUILDING IMPROVEMENTS - WAYLAND STREET	10 12 07	150DB	15.00	19E	3,355.			42.
479	PROPERTY IMPROVEMENTS - WAYLAND ST.	10 16 07	150DB	15.00	19E	1,035.			13.
480	PROPERTY IMPROVEMENTS	10 19 07	150DB	15.00	19E	14,000.			175.
484	PROPERTY IMPROVEMENTS	10 24 07	150DB	15.00	19E	1,053.			13.
485	BUILDING IMPROVEMENTS - GUTTERS	10 24 07	150DB	15.00	19E	1,869.			23.
488	PROPERTY IMPROVEMENTS - 2 WINGS TO RAMP/TANK PAD	10 31 07	SL	39.00	19I	6,808.			36.
493	PROPERTY IMPROVEMENTS	11 09 07	SL	39.00	19I	13,858.			44.
494	BUILDING IMPROVEMENTS - WAYLAND STREET	11 09 07	150DB	15.00	19E	5,530.			69.
495	CHAIN LINK FENCE	11 09 07	150DB	15.00	19E	4,978.			62.
499	PROPERTY IMPROVEMENTS	11 15 07	150DB	15.00	19E	2,249.			28.
500	PROPERTY IMPROVEMENTS - WAYLAND ST.	11 15 07	150DB	15.00	19E	430.			5.
501	RECIRCULATION UNIT	11 15 07	200DB	7.00	19C	1,395.			50.
502	PROPERTY IMPROVEMENTS	11 16 07	150DB	15.00	19E	4,069.			51.
505	BUILDING IMPROVEMENTS	11 20 07	150DB	15.00	19E	2,025.			25.
518	PROPERTY IMPROVEMENTS	12 14 07	SL	39.00	19I	7,770.			8.
519	CHAIN LINK FENCE - WAYLAND ST.	12 14 07	150DB	15.00	19E	3,090.			39.
525	6 OVERHEAD DOORS	12 20 07	150DB	15.00	19E	15,487.			194.
526	PROPERTY IMPROVEMENTS - FORCE MAIN DESIGN	12 23 07	150DB	15.00	19E	14,000.			175.
	* OTHER TOTAL BUILDINGS					1,656,222.	6,000.	48,183.	64,362.
	FURNITURE & FIXTURES								
8	COMPUTER UPGRADE	09 23 99	200DB	3.00	17	2,205.		2,205.	0.
13	COPIER	10 04 99	200DB	5.00	17	581.	243.	338.	0.
27	COMPUTER AND PRINTER	05 15 00	200DB	5.00	17	1,087.		1,087.	0.
28	LAPTOP COMPUTER	07 31 00	200DB	5.00	17	1,888.		1,888.	0.
70	FURNITURE AND FIXTURES	06 11 02	200DB	7.00	17	5,000.	1,500.	2,719.	312.
71	COMPUTER	01 09 02	200DB	5.00	17	758.	227.	500.	31.

EPAHO120000417

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
72	PRINTER	04/15/02	200DB	5.00	17	1,100.	330.	726.	44.
73	COMPUTER	11/12/02	200DB	5.00	17	1,092.	328.	720.	44.
74	COMPUTER	11/29/02	200DB	5.00	17	1,391.	417.	918.	56.
78	COMPUTER JUANITA'S	01/09/03	200DB	5.00	17	1,805.	542.	1,045.	145.
79	5 PRINTERS	01/30/03	200DB	5.00	17	2,050.	615.	1,187.	165.
151	COMPUTER SERVER ROUTER	04/30/04	200DB	5.00	17	7,398.	2,219.	3,687.	597.
152	TIME CARD SYSTEM	05/06/04	200DB	5.00	17	602.	181.	300.	48.
153	SONY COMPUTER	07/12/04	200DB	5.00	17	1,678.	503.	837.	135.
154	COMPUTER FOR TANKWASH	09/16/04	200DB	5.00	17	1,191.	357.	594.	96.
155	OFFICE DEPOT COMPUTER	09/29/04	200DB	5.00	17	1,149.	345.	572.	93.
156	SCHOOL DESKS	06/01/04	200DB	7.00	17	536.		302.	67.
213	TRAINING ROOM COMPUTER	01/11/05	200DB	5.00	17	1,200.		624.	230.
214	COMPUTER SALES OFFICE	05/18/05	200DB	5.00	17	854.		444.	164.
215	COPIERS, PRINTERS	05/17/06	200DB	5.00	17	1,585.		396.	476.
216	COMPUTER	06/05/06	200DB	5.00	17	1,776.		444.	533.
217	COMPUTERS, PRINTER, AND SOFTWARE	09/12/06	200DB	5.00	17	13,676.		2,051.	4,650.
218	COMPUTERS & PERIPERALS	10/04/06	200DB	5.00	17	3,510.		176.	1,334.
219	2 LAB TABLES	07/10/06	200DB	7.00	17	2,150.		230.	549.
297	COMPUTER PERIPHERALS	07/21/06	SL	5.00	17	1,339.		101.	268.
301	LAP TOP COMPUTER	11/28/06	200DB	5.00	17	1,297.		65.	493.
302	LAP TOP COMPUTER	12/12/06	200DB	5.00	17	1,716.		86.	652.
303	SERVER	12/12/06	200DB	5.00	17	8,239.		412.	3,131.
368	OFFICE FURNITURE FOR SALES OFFICE	04/04/07	200DB	7.00	19C	5,637.			1,007.
444	LAPTOP COMPUTER	08/22/07	200DB	5.00	19B	1,700.			255.
445	COMPUTER EQUIPMENT	08/22/07	200DB	5.00	19B	64.			10.
475	NEW PHONE SYSTEM	09/30/07	200DB	7.00	19C	22,000.			2,357.
487	BLACK FLAT FILE	10/26/07	200DB	7.00	19C	649.			23.

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Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
489	LAPTOP COMPUTER	10,31,07	200DB	5.00	19B	2,330.			117.
492	PHONE SYSTEM	11,08,07	200DB	7.00	19C	1,815.			65.
503	FURNITURE AND FIXTURES	11,16,07	200DB	7.00	19C	14,286.			510.
504	OFFICE FURNITURE	11,19,07	200DB	7.00	19C	3,055.			109.
506	FURNITURE AND FIXTURES	11,20,07	200DB	7.00	19C	3,338.			119.
507	FURNITURE AND FIXTURES	11,20,07	200DB	7.00	19C	1,807.			65.
510	WIRELESS INTEGRATION	12,10,07	200DB	7.00	19C	2,136.			76.
511	WIRELESS INTEGRATION	12,10,07	200DB	7.00	19C	2,136.			76.
529	PHONE SYSTEM UPGRADES	12,27,07	200DB	7.00	19C	1,321.			47.
559	COMPUTER	12,31,07	200DB	5.00	19B	1,277.			64.
	* OTHER TOTAL FURNITURE & FIXTURES					132,404.	7,807.	24,654.	19,213.
	MACHINERY & EQUIPMENT								
3	NO DESCRIPTION	09,22,99	200DB	7.00	17	551.	551.		0.
4	PUMP	09,20,99	200DB	7.00	17	1,818.	1,818.		0.
5	AIR COMPRESSOR	09,21,99	200DB	7.00	17	4,290.	4,290.		0.
6	DIAPHRAM PUMP	09,21,99	200DB	7.00	17	1,515.	1,515.		0.
7	ALKOTA MODE	09,22,99	200DB	7.00	17	7,345.	7,345.		0.
9	TRAILER#201	09,05,99	200DB	7.00	17	3,238.	3,238.		0.
16	PUMP	01,21,00	200DB	7.00	17	1,293.	1,293.		0.
17	FORKLIFT	02,08,00	200DB	7.00	17	13,561.	13,561.		0.
18	FORKLIFT	04,24,00	200DB	7.00	17	3,464.	3,464.		0.
19	TRAILER#202	05,26,00	200DB	7.00	17	8,291.	1,682.	6,314.	295.
20	25 YD ROLL OFF BOX #601	06,09,00	200DB	7.00	17	4,601.		4,396.	205.
21	2" ARO DIA PUMP	08,25,00	200DB	7.00	17	2,544.		2,431.	113.
22	40 FT TRAILER #203	09,15,00	200DB	7.00	17	8,932.		8,533.	399.
23	EXCHANGE ROLL TOP BOX	09,26,00	200DB	7.00	17	800.		764.	36.
24	HYDRAULIC HAND TRUCK	10,04,00	200DB	7.00	17	814.		778.	36.

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Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
25	VACCUUM TRAILER	10/20/00	200DB	7.00	17	1,500.		1,433.	67.
26	DRUM LIFTER	10/20/00	200DB	7.00	17	718.		686.	32.
29	TRAILER#S 205&206	02/06/01	200DB	5.00	17	60,650.	24,000.	36,650.	0.
30	ROLL OFF TRAILER #207	06/18/01	200DB	5.00	17	48,160.		48,160.	0.
31	2 ROLL OFF BOXES #602 & 603	07/23/01	200DB	7.00	17	3,233.		2,800.	289.
32	ROLL OFF BOX #604	07/27/01	200DB	7.00	17	2,000.		1,732.	179.
33	ROLL OFF BOX #605	08/17/01	200DB	7.00	17	2,652.		2,297.	237.
34	ROLL OFF BOX #606	08/21/01	200DB	7.00	17	2,652.		2,297.	237.
35	ROLL OFF BOX #607	08/29/01	200DB	7.00	17	3,518.		3,047.	314.
36	TRAILER# 209	09/13/01	200DB	5.00	17	4,000.		4,000.	0.
37	TRAILER # 210	10/17/01	200DB	5.00	17	19,559.		19,559.	0.
38	PUMP ON TRAILER#210	11/07/01	200DB	7.00	17	6,783.		5,875.	605.
39	ROLL OFF BOX #608	12/14/01	200DB	7.00	17	2,706.		2,344.	241.
40	TRAILER #208	11/15/01	200DB	5.00	17	1,235.		1,235.	0.
41	TRAILER #204	02/11/02	200DB	5.00	17	6,151.	1,845.	4,058.	248.
42	1969 FRUEHAUF TRAILER	02/28/02	200DB	5.00	17	5,500.	1,650.	3,628.	222.
43	FLATBED TRAILER	03/04/02	200DB	5.00	17	2,500.	750.	1,649.	101.
44	3" ALUM ARO PUMP	03/06/02	200DB	7.00	17	1,233.	370.	671.	77.
45	MOTOR TRAILER #206	03/07/02	200DB	5.00	17	1,001.	300.	661.	40.
46	8000# FORKLIFT	05/22/02	200DB	7.00	17	5,899.	1,770.	3,208.	368.
47	2002 SKID STEER LOADER	05/23/02	200DB	7.00	17	15,406.	4,622.	8,378.	962.
48	HYDROBLASTER	06/04/02	200DB	7.00	17	13,095.	3,929.	7,121.	818.
49	WASHING & CLEANING EQUIPMENT	06/11/02	200DB	7.00	17	364,773.	109,432.	198,369.	22,789.
50	BOILER	06/11/02	200DB	7.00	17	30,000.	9,000.	16,314.	1,874.
51	2 COMPRESSORS	06/11/02	200DB	7.00	17	10,000.	3,000.	5,439.	624.
52	CAT WALK	06/11/02	200DB	7.00	17	3,000.	900.	1,631.	188.
53	ELECTRIC WENCH FOR BOX MOVER	06/26/02	200DB	7.00	17	865.	260.	470.	54.

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Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
54	WASH RACK PUMP	06/28/02	200DB	7.00	17	1,760.	528.	957.	110.
55	TELEPHONE	07/02/02	200DB	7.00	17	7,089.	2,127.	3,855.	443.
56	2 HP PUMP FOR TANKWASHER	07/02/02	200DB	7.00	17	1,396.	419.	759.	87.
57	RECOVERY WINCH	07/12/02	200DB	7.00	17	2,393.	718.	1,301.	150.
58	TANK CLEANING MACHINE	08/15/02	200DB	7.00	17	1,840.	552.	1,000.	115.
59	CAST IRON PUMP	10/01/02	200DB	7.00	17	1,108.	332.	603.	69.
60	3" PRIMING PUMP	10/01/02	200DB	7.00	17	1,138.	341.	619.	71.
61	SPINER FOR TANKWASH	10/11/02	200DB	7.00	17	855.	257.	465.	53.
62	3" KOSHIN PUMP	10/21/02	200DB	7.00	17	614.	184.	334.	38.
63	25 YD ROLL OFF CONTAINER	10/29/02	200DB	7.00	17	4,650.	1,395.	2,529.	290.
64	MOTOR FOR #204	11/01/02	200DB	7.00	17	3,900.	1,170.	2,121.	244.
65	PRESSURE WASHER W/BOILER	11/15/02	200DB	7.00	17	1,500.	450.	816.	94.
66	COLD WATER PUMP FOR OLD TANKWASH	12/26/02	200DB	7.00	17	2,273.	682.	1,236.	142.
77	FORKLIFT	11/01/02	200DB	7.00	17	32,509.	9,753.	17,679.	2,031.
81	THICKNESS TESTER	01/09/03	200DB	7.00	17	1,835.	551.	883.	115.
82	GREASE GUN	02/11/03	200DB	7.00	17	776.	233.	374.	48.
83	PRESSURE WASHER	06/11/03	200DB	7.00	17	1,083.	542.	372.	48.
84	1974 FRUCHAUF TRAILER	07/31/03	200DB	5.00	17	6,000.	3,000.	2,482.	345.
85	AIR MOVER	08/28/03	200DB	7.00	17	87,574.	43,787.	30,109.	3,908.
86	3" RANGER PUMP & MOTOR	10/29/03	200DB	7.00	17	1,595.	798.	548.	71.
87	AIR COMPRESSOR	12/31/03	200DB	7.00	17	2,099.	1,050.	721.	94.
88	25 YD ROLLOFF BOX	12/31/03	200DB	7.00	17	4,634.	2,317.	1,593.	207.
89	28' WABASH TRAILER	12/10/03	200DB	5.00	17	7,275.	3,638.	3,009.	419.
90	MINI CRANE	11/30/03	200DB	7.00	17	1,500.	750.	516.	67.
91	TRAILER #210	08/19/03	200DB	5.00	17	1,500.	750.	620.	87.
92	ROLL OFF BOX	05/29/03	200DB	7.00	17	11,000.	5,500.	3,782.	491.
93	VACUUM BOX	09/12/03	200DB	7.00	17	1,500.	750.	516.	67.

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Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
94	PRESSURE WASHER	07/28/03	200DB	7.00	17	1,355.	678.	466.	60.
95	BOX	08/20/03	200DB	7.00	17	1,930.	965.	664.	86.
96	#326 #327	08/27/03	200DB	7.00	17	5,708.	2,854.	1,963.	255.
97	3 YD HOPPER BOX UNIT# 403	01/01/04	200DB	7.00	17	1,028.		579.	128.
98	CONFINED SPACE AIR BLOWER	01/28/04	200DB	7.00	17	671.		377.	84.
99	TRAILER 220	02/05/04	200DB	5.00	17	6,428.	1,928.	3,204.	518.
100	TRAILER 221	02/05/04	200DB	5.00	17	6,428.	1,928.	3,204.	518.
101	LAB EQUIPMENT	02/12/04	200DB	7.00	17	2,479.		1,395.	310.
102	EYE WASH STATION SHOWER FACILITY	02/20/04	200DB	7.00	17	812.		457.	101.
103	ROLL OFF BOX 613	02/27/04	200DB	7.00	17	3,139.		1,767.	392.
104	TRAILER 223	03/08/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
105	FIRE PROOF CABINET FOR LAB	03/09/04	200DB	7.00	17	818.		460.	102.
106	TRAILER 217	03/10/04	200DB	5.00	17	22,030.	6,609.	10,980.	1,776.
107	USED PORTABLE BOILER	03/11/04	200DB	7.00	17	8,500.		4,783.	1,062.
108	TRAILER 224	03/19/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
109	2 PUMPS IN PH STATION	03/30/04	200DB	7.00	17	917.		516.	115.
110	20 YD ROLL OFF BOX #614	04/07/04	200DB	7.00	17	1,750.		985.	219.
111	TRAILER 222	04/23/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
112	TRAILER 225	04/23/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
113	TETRA GAS METER WITH FILTER WAND	04/23/04	200DB	7.00	17	766.		431.	96.
114	TRAILER FROM MARC BISSELL	04/29/04	200DB	5.00	17	200.	60.	100.	16.
115	TRAILER 226	05/07/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
116	TRAILER 227	05/07/04	200DB	5.00	17	6,450.	1,935.	3,215.	520.
117	#567 KOSHIN 3"X3" SELF PRIMING PUMP	05/10/04	200DB	7.00	17	614.		345.	77.
118	1 CENTRIFUGE FLOTWEG Z 4D DECAMTER	05/11/04	200DB	5.00	17	116,666.	35,000.	58,146.	9,408.
119	#615 NEW ROLL OFF BOX	05/31/04	200DB	7.00	17	3,951.		2,223.	494.
120	#4W464 DRUM LIFTER DISPENSER	06/03/04	200DB	7.00	17	837.		471.	105.

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Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
121	DRUM CRUSHER	06/04/04	200DB	7.00	17	2,500.		1,406.	313.
122	SEALAND CONTAINER FOR BOILER	06/07/04	200DB	7.00	17	1,461.		822.	183.
123	BOILER FEED PUMP	06/11/04	200DB	7.00	17	870.		490.	109.
124	NORTH RETRACTABLE LIFELINE RETRIEVAL SYSTEM	06/14/04	200DB	7.00	17	1,669.		940.	208.
125	TRAILER 228	06/14/04	200DB	7.00	17	34,500.		19,413.	4,311.
126	NEW 3" PUMP	06/21/04	200DB	7.00	17	2,786.		1,567.	348.
127	1" FLOAT VALVE	06/21/04	200DB	7.00	17	775.		436.	97.
128	TETRA 4 GAS METER WITH FILTER WAND	06/22/04	200DB	7.00	17	857.		483.	107.
129	BRASS TEMPERATURE REGULATOR	06/22/04	200DB	7.00	17	2,406.		1,354.	301.
130	AIR SPINNER #AA190LM-4F	06/25/04	200DB	7.00	17	1,970.		1,109.	246.
131	3" CAST IRON PUMP	07/12/04	200DB	7.00	17	1,858.		1,046.	232.
132	TRAILER 229	07/14/04	200DB	5.00	17	3,000.	900.	1,495.	242.
133	HOSES PUMPS FITTINGS FROM IRVIN WOODARD	08/04/04	200DB	7.00	17	10,000.		5,627.	1,249.
134	ROLL OFF BOX	09/13/04	200DB	7.00	17	5,984.		3,367.	748.
135	#404 3 YD HOPPER BOX	09/13/04	200DB	7.00	17	1,176.		662.	147.
136	#405 3 YD HOPPER BOX	09/13/04	200DB	7.00	17	1,176.		662.	147.
137	3" PUMP W HYDRAULIC MOTOR	09/14/04	200DB	7.00	17	1,585.		892.	198.
138	TRAILER 230	09/16/04	200DB	5.00	17	4,650.	1,395.	2,318.	375.
139	TRAILER # 231	10/06/04	200DB	5.00	17	10,000.	3,000.	4,984.	806.
140	GENERATOR WELDING MACHINE	10/08/04	200DB	7.00	17	3,545.		1,995.	443.
141	COMPUTER FOR TRUCKS	12/02/04	200DB	5.00	17	731.	219.	365.	59.
142	BOX 3131 232	12/03/04	200DB	7.00	17	41,500.		23,351.	5,185.
143	BOX 3134 233	12/03/04	200DB	7.00	17	41,500.		23,351.	5,185.
144	1981 SS TANK TRAILER 234	12/03/04	200DB	5.00	17	12,500.	3,750.	6,230.	1,008.
145	1982 SS TANK TRAILER 235	12/03/04	200DB	5.00	17	12,500.	3,750.	6,230.	1,008.
146	1989 BEN LEE FB TRAILER 236	12/03/04	200DB	5.00	17	13,000.	3,900.	6,479.	1,048.
147	TRAILER 237	12/28/04	200DB	5.00	17	5,000.	1,500.	2,492.	403.

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Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
158	#337 ELECT ROPER PUMP	01/13/05	200DB	7.00	17	1,693.		657.	296.
159	3 AIR COMPRESSORS	02/02/05	200DB	7.00	17	3,248.		1,259.	568.
160	CUT OFF SAW	02/08/05	200DB	7.00	17	1,015.		394.	177.
161	40' CONTAINER	02/11/05	200DB	7.00	17	1,000.		388.	175.
162	PURCHASE TRAILER	02/21/05	200DB	5.00	17	17,000.		8,840.	3,264.
163	#211 CHASSIS	02/22/05	200DB	5.00	17	2,600.		1,352.	499.
164	2HP PUMP	02/24/05	200DB	7.00	17	1,001.		388.	175.
165	TRAILER #239	03/03/05	200DB	5.00	17	15,000.		7,800.	2,880.
166	TWO EYEWASH STATIONS	03/07/05	200DB	7.00	17	2,272.		881.	397.
167	VACUUM PUMP FOR DRUM FACILITY	03/10/05	200DB	7.00	17	9,644.		3,740.	1,687.
168	2 SUBMERSIBLE PUMPS	03/16/05	200DB	7.00	17	1,974.		765.	345.
169	2 TETRA LEL METERS	03/21/05	200DB	7.00	17	1,562.		606.	273.
170	TRAILER #240	04/04/05	200DB	5.00	17	4,650.		2,418.	893.
171	DUME LIFTER DISPENSE	04/04/05	200DB	7.00	17	900.		349.	157.
172	3 ELECT STARTERS FOR DRUM FACILITY	04/04/05	200DB	7.00	17	2,659.		1,031.	465.
173	AIR CONDITIONER FOR TANKWASH	04/11/05	200DB	7.00	17	1,299.		504.	227.
174	#619 ROLL TOP BOX	04/12/05	200DB	7.00	17	7,740.		3,001.	1,354.
175	TRAILER	04/21/05	200DB	5.00	17	4,750.		2,470.	912.
176	WHEEL UNIT FIRE EXTINGUISHER	04/25/05	200DB	7.00	17	1,360.		528.	238.
177	DRUM DUMPER	04/30/05	200DB	7.00	17	781.		303.	137.
178	TRAILER #241	05/02/05	200DB	5.00	17	56,924.		29,601.	10,929.
179	GREAT DANE TRAILER	05/03/05	200DB	5.00	17	4,909.		2,553.	942.
180	SPINNER FOR TANKWASH	05/10/05	200DB	7.00	17	2,057.		798.	360.
181	STABILIZING JACK FOR DRUM FACILITY	05/12/05	200DB	7.00	17	667.		259.	117.
182	30HP COMPRESSOR	05/12/05	200DB	7.00	17	9,723.		3,770.	1,701.
183	4 BOXES	07/01/05	200DB	7.00	17	31,276.		12,127.	5,471.
184	TANK WASH	05/17/05	200DB	7.00	17	1,571.		610.	275.

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Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
185	TRAILER #243	05/20/05	200DB	5.00	17	32,500.		16,900.	6,240.
186	PUMP FOR TANKWASH	05/31/05	200DB	7.00	17	3,248.		1,259.	568.
187	LARGE SHREDDER	06/29/05	200DB	7.00	17	187,620.		72,751.	32,820.
188	1 25YD BOX	07/06/05	200DB	7.00	17	8,970.		3,479.	1,569.
189	BOX VAN TRANSP	07/21/05	200DB	7.00	17	7,500.		2,909.	1,312.
190	BOX VAN DISPOSAL	07/21/05	200DB	7.00	17	7,500.		2,909.	1,312.
191	2 BOX VANS CARBON	07/21/05	200DB	7.00	17	15,000.		5,816.	2,624.
192	MIXER DRUM FACILITY	07/19/05	200DB	7.00	17	5,185.		2,011.	907.
193	2 MIXERS OUTBACK OIL TANKS	07/19/05	200DB	7.00	17	10,370.		4,021.	1,814.
194	OIL TANKS	08/01/05	200DB	7.00	17	30,500.		11,826.	5,335.
195	GENERATOR	08/03/05	200DB	7.00	17	25,401.		9,850.	4,443.
196	3 PUMPS FOR OUTBACK OIL TANKS	08/11/05	200DB	7.00	17	7,956.		3,085.	1,392.
197	TRAILER #249	08/15/05	200DB	7.00	17	1,495.		580.	261.
198	2 30YD BOXES WITH TARPS	08/24/05	200DB	7.00	17	8,011.		3,107.	1,401.
199	VAN TRAILER #248	08/25/05	200DB	5.00	17	6,650.		3,458.	1,277.
200	2 MEMPHIS PUMPS	09/12/05	200DB	7.00	17	2,099.		814.	367.
201	FLOW METER FOR WASTEWATER PERMIT	08/30/05	200DB	7.00	17	5,900.		2,288.	1,032.
202	1 20 YD BOX	09/20/05	200DB	7.00	17	6,387.		2,477.	1,117.
203	2 STEEL TANKS	10/10/05	200DB	7.00	17	15,350.		5,952.	2,685.
204	20' CONTAINER	10/18/05	200DB	7.00	17	1,813.		703.	317.
205	PRESSURE WASHER	11/01/05	200DB	7.00	17	3,242.		1,257.	567.
206	FORKLIFT	11/01/05	200DB	7.00	17	59,538.		23,087.	10,415.
207	2 STEEL TANKS	11/02/05	200DB	7.00	17	11,550.		4,479.	2,020.
208	PRESSURE WASHER	11/02/05	200DB	7.00	17	3,242.		1,257.	567.
209	PUMP W/TEFLON ELASTOMERS	11/21/05	200DB	7.00	17	3,125.		1,212.	547.
210	TRAILER #250	12/01/05	200DB	5.00	17	53,600.		27,872.	10,291.
211	WATER CONDITIONER	12/20/05	200DB	7.00	17	3,561.		1,381.	623.

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Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
212	2" CAST IRON PUMP	12,20,05	200DB	7.00	17	2,324.		901.	407.
220	24X32 MOBILE TRAINING ROOM	07,10,06	200DB	7.00	17	32,088.		3,438.	8,186.
221	ELECTRICAL WORK MOBILE TRAINING ROOM	07,10,06	200DB	7.00	17	2,025.		217.	517.
222	ADDITIONAL COST MOBILE TRAINING ROOM	07,28,06	200DB	7.00	17	1,035.		111.	264.
223	BIKE RACKS	07,31,06	200DB	7.00	17	2,706.		290.	690.
224	1989 POLAR UNIT #20254	09,15,06	200DB	5.00	17	7,000.		1,050.	2,380.
225	1989 POLAR UNIT #20259	09,15,06	200DB	5.00	17	8,000.		1,200.	2,720.
226	POWER BROOM	01,05,06	200DB	7.00	17	7,628.		1,907.	1,635.
227	D/P VACUMM TRAILER	01,06,06	200DB	7.00	17	5,000.		1,250.	1,071.
228	PH/ISE METER	01,13,06	200DB	7.00	17	1,624.		406.	348.
229	10 YD BOX	02,03,06	200DB	7.00	17	3,897.		974.	835.
230	2 SPINNERS	02,23,06	200DB	7.00	17	1,559.		389.	334.
231	VALUE FOR TANKWASH	03,09,06	200DB	7.00	17	2,181.		545.	467.
232	3 400 BBL STEEL TANKS	03,09,06	200DB	7.00	17	23,375.		5,844.	5,009.
233	7.5 HP AIR COMPRESSOR	03,10,06	200DB	7.00	17	1,901.		475.	407.
234	FILER PRESS	03,28,06	200DB	7.00	17	14,265.		3,567.	3,057.
235	BATCH TREATMENT SYSTEM	03,28,06	200DB	7.00	17	14,520.		3,630.	3,111.
236	RETRACTABLE RETRIEVER	04,20,06	200DB	7.00	17	2,004.		358.	470.
237	SPINNER ASSY	05,04,06	200DB	7.00	17	2,413.		431.	566.
238	PEDESTAL PUMP, MOTOR, FABRICATION	05,11,06	200DB	7.00	17	2,006.		358.	471.
239	#205 HYDRAULIC DRIVE KIT W/MOTOR	05,16,06	200DB	7.00	17	6,381.		1,139.	1,498.
240	AIR CONDITIONER FOR FIELD SERVICES	05,16,06	200DB	7.00	17	16,238.		2,899.	3,811.
241	INSULTATION ON TANKS FOR DRUM FACILITY	05,18,06	200DB	7.00	17	2,000.		357.	469.
242	PIPEING FOR WATER PLANT	05,19,06	200DB	7.00	17	2,610.		466.	613.
243	2 30YD VACUUM BOX SHARK V1 &39	05,26,06	200DB	7.00	17	16,000.		2,857.	3,755.
244	INSULATION FOR OIL TANKS	05,26,06	200DB	7.00	17	1,313.		234.	308.
245	INSULATION ON TANKS IN TANK FARM	05,31,06	200DB	7.00	17	1,000.		179.	235.

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Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
247	DRUM FACILITY	06/02/06	200DB	7.00	17	2,070.		369.	486.
248	ELECTRICAL UPGRADES IN FACILITY	06/09/06	200DB	7.00	17	1,979.		353.	465.
249	WORK ON DRUM FACILITY	06/09/06	200DB	7.00	17	2,678.		478.	629.
250	10 HP MOTOR AND ROPER PUMP FOR OIL	06/22/06	200DB	7.00	17	2,910.		519.	683.
251	MATERIALS FOR FILTER PRESS	06/28/06	200DB	7.00	17	2,381.		425.	559.
252	FILTER PRESS FABRICATION	06/30/06	200DB	7.00	17	2,925.		523.	686.
253	FILTER PRESS FABRICATION	07/07/06	200DB	7.00	17	2,655.		285.	677.
254	MEMPHIS PUMP	07/10/06	200DB	7.00	17	1,239.		133.	316.
255	STORAGE TRAILER	07/11/06	200DB	7.00	17	1,250.		134.	319.
256	25HP COMPRESSOR	07/11/06	200DB	7.00	17	7,351.		788.	1,875.
257	PRESS SKID FABRICATION	07/14/06	200DB	7.00	17	3,060.		328.	781.
258	2-CONVERTOR DOLLY	07/19/06	200DB	7.00	17	1,990.		213.	508.
259	7/17-722	07/21/06	200DB	7.00	17	2,610.		280.	666.
260	BATCH TREATMENT SYSTEM FOR DRUM FAC	07/27/06	200DB	7.00	17	29,040.		3,111.	7,408.
261	3070 DOOR WITH FRAME	07/27/06	200DB	7.00	17	1,270.		136.	324.
262	WHITCO DUAL GUN UNIT	07/27/06	200DB	7.00	17	10,692.		1,146.	2,727.
263	ARO DIAPHRAGM PUMPS	07/27/06	200DB	7.00	17	1,883.		202.	480.
264	ARO PUMP	08/08/06	200DB	7.00	17	1,665.		179.	425.
265	4200 GAL TANK	08/21/06	200DB	7.00	17	7,600.		814.	1,939.
266	2-3" PUMPS	08/28/06	200DB	7.00	17	12,023.		1,288.	3,067.
267	2-3" HYDRAULIC MOTOR	08/28/06	200DB	7.00	17	3,169.		339.	809.
268	HOSE REELS, AIR & WATER HOSES	08/30/06	200DB	7.00	17	2,363.		253.	603.
269	WITTIG RF 100 VACUUM PUMP	08/30/06	200DB	7.00	17	6,417.		687.	1,637.
270	USED ASHLAND TANK 24775	09/05/06	200DB	7.00	17	3,198.		343.	816.
271	PIPE THREADER	09/05/06	200DB	7.00	17	7,224.		774.	1,843.
272	AA SPECTROPOTOMETER	09/11/06	200DB	7.00	17	14,179.		1,519.	3,617.
273	LAB SCALE	09/20/06	200DB	7.00	17	2,200.		236.	561.

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Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
274	3" PUMP	09/25/06	200DB	7.00	17	2,717.		291.	693.
275	K FISCHER AQUARMETRY APPARATUS	09/26/06	200DB	7.00	17	2,097.		225.	535.
276	CALORIMETER/THERMOMETER	10/06/06	200DB	7.00	17	10,628.		380.	2,928.
277	GALVANIZED TANK	10/12/06	200DB	7.00	17	3,049.		109.	840.
278	CODE READERS AND INTERFACE	10/20/06	200DB	7.00	17	5,196.		186.	1,431.
280	ELECTRICAL WORK ON DRUM FACILITY	08/01/06	SL	39.00	17	3,260.		32.	84.
281	4X7 COMMERICAL WALK GATE	08/08/06	SL	15.00	17	1,892.		47.	126.
282	VACUUM DISTILLATION UNIT	06/15/06	200DB	7.00	17	69,950.		12,491.	16,417.
284	TWIN AGENT SKID CR-900	01/19/06	200DB	7.00	17	34,478.		8,620.	7,388.
289	25YD ROLL OFF BOX	06/05/06	200DB	7.00	17	24,975.		4,460.	5,861.
292	OIL AREA IMPROVEMENTS	03/01/07	SL	39.00	19I	73,725.			1,496.
294	TANK WASH ELECTRICAL IMPROVEMENT	08/08/06	SL	39.00	17	8,491.		82.	218.
295	DRUM FACILITY IMPROVEMENTS	09/26/06	SL	39.00	17	6,050.		45.	155.
296	FILTER PRESS IMPROVEMENTS	07/10/06	SL	39.00	17	30,639.		360.	786.
304	2007 CLEMENT ROLLOFF TRAILER #253	11/08/06	200DB	5.00	17	54,229.		2,712.	20,607.
306	PESCO CLAY FILTRATION SYSTEM	11/15/06	200DB	7.00	17	200,000.		7,143.	55,102.
307	ROPER PUMP	11/30/06	200DB	7.00	17	1,076.		38.	297.
308	CATERPILLER P5000-D FORKLIFT	12/01/06	200DB	7.00	17	39,917.		1,426.	10,997.
309	MOTOR OIL FACILITY ANCILARY EQUIPMENT	12/01/06	200DB	7.00	17	117,300.		4,189.	32,317.
311	GOLF CART AND 2 FOUR WHEELERS	12/01/06	200DB	7.00	17	7,000.		250.	1,929.
313	FRAC TANK	12/27/06	200DB	7.00	17	18,796.		671.	5,179.
316	SSI SHREDDER W/ REBUILT HEAD	01/01/07	200DB	7.00	19C	34,193.			8,548.
317	40' MANLIFT	01/01/07	200DB	7.00	19C	23,929.			5,982.
3185	DRAGON FRANC TANKS	01/01/07	200DB	7.00	19C	147,500.			36,875.
319	BATCH TREATMENT SYSTEM #2	01/01/07	200DB	7.00	19C	47,200.			11,800.
320	HOFFLAND BATCH TREATMENT SYSTEM 1	01/01/07	200DB	7.00	19C	38,125.			9,531.
322	TANK TRUCK WASHER	01/08/07	200DB	7.00	19C	1,748.			437.

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323	FRAC TANK	01,08,07	200DB	7.00	19C	5,055.			1,264.
324	BATCH TREATMENT SYSTEM	01,10,07	200DB	7.00	19C	14,160.			3,540.
325	COMPUTER	01,11,07	200DB	5.00	19B	1,133.			396.
326	COMPUTER	01,11,07	200DB	5.00	19B	896.			313.
327	COMBITUBE	01,19,07	200DB	7.00	19C	9,246.			2,312.
328	CROWN CENTRIFUGAL PUMPING UNIT	01,24,07	200DB	7.00	19C	2,098.			524.
329	CONDUIT STRAP & COUPLINGS	02,01,07	200DB	7.00	19C	3,683.			921.
330	BRASS BALL VALVES & NIPPLES	02,01,07	200DB	5.00	19B	208.			73.
331	BAR GRATING	02,01,07	200DB	7.00	19C	2,995.			749.
332	S SETS OF SCAFFOLDS	02,06,07	200DB	7.00	19C	2,598.			649.
333	RO UNIT	02,06,07	200DB	7.00	19C	20,000.			5,000.
334	3 ARO PUMPS	02,06,07	200DB	7.00	19C	2,106.			527.
335	FILTER PRESS MODEL	02,08,07	200DB	7.00	19C	13,425.			3,357.
336	TRAILER MOUNTED FILTER PRESS	02,08,07	200DB	7.00	19C	8,119.			2,030.
337	COMPUTERS AND SUPPLIES	02,09,07	200DB	5.00	19B	1,791.			627.
338	PIPE AND BUTTERFLY VALVES	02,09,07	200DB	5.00	19B	15,247.			5,337.
339	TANK MIXERS & PRESSURE GUAGES	02,12,07	200DB	7.00	19C	3,368.			842.
340	RO HOUSING	02,13,07	200DB	7.00	19C	5,400.			1,350.
341	2 ISO CONTAINERS #105 & #114	02,13,07	200DB	5.00	19B	21,000.			7,350.
342	SPEEDDRIVE 150 HP	02,14,07	200DB	7.00	19C	7,600.			1,900.
345	LIME METERING AIR DIAPHRAM PUMP	02,22,07	200DB	7.00	19C	28,320.			7,080.
346	MODEL 913 AUTO SAMPLER	02,22,07	200DB	7.00	19C	2,282.			571.
347	FLOWMETER AND DIGITAL MONITOR	02,22,07	200DB	7.00	19C	4,365.			1,091.
350	TRAILER MOUNTED FILTER PRESS	02,28,07	200DB	7.00	19C	7,713.			1,929.
351	TOC ANALYZER	03,01,07	200DB	7.00	19C	17,113.			4,278.
358	RO UNIT	03,14,07	200DB	7.00	19C	5,187.			1,297.
360	PORTABLE SPECTOPHOTOMETER	03,16,07	200DB	7.00	19C	3,092.			773.

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Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
362	FILTER PRESS MODEL D-30	03/26/07	200DB	7.00	19C	31,325.			7,831.
364	VARIOUS EQUIPMENT	03/28/07	200DB	7.00	19C	125.			32.
372	AIR COMPRESSOR	04/12/07	200DB	5.00	19B	12,185.			3,046.
373	ROOF FRAME	04/12/07	200DB	5.00	19B	2,576.			644.
376	MOTOR FOR DISTILLATION MACHINE	05/09/07	200DB	5.00	19B	441.			110.
377	LIGHTING EQUIPMENT	05/10/07	200DB	7.00	19C	3,079.			550.
378	AVANTA PM ATOMIC ABSORPTION SPECTROMETRIC	05/14/07	200DB	7.00	19C	20,000.			3,571.
379	COMPUTER	05/21/07	200DB	5.00	19B	906.			226.
381	20' CONTAINER	05/24/07	200DB	7.00	19C	3,175.			567.
382	COMPUTER	05/29/07	200DB	5.00	19B	1,812.			453.
383	COMPUTER MONITORS	05/30/07	200DB	5.00	19B	433.			108.
384	2007 TANK TRAILER UNIT #261	05/31/07	200DB	5.00	19B	61,953.			15,488.
385	2007 TANK TRAILER UNIT #262	05/31/07	200DB	5.00	19B	61,953.			15,488.
386	#260 SS VACUM TANK TRAILER	05/31/07	200DB	5.00	19B	74,665.			18,666.
387	PIPING	06/07/07	200DB	7.00	19C	3,125.			558.
390	MACHINERY & EQUIPMENT	06/08/07	200DB	7.00	19C	1,341.			239.
391	MACHINERY & EQUIPMENT	06/08/07	200DB	7.00	19C	1,341.			239.
393	SS PIPE & FLANGES	06/12/07	200DB	7.00	19C	4,317.			771.
394	COMPUTER	06/13/07	200DB	5.00	19B	939.			235.
395	RECIRCULATION UNIT	06/15/07	200DB	7.00	19C	2,483.			443.
396	PISTON VAC PUMP	06/15/07	200DB	7.00	19C	4,302.			768.
399	PPG DISTILLATION SYSTEM IMPROVEMENTS	06/20/07	200DB	5.00	19B	1,677.			419.
400	MACHINERY & EQUIPMENT	06/26/07	200DB	5.00	19B	417.			104.
401	MACHINERY & EQUIPMENT	06/27/07	200DB	5.00	19B	183.			46.
402	ODOR ELIMINATOR MACHINE	06/30/07	200DB	7.00	19C	1,650.			294.
403	TRAILER # 3401	06/30/07	200DB	5.00	19B	8,500.			2,125.
404	MIURA BOILER LX100SG	07/13/07	200DB	7.00	19C	28,365.			3,039.

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Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
406	PUMP	07/16/07	200DB	5.00	19B	5,785.			868.
407	CROWN CENTRIFUGAL PUMPING UNIT	07/16/07	200DB	5.00	19B	2,056.			308.
408	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	1,546.			232.
409	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	989.			149.
410	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	940.			141.
411	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	748.			112.
412	LMI METERING PUMP	07/16/07	200DB	5.00	19B	588.			88.
413	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	387.			58.
414	DISTILLATION UNIT UPGRADES	07/16/07	200DB	5.00	19B	260.			39.
415	THERMOMETER	07/16/07	200DB	5.00	19B	157.			24.
416	MISTING NOZZLE	07/16/07	200DB	5.00	19B	130.			20.
417	REPLACEMENT LIGHTS	07/24/07	200DB	7.00	19C	1,591.			171.
418	ARO 2" DIAPHRAM PUMP	07/24/07	200DB	7.00	19C	1,010.			108.
419	CROWN CENTRIFUGAL PUMPING UNIT	07/24/07	200DB	7.00	19C	2,091.			224.
420	MACHINERY & EQUIPMENT	07/24/07	200DB	5.00	19B	9,856.			1,478.
421	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	4,684.			703.
422	MACHINERY IMPROVEMENT	07/24/07	200DB	5.00	19B	4,665.			700.
423	MACHINERY IMPROVEMENT	07/24/07	200DB	5.00	19B	1,573.			236.
424	MACHINERY & EQUIPMENT	07/24/07	200DB	5.00	19B	1,319.			198.
425	PPG DISTILLATION UNIT	07/24/07	200DB	5.00	19B	900.			135.
426	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	802.			120.
427	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	773.			116.
428	MACHINERY & EQUIPMENT	07/24/07	200DB	5.00	19B	406.			61.
429	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	356.			53.
430	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	342.			51.
431	PPG DISTILLATION SYSTEM IMPROVEMENTS	07/24/07	200DB	5.00	19B	114.			17.
432	DUAL GUN UNIT	07/24/07	200DB	7.00	19C	10,165.			1,089.

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Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
433	5050 ELECTRIC PRESSURE WASHER	07/24/07	200DB	7.00	19C	4,652.			498.
434	TRASH PUMP	07/25/07	200DB	5.00	19B	7,302.			1,095.
435	MACHINERY IMPROVEMENT	07/26/07	200DB	7.00	19C	2,888.			309.
436	FABRICATED MANIFOLD	07/27/07	200DB	7.00	19C	3,248.			348.
437	TRAILER #263	07/30/07	200DB	5.00	19B	9,000.			1,350.
438	TRAILER #264	07/30/07	200DB	5.00	19B	9,000.			1,350.
439	MACHINERY IMPROVEMENT	08/10/07	200DB	7.00	19C	2,205.			236.
441	AIR COMPRESSOR	08/13/07	200DB	7.00	19C	2,349.			252.
442	PROPERTY IMPROVEMENTS	08/20/07	150DB	15.00	19E	6,500.			244.
443	TANKWASH SCALE	08/20/07	200DB	7.00	19C	1,890.			203.
446	SANDPIPER PUMP	08/24/07	200DB	7.00	19C	1,784.			191.
447	PUMP	08/24/07	200DB	5.00	19B	5,577.			837.
448	BLOWER UNIT #611	08/25/07	200DB	7.00	19C	2,091.			224.
450	PUMP FOR FILTER PRESS	08/27/07	200DB	7.00	19C	2,800.			300.
451	MACHINERY IMPROVEMENT	08/27/07	200DB	7.00	19C	2,427.			260.
452	MACHINERY IMPROVEMENT	08/27/07	200DB	7.00	19C	4,428.			474.
453	PRESSURE WASHER PIPING	08/27/07	200DB	7.00	19C	1,191.			128.
454	WASH RACK PUMP	08/28/07	200DB	7.00	19C	11,076.			1,187.
456	RASGAS IMPROVEMENTS	08/30/07	200DB	5.00	19B	3,200.			480.
458	REFRIGERATED SAMPLERS	09/19/07	200DB	7.00	19C	13,625.			1,460.
459	7000 GAL. INSULATED MC-307 UNIT	09/20/07	200DB	5.00	19B	30,000.			4,500.
460	6750 GAL. INSULATED UNIT #384	09/20/07	200DB	5.00	19B	23,500.			3,525.
461	6500 GAL 316SS INSULATED UNIT	09/20/07	200DB	5.00	19B	22,500.			3,375.
462	MACHINERY & EQIPMENT	09/20/07	200DB	5.00	19B	6,165.			925.
463	BUILDING IMPROVEMENTS	09/21/07	150DB	15.00	19E	4,871.			183.
464	MACHINERY & EQIPMENT	09/21/07	200DB	7.00	19C	2,730.			293.
465	MACHINERY & EQIPMENT	09/21/07	200DB	7.00	19C	2,527.			271.

EPAHO120000432

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
468	STARTER 7 PUMP MOTOR	09,26,07	200DB	7.00	19C	2,587.			277.
470	WATER CALIBRATION STATIONS	09,28,07	200DB	7.00	19C	3,524.			378.
482	FLANGE PORTED ROTARY PUMP	10,19,07	200DB	7.00	19C	3,151.			113.
483	CROWN CENTRIFUGAL PUMPING UNIT	10,19,07	200DB	7.00	19C	2,173.			78.
486	FABRICATED MANIFOLD	10,24,07	200DB	7.00	19C	3,200.			114.
491	HEAVY DUTY FLAP VALVE PUMP	10,31,07	200DB	7.00	19C	3,579.			128.
496	VAN BODY TRAILER	11,09,07	200DB	5.00	19B	1,000.			50.
497	VAN BODY TRAILER	11,09,07	200DB	5.00	19B	1,000.			50.
498	VAN BODY TRAILER	11,09,07	200DB	5.00	19B	1,000.			50.
508	MEMBRANE	11,29,07	200DB	7.00	19C	2,962.			106.
509	2 HEAT EXCHANGERS	11,30,07	200DB	5.00	19B	14,000.			700.
514	ASTM MACHINERY & EQUIPMENT	12,10,07	200DB	7.00	19C	406.			15.
515	DISTILLATION UNIT UPGRADES	12,11,07	200DB	5.00	19B	2,601.			130.
516	MUFFLE FURNACE	12,11,07	200DB	7.00	19C	2,756.			98.
517	DISTILLATION UNIT UPGRADES	12,13,07	200DB	5.00	19B	1,711.			86.
520	20' SEALAND CONTAINER	12,14,07	200DB	7.00	19C	975.			35.
521	MACHINERY & EQUIPMENT	12,14,07	200DB	7.00	19C	6,050.			216.
522	SEWER LEVEL MONITORS	12,19,07	200DB	7.00	19C	7,900.			282.
523	MACHINERY & EQIPMENT	12,19,07	200DB	7.00	19C	2,160.			77.
524	20' CHASIS	12,19,07	200DB	5.00	19B	2,600.			130.
527	CROWN MODEL PUMPS	12,26,07	200DB	7.00	19C	4,483.			160.
528	CROWN MODEL PUMPS	12,26,07	200DB	7.00	19C	4,483.			160.
530	2008 PETERBUILT	12,28,07	200DB	3.00	19A	143,309.			11,942.
531	2007 PETERBUILT #298	12,28,07	200DB	3.00	19A	129,404.			10,784.
532	2007 PETERBUILT #295	12,28,07	200DB	3.00	19A	122,339.			10,195.
533	2007 PETERBUILT #297	12,28,07	200DB	3.00	19A	121,382.			10,115.
534	2007 PETERBUILT #2000	12,28,07	200DB	3.00	19A	117,181.			9,765.

EPAHO120000433

Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
535	2007 PETERBUILT #299	12/28/07	200DB	3.00	19A	112,142.			9,345.
536	2007 PETERBUILT #294	12/28/07	200DB	3.00	19A	105,092.			8,758.
537	2007 PETERBUILT #293	12/28/07	200DB	3.00	19A	96,041.			8,003.
538	2007 PETERBUILT #291	12/28/07	200DB	3.00	19A	94,282.			7,857.
539	2007 PETERBUILT #290	12/28/07	200DB	3.00	19A	90,204.			7,517.
540	2007 PETERBUILT #292	12/28/07	200DB	3.00	19A	89,561.			7,463.
541	2007 PETERBUILT #289	12/28/07	200DB	3.00	19A	86,815.			7,235.
542	2006 PETERBUILT #287	12/28/07	200DB	3.00	19A	85,659.			7,138.
543	2005 PETERBUILT #285	12/28/07	200DB	3.00	19A	74,655.			6,221.
544	2006 PETERBUILT #288	12/28/07	200DB	3.00	19A	73,071.			6,089.
545	2005 PETERBUILT #286	12/28/07	200DB	3.00	19A	69,479.			5,790.
546	2005 PETERBUILT #283	12/28/07	200DB	3.00	19A	61,533.			5,128.
547	2004 PETERBUILT #282	12/28/07	200DB	3.00	19A	58,234.			4,853.
548	2005 PETERBUILT #280	12/28/07	200DB	3.00	19A	50,697.			4,225.
549	2005 PETERBUILT #281	12/28/07	200DB	3.00	19A	50,609.			4,217.
550	2004 PETERBUILT #279	12/28/07	200DB	3.00	19A	40,162.			3,347.
551	2004 PETERBUILT #278	12/28/07	200DB	3.00	19A	29,975.			2,498.
552	2000 PETERBUILT #296	12/28/07	200DB	3.00	19A	24,993.			2,083.
553	2002 PETERBUILT #276	12/28/07	200DB	3.00	19A	11,000.			917.
554	1996 KENWORTH #277	12/28/07	200DB	3.00	19A	11,000.			917.
555	1999 KENWORTH #284	12/28/07	200DB	3.00	19A	6,981.			582.
556	2001 PETERBUILT #273	12/28/07	200DB	3.00	19A	5,000.			417.
557	1997 PETERBUILT #275	12/28/07	200DB	3.00	19A	5,000.			417.
558	VACCUM PUMP	12/28/07	200DB	7.00	19C	4,207.			150.
560	CAST IRON DIAPHRAM PUMP	12/31/07	200DB	7.00	19C	1,059.			38.
561	MACHINERY & EQIPMENT	12/31/07	200DB	7.00	19C	9,760.			349.
562	MACHINERY & EQIPMENT	12/31/07	200DB	7.00	19C	5,040.			180.

EPAHO120000434

Depreciation and Amortization Detail OTHER DEPRECIATION — OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
	* OTHER TOTAL MACHINERY & EQUIPMENT					6,209,724.	363,205.	1,118,315.	863,243.
	TRANSPORTATION EQUIPMENT								
10	FORD TRUCK HAULING	10 19 99	200DB	5.00	17	32,270.		32,270.	0.
15	F550 FORD 1 TON	08 17 00	200DB	5.00	21	34,558.		18,010.	1,775.
80	YARD TRUCK	08 28 03	200DB	5.00	17	39,059.	19,530.	16,155.	2,249.
148	TRUCK#103	04 13 04	200DB	5.00	17	41,153.	12,346.	20,511.	3,318.
149	TRUCK#100	08 17 04	200DB	5.00	17	14,421.	4,326.	7,187.	1,163.
246	2006 CARGO CRAFT TRAILER	06 01 06	200DB	7.00	17	4,223.		754.	991.
283	TRAILER #251	02 27 06	200DB	5.00	17	57,100.		19,985.	14,846.
285	2006 FWF VAC TANK TRAILER	08 04 06	200DB	5.00	17	54,812.		8,222.	18,636.
286	1999 STERLING TRUCK #104	03 01 06	200DB	5.00	17	117,500.		41,125.	30,550.
287	1999 STERLING TRUCK #105	03 16 06	200DB	5.00	17	114,000.		39,900.	29,640.
288	2006 CHEVROLET C-4500#107	06 05 06	200DB	5.00	17	42,433.		10,608.	12,730.
305	2 SUNSHINE TRAILER #254 &#255	11 08 06	200DB	5.00	17	49,000.		2,450.	18,620.
310	1984 FRUEHAUF SS TRAILER #258	12 01 06	200DB	5.00	17	40,000.		2,000.	15,200.
312	TRAILER #257	12 01 06	200DB	5.00	17	16,000.		800.	6,080.
315	YARD MULE	01 01 07	200DB	5.00	19B	39,000.			13,650.
398	TRAILER UNIT #259	06 20 07	200DB	5.00	19B	74,665.			18,666.
478	VEHICHLE - VIN#1GCDG15ZXSF239033	10 12 07	200DB	5.00	19B	3,000.			150.
481	AUTO ACCESSORIES	10 19 07	200DB	5.00	19B	100.			5.
490	2003 NISSAN FRONTIER	10 31 07	200DB	5.00	19B	10,178.			509.
512	3 TANK TRAILERS	12 10 07	200DB	5.00	19B	16,500.			825.
513	TRAILER IMPROVEMENTS TO #262	12 10 07	200DB	5.00	19B	1,320.			66.
	* OTHER TOTAL TRANSPORTATION EQUIP					801,292.	36,202.	219,977.	189,669.
	LAND								
67	LAND	06 11 02	L			100,000.			0.
290	LAND 4900 GRIGGS ROAD	07 19 06	L			5,000.			0.

716261
04-27-07

- Current year section 179 (D) - Asset disposed

EPAHO120000435

Depreciation and Amortization Detail OTHER DEPRECIATION OTHER

Asset Number	Description of property	Date placed in service	Method/ IRC sec.	Life or rate	Line No.	Cost or other basis	Basis reduction	Accumulated depreciation/amortization	Current year deduction
298	LAND 4900 GRIGGS ROAD	11 15 06	L			225,000.			0.
299	LAND 5910 WAYLAND	12 15 06	L			301,384.			0.
	* OTHER TOTAL LAND					631,384.		0.	0.
	* GRAND TOTAL OTHER DEPR & AMORT					9,714,465.	413,796.	1,412,708.	1,149,224.

716261
04-27-07

- Current year section 179 (D) - Asset disposed

EPAHO120000436

Form **8916-A**

Department of the Treasury
Internal Revenue Service

Supplemental Attachment to Schedule M-3

▶ Attach to Schedule M-3 for Form 1065, 1120, 1120-L, 1120-PC, or 1120S.

OMB No. 1545-2061

2007

Name of common parent
CES ENVIRONMENTAL SERVICES, INC.

Employer identification number
76-0592985

Name of subsidiary

Employer identification number

Part I Cost of Goods Sold

Cost of Goods Sold Items	(a) Expense per Income Statement	(b) Temporary Difference	(c) Permanent Difference	(d) Deduction per Tax Return
1 Amounts attributable to cost flow assumptions				
2 Amounts attributable to:				
a Stock option expense				
b Other equity based compensation				
c Meals and entertainment				
d Parachute payments				
e Compensation with section 162(m) limitation				
f Pension and profit sharing				
g Other post-retirement benefits				
h Deferred compensation				
i Section 198 environmental remediation costs				
j Amortization				
k Depletion				
l Depreciation				
m Corporate owned life insurance premiums				
n Other section 263A costs				
3 Inventory shrinkage accruals				
4 Excess inventory and obsolescence reserves				
5 Lower of cost or market write-downs				
6 Other items with differences (attach schedule) SEE STATEMENT 23				
7 Other items with no differences	21,205,721.			21,205,721.
8 **Total cost of goods sold.** Add lines 1 through 7, in columns a, b, c, and d	21,205,721.			21,205,721.

Part II Interest Income

	Interest Income Item	(a) Income (Loss) per Income Statement	(b) Temporary Difference	(c) Permanent Difference	(d) Income (Loss) per Tax Return
1	Tax-exempt interest income				
2	Interest income from hybrid securities				
3	Sale/lease interest income				
4a	Intercompany interest income - From outside tax affiliated group				
4b	Intercompany interest income - From tax affiliated group				
5	Other interest income	45,181.			45,181.
6	Total interest income. Add lines 1 through 5. Enter total on Schedule M-3 (Forms 1120, 1120-PC, and 1120-L), Part II, line 13 or Schedule M-3 (Forms 1065 and 1120-S) Part II, line 11.	45,181.			45,181.

Part III Interest Expense

	Interest Expense Item	(a) Expense per Income Statement	(b) Temporary Difference	(c) Permanent Difference	(d) Deduction per Tax Return
1	Interest expense from hybrid securities				
2	Lease/purchase interest expense				
3a	Intercompany interest expense - Paid to outside tax affiliated group				
3b	Intercompany interest expense - Paid to tax affiliated group				
4	Other interest expense	309,663.	-4,733.		304,930.
5	Total interest expense. Add lines 1 through 4. Enter total on Schedule M-3 (Form 1120) Part III, line 8; Schedule M-3 (Forms 1120-PC and 1120-L), Part III, line 36; Schedule M-3 (Form 1065) Part III, line 27; or Schedule M-3 (Form 1120-S) Part III, line 26.	309,663.	-4,733.		304,930.

FORM 1120 INTEREST INCOME STATEMENT 1

DESCRIPTION	US	OTHER
INTEREST INCOME		45,181.
TOTAL TO FORM 1120, LINE 5		45,181.

FORM 1120 OTHER INCOME STATEMENT 2

DESCRIPTION	AMOUNT
OTHER INCOME	208,467.
TOTAL TO FORM 1120, LINE 10	208,467.

FORM 1120 TAXES AND LICENSES STATEMENT 3

DESCRIPTION	AMOUNT
OTHER TAXES	502.
FRANCHISE TAXES	249,122.
PAYROLL TAXES	510,817.
TOTAL TO FORM 1120, LINE 17	760,441.

CURRENT YEAR CONTRIBUTIONS STATEMENT 4

DESCRIPTION	AMOUNT
CHARITABLE CONTRIBUTIONS	22,092.
TOTAL CURRENT YEAR CONTRIBUTIONS	22,092.

EPAHO120000439

CONTRIBUTIONS STATEMENT 5

CONTRIBUTION SUBJECT TO LIMITATION:		
CARRYOVER OF PRIOR YEARS UNUSED CONTRIBUTIONS		
FOR TAX YEAR 2002		
FOR TAX YEAR 2003		
FOR TAX YEAR 2004		
FOR TAX YEAR 2005		
FOR TAX YEAR 2006		
TOTAL CARRYOVER		
CURRENT YEAR CONTRIBUTIONS	22,092	
TOTAL CONTRIBUTIONS AVAILABLE	22,092	
TAXABLE INCOME LIMITATION AS ADJUSTED	207,859	
EXCESS CONTRIBUTIONS	0	
ALLOWABLE CONTRIBUTIONS DEDUCTION		22,092
TOTAL CONTRIBUTION DEDUCTION		22,092

EPAHO120000440

FORM 1120 OTHER DEDUCTIONS STATEMENT 6

DESCRIPTION	AMOUNT
AMORTIZATION	12,640.
BANK SERVICE CHARGES	28,315.
DUES & SUBSCRIPTIONS	16,249.
MEDICAL EXPENSE	8,172.
OFFICE SUPPLIES	67,066.
POSTAGE & DELIVERY	20,934.
PRINTING & REPRODUCTION	8,747.
PROFESSIONAL FEES	139,033.
TELEPHONE	106,469.
SAFETY SUPPLIES	145,235.
TRAINING EXPENSES	14,949.
TRAVEL	108,508.
WASTE DISPOSAL EXPENSE	1,965.
CONSULTING FEES	237,189.
LICENSES & PERMITS	16,241.
RELOCATING EXPENSES	11,967.
PROMOTIONAL EXPENSES	39,092.
MILAGE, TOLLS & PARKING REIMBURSEMENTS	105,013.
MISCELLANEOUS EXPENSES	8,815.
MEALS AND ENTERTAINMENT	41,184.
TOTAL TO FORM 1120, LINE 26	1,137,783.

SCHEDULE E COMPENSATION OF OFFICERS STATEMENT 7

(A) NAME OF OFFICER	(B) SOCIAL SECURITY NUMBER	(C) PCT OF TIME DEVOTED	PCT OF STK (D) COMMON	(E) PREF	(F) AMOUNT OF COMPENSATION
MATTHEW BOWMAN	231-08-7946	100%	95.00%		643,909.
JUANITA THOMAS	453-08-5854	100%			85,798.
STEVEN K. STRICKER	396-52-2090	100%	5.00%		127,420.
GREGORY A. BOWMAN	227-06-4421	100%			163,330.
MARLIN D. MOSER	178-60-9686	100%			115,961.
RYAN C. THOMAS	463-93-6023	100%			97,974.
LEROY ARCE	451-39-9624	100%			81,006.
TOTAL TO SCHEDULE E					1,315,398.

EPAHO120000441

SCHEDULE A COST OF GOODS SOLD - OTHER COSTS STATEMENT 8

DESCRIPTION	AMOUNT
INSURANCE	1,127,581.
REPAIRS	625,371.
LICENSES	93,809.
UTILITIES	874,277.
DISPOSAL COSTS	2,311,243.
RECYCLING COSTS	486,835.
ANALYTICAL FEES	172,646.
WASTE DISPOSAL FEE	41,738.
COMMISSIONS	629,504.
MANAGEMENT FEES	1,680,181.
EQUIPMENT RENTALS	1,187,390.
SUB TRANS EXPENSES	369,048.
WASHOUT EXPENSES	37,008.
FUEL	1,410,581.
ENERGY ASSESSMENT FEES	27,785.
CITY FEES	18,988.
DELIVERY COSTS	3,421,924.
OTHER RENTAL & LEASE EXPENSES	662,706.
SUBCONTRACTOR EXPENSES	293,214.
PROCESSING FEES	485,084.
OPERATIONAL ERROR EXPENSE	98,966.
PERSONAL PROPERTY TAXES	94,753.
MISCELLANEOUS EXPENSES	16,889.
CONTRACT LABOR	202,448.
TOTAL TO SCHEDULE A, LINE 5	16,369,969.

EPAHO120000442

TAX COMPUTATION STATEMENT 9

1.	TAXABLE INCOME	2,056,498	
2.	LESSER OF LINE 1 OR FIRST BRACKET AMOUNT	50,000	
3.	LINE 1 LESS LINE 2	2,006,498	
4.	LESSER OF LINE 3 OR SECOND BRACKET AMOUNT	25,000	
5.	LINE 3 LESS LINE 4	1,981,498	
6.	INCOME SUBJECT TO 34% TAX RATE	1,981,498	
7.	INCOME SUBJECT TO 35% TAX RATE	0	
8.	15 PERCENT OF LINE 2	7,500	
9.	25 PERCENT OF LINE 4	6,250	
10.	34 PERCENT OF LINE 6	673,709	
11.	35 PERCENT OF LINE 7	0	
12.	ADDITIONAL 5% SURTAX.	11,750	
13.	ADDITIONAL 3% SURTAX	0	
14.	TOTAL INCOME TAX		699,209

EPAHO120000443

OTHER INFORMATION 50% OR MORE OF VOTING STOCKS OWNED BY STATEMENT 10

(A) NAME MATTHEW BOWMAN
ADDRESS 12903 MEREDITH GATE CT, HOUSTON TX 77044
IDENTIFYING NUMBER 231-08-7946
(B) PERCENT OF STOCK 95.00%

SCHEDULE L OTHER CURRENT ASSETS STATEMENT 11

DESCRIPTION	BEGINNING OF TAX YEAR	END OF TAX YEAR
OTHER CURRENT ASSETS	6,434.	0.
EMPLOYEE ADVANCES	0.	19,033.
CONSTRUCION & UPGRADES IN PROCESS	0.	1,157,976.
PRE-PAID EXPENSES	0.	4,911.
FEDERAL PREPAID TAXES	186,625.	0.
TOTAL TO SCHEDULE L, LINE 6	193,059.	1,181,920.

SCHEDULE L OTHER INVESTMENTS STATEMENT 12

DESCRIPTION	BEGINNING OF TAX YEAR	END OF TAX YEAR
INVESTMENT IN CES INTERNATIONAL	0.	22,000.
TOTAL TO SCHEDULE L, LINE 9	0.	22,000.

SCHEDULE L OTHER ASSETS STATEMENT 13

DESCRIPTION	BEGINNING OF TAX YEAR	END OF TAX YEAR
DEPOSITS	9,760.	0.
TRUST FUND FOR TCEQ	29,296.	46,181.
ASSET RETIREMENT OBLIGATION	0.	61,596.
TOTAL TO SCHEDULE L, LINE 14	39,056.	107,777.

EPAHO120000444

SCHEDULE L OTHER CURRENT LIABILITIES STATEMENT 14

DESCRIPTION	BEGINNING OF TAX YEAR	END OF TAX YEAR
940 TAXES PAYABLE	1,134.	4,149.
ACCRUED TEXAS WORKFORCE COMMISSION	2,471.	2,308.
SALES TAX PAYABLE	6,946.	7,409.
941 TAXES PAYABLE	4,100.	0.
CES CREDIT CARD	115,719.	0.
ACCRUED PAYABLES	0.	393,696.
FEDERAL INCOME TAX PAYABLE	0.	201,176.
DEFERRED INCOME TAX	0.	50,000.
ACCRUED TAXES	0.	26,068.
CURRENT PORTION CAPITAL LEASE PAYABLE	0.	185,513.
ACCRUED FRANCHISE TAX PAYABLE	0.	202,824.
TOTAL TO SCHEDULE L, LINE 18	130,370.	1,073,143.

SCHEDULE L OTHER LIABILITIES STATEMENT 15

DESCRIPTION	BEGINNING OF TAX YEAR	END OF TAX YEAR
DEFERRED INCOME TAX	537,566.	379,000.
LONG TERM CAPITAL LEASE PAYABLE	0.	484,048.
ASSET RETIREMENT LIABILITY	0.	90,431.
TOTAL TO SCHEDULE L, LINE 21	537,566.	953,479.

FORM 4626 AMT CONTRIBUTIONS STATEMENT 16

CARRYOVER OF PRIOR YEARS UNUSED CONTRIBUTIONS	
FOR TAX YEAR 2002	
FOR TAX YEAR 2003	
FOR TAX YEAR 2004	
FOR TAX YEAR 2005	
FOR TAX YEAR 2006	
TOTAL CARRYOVER	
CURRENT YEAR CONTRIBUTIONS	22,092
TOTAL CONTRIBUTIONS	22,092
10% OF TAXABLE INCOME AS ADJUSTED	229,134
EXCESS CONTRIBUTIONS	0
ALLOWABLE CONTRIBUTIONS	22,092
AMT CHARITABLE DEDUCTION	22,092
REGULAR CONTRIBUTION DEDUCTION	22,092
AMT CONTRIBUTION ADJUSTMENT	0

EPAHO120000446

SCHEDULE M-3 OTHER INCOME (LOSS) ITEMS WITH DIFFERENCES STATEMENT 17

DESCRIPTION	INCOME (LOSS) PER INCOME STATEMENT	TEMPORARY DIFFERENCE	PERMANENT DIFFERENCE	INCOME (LOSS) PER TAX RETURN
OTHER INCOME	0.	208,467.	0.	208,467.
TOTAL TO M-3, PART II, LINE 25	0.	208,467.	0.	208,467.

SCHEDULE M-3 OTHER INCOME (LOSS) ITEMS WITH NO DIFFERENCES STATEMENT 18

DESCRIPTION	INCOME (LOSS) PER INCOME STATEMENT	INCOME (LOSS) PER TAX RETURN
GROSS RECEIPTS OR SALES	29223548.	29223548.
TOTAL TO SCHEDULE M-3, PART II, LINE 28	29223548.	29223548.

SCHEDULE M-3 OTHER INCOME (LOSS) AND EXPENSE / DEDUCTION ITEMS WITH NO DIFFERENCES STATEMENT 19

DESCRIPTION	PER INCOME STATEMENT	PER TAX RETURN
OTHER INCOME (LOSS)	29223548.	29223548.
OTHER EXPENSE / DEDUCTION	-4668445.	-4668445.
TOTAL TO SCHEDULE M-3, PART II, LINE 28	24555103.	24555103.

EPAHO120000447

SCHEDULE M-3 OTHER EXPENSE/DEDUCTION ITEMS WITH NO DIFFERENCES STATEMENT 20

DESCRIPTION	EXPENSE/ DEDUCTION PER INCOME STATEMENT	EXPENSE/ DEDUCTION PER TAX RETURN
OFFICERS COMPENSATION	1,315,398.	1,315,398.
SALARIES AND WAGES	1,384,428.	1,384,428.
REPAIRS	121,597.	121,597.
ADVERTISING	1,408.	1,408.
EMPLOYEE BENEFIT PROGRAMS	1,214.	1,214.
OTHER TAXES	502.	502.
FRANCHISE TAXES	249,122.	249,122.
BANK SERVICE CHARGES	28,315.	28,315.
DUES & SUBSCRIPTIONS	16,249.	16,249.
MEDICAL EXPENSE	8,172.	8,172.
OFFICE SUPPLIES	67,066.	67,066.
POSTAGE & DELIVERY	20,934.	20,934.
PRINTING & REPRODUCTION	8,747.	8,747.
PROFESSIONAL FEES	139,033.	139,033.
TELEPHONE	106,469.	106,469.
SAFETY SUPPLIES	145,235.	145,235.
TRAINING EXPENSES	14,949.	14,949.
TRAVEL	108,508.	108,508.
WASTE DISPOSAL EXPENSE	1,965.	1,965.
CONSULTING FEES	237,189.	237,189.
LICENSES & PERMITS	16,241.	16,241.
RELOCATING EXPENSES	11,967.	11,967.
PROMOTIONAL EXPENSES	39,092.	39,092.
MILAGE, TOLLS & PARKING REIMBURSEMENTS	105,013.	105,013.
PAYROLL TAXES	510,817.	510,817.
MISCELLANEOUS EXPENSES	8,815.	8,815.
TOTAL TO SCHEDULE M-3, PART II, LINE 28	4,668,445.	4,668,445.

EPAHO120000448

FORM 2220 COMPUTATION OF UNDERPAYMENT PENALTY STATEMENT 21

QTR	EVENT AMOUNT	TYPE	*	REMAINING UNDERPAYMENT	PERIOD OF UNDERPAYMENT		DAYS	INT RATE	AMOUNT OF PENALTY
A									
		Q		35,408.	04/15/2007	06/15/2007	61	8.00%	473.
	-20,000.	P		15,408.	06/15/2007	09/17/2007	94	8.00%	317.
	-90,000.	P		-74,592.	09/17/2007		0	8.00%	0.
B									
		Q		35,409.	06/15/2007	09/17/2007	94	8.00%	730.
	-74,592.	P		-39,183.	09/17/2007		0	8.00%	0.
TOTAL TO FORM 2220, LINE 34									1,520.

EVENT TYPE: Q = AMOUNT UNDERPAID AT START OF QUARTER
P = PAYMENT
W = WITHHOLDING
R = INTEREST RATE CHANGE
L = SWITCH TO OR FROM A LEAP YEAR

FORM 4562, PART III NONRESIDENTIAL REAL PROPERTY STATEMENT 22

(A) DESCRIPTION OF PROPERTY	(B) MO/YR	(C) BASIS	(D) PERIOD	(G) DEDUCTION
OIL AREA IMPROVEMENTS	3/07	73,725.	39.0 YRS	1,496.
OFFICE REMODEL	2/07	28,457.	39.0 YRS	639.
SHOWER ROOM DEPOSIT	3/07	24,989.	39.0 YRS	507.
BUILDING IMPROVEMENTS	6/07	1,856.	39.0 YRS	26.
BUILDING IMPROVEMENTS	6/07	1,856.	39.0 YRS	26.
PROPERTY IMPROVEMENTS	7/07	139,411.	39.0 YRS	1,639.
MOBILIZATION DRAW	9/07	5,975.	39.0 YRS	45.
PROPERTY IMPROVEMENTS - WAYLAND ST.	9 07	97,775.	39.0 YRS	731.
PROPERTY IMPROVEMENTS - 2 WINGS TO RAMP/TANK PAD	10 07	6,808.	39.0 YRS	36.
PROPERTY IMPROVEMENTS	11/07	13,858.	39.0 YRS	44.
PROPERTY IMPROVEMENTS	12/07	7,770.	39.0 YRS	8.
TOTAL TO FORM 4562, PART III, LINE 19I		402,480.		5,197.

EPAHO120000449

FORM 8916-A OTHER ITEMS WITH NO DIFFERENCES STATEMENT 23

DESCRIPTION	PER INCOME STATEMENT	PER TAX RETURN
ANALYTICAL FEES	172,646.	172,646.
CITY FEES	18,988.	18,988.
COMMISSIONS	629,504.	629,504.
CONTRACT LABOR	202,448.	202,448.
DELIVERY COSTS	3,421,924.	3,421,924.
DISPOSAL COSTS	2,311,243.	2,311,243.
ENERGY ASSESSMENT FEES	27,785.	27,785.
EQUIPMENT RENTALS	1,187,390.	1,187,390.
FUEL	1,410,581.	1,410,581.
INSURANCE	1,127,581.	1,127,581.
LICENSES	93,809.	93,809.
MANAGEMENT FEES	1,680,181.	1,680,181.
MISCELLANEOUS EXPENSES	16,889.	16,889.
OPERATIONAL ERROR EXPENSE	98,966.	98,966.
OTHER RENTAL & LEASE EXPENSES	662,706.	662,706.
PERSONAL PROPERTY TAXES	94,753.	94,753.
PROCESSING FEES	485,084.	485,084.
PURCHASES	983,730.	983,730.
RECYCLING COSTS	486,835.	486,835.
REPAIRS	625,371.	625,371.
SALARIES AND WAGES	3,852,022.	3,852,022.
SUB TRANS EXPENSES	369,048.	369,048.
SUBCONTRACTOR EXPENSES	293,214.	293,214.
UTILITIES	874,277.	874,277.
WASHOUT EXPENSES	37,008.	37,008.
WASTE DISPOSAL FEE	41,738.	41,738.
TOTAL TO LINE 7	21205721.	21205721.

EPAHO120000450

Gulf Coast Business Credit

A Division of Gulf Coast Bank & Trust Company

5918 West Courtyard, Suite 100
Austin, Texas 78730
Office: (512) 249 - 9330 | Fax: (512) 258 - 5895

GENERAL INFORMATION

STREET ADDRESS: 4409 Griggs Rd | CITY: Houston | STATE: TX | ZIP: ~~77346~~ 77021

APPLICANT: CES Environmental Services | PHONE NUMBER: 713-676-1460 | FAX: 713-676-1676

MAILING ADDRESS: | CITY: | STATE: | ZIP:

TYPE OF BUSINESS: Environmental Service + Recycling | COUNTY LOCATION: Harris | STATE OF INCORPORATION: Texas

CHARTER NUMBER: 01520431 | FEDERAL I.D. NUMBER: 76-0592985 | DATE BUSINESS STARTED: | TYPE OF ENTITY: C CORP

OWNERSHIP INFORMATION

OFFICER/PARTNER NAME: Matt Bowman | % OWNERSHIP: 95 % | TITLE: President | SOCIAL SECURITY NUMBER: 231-08-7946

HOME ADDRESS: (b) (6) | CITY: (b) (6) | STATE: (b) (6) | ZIP: (b) (6) | HOME PHONE:

OFFICER/PARTNER NAME: Steve Stricker | % OWNERSHIP: 5% | TITLE: Director Maintenance | SOCIAL SECURITY NUMBER: (b) (6)

HOME ADDRESS: (b) (6) | STATE: | ZIP: (b) (6) | HOME PHONE: (b) (6)

OFFICER/PARTNER NAME: Grey Bowman | % OWNERSHIP: 0 % | TITLE: VP Finance | (b) (6)

HOME ADDRESS: (b) (6) | STATE: (b) (6) | HOME PHONE: (b) (6)

PROFESSIONAL SERVICES INFORMATION

BANK NAME: Bank of America | CONTACT NAME: Jose Madrigal | TITLE: | PHONE NUMBER: 832-326-8615 ~~713-771-5052~~ | LOANS (yes/no): yes

ATTORNEY: Bill Burk | COMPANY / FIRM: | PHONE NUMBER: 713-771-5052

ACCOUNTANT: Weinstein Spira | COMPANY / FIRM: | PHONE NUMBER: 713-622-7000

ACCOUNTS RECEIVABLE INFORMATION

INVOICE TERMS: Net 30 | AVE. INVOICES PER MONTH: | AVE. INVOICE SIZE ($): | PROJECTED MONTHLY FACTORING VOLUME ($):

SALES GENERATED VIA (PLEASE CHECK ALL THAT APPLY): ☒ PURCHASE ORDER ☐ CONTRACT ☐ OTHER:

INVOICING METHOD(S): ☐ AT COMPLETION ☐ AT SHIPMENT ☒ AT DELIVERY ☐ PROGRESS

I/We hereby apply for the credit described in this application on behalf of the applicant business. I/We certify that I/we made no misrepresentation in this application or in any related documents, that all information is true and complete, and that I/we did not omit any important information. I/We agree that any property securing the credit will not be used for any illegal purpose. Gulf Coast Business Credit ("GCBC") is authorized to verify with other parties and to make any investigation of my/our credit, either directly or through any agency employed by GCBC for that purpose. GCBC may disclose to any other interested parties information as to GCBC's experiences or transactions with my/our account. I/We understand that GCBC will retain this application and any other credit information GCBC receives, even if no credit is granted. These representations and authorizations extend not only to GCBC, but also to any insurer of the credit and to any investor to whom GCBC may sell all or part of the credit. I/We further authorize GCBC to provide any such insurer or investor any information and documentation that they may request with respect to my/our application or credit.

AUTHORIZATION SIGNATURES OF EACH OWNER / APPLICANT

SIGNATURE	PRINTED NAME	TITLE	DATE
Matt Bo	Matt Bowman	President	9-19-08
SIGNATURE	PRINTED NAME	TITLE	DATE
SIGNATURE	PRINTED NAME	TITLE	DATE
Bowman	Grey Bowman	VP Finance	9/18/08

DOCUMENT CHECKLIST

PLEASE SUBMIT THE FOLLOWING DOCUMENTATION WITH YOUR COMPLETED APPLICATION:

- ☐ COMPANY FINANCIAL STATEMENT - PAST TWO YEARS AND INTERIM (ONE YEAR FOR NEW BUSINESS, MOST CURRENT FOR START UP)
- ☐ PERSONAL FINANCIAL STATEMENT FOR EACH OWNER - DATED WITHIN ONE YEAR
- ☐ CURRENT ACCOUNTS RECEIVABLE AGING
- ☐ CURRENT ACCOUNTS PAYABLE AGING
- ☐ BROCHURE OR COMPANY LITERATURE
- ☐ SAMPLES OF 3 INVOICES AND RELATED DOCUMENTATION SUCH AS CONTRACT, PURCHASE ORDERS AND/OR DELIVERY CONFIRMATION
- ☐ ARTICLES OF INCORPORATION/ORGANIZATION

Bank of America

Commercial Loan Invoice

Please check if your address is incorrect and complete reverse side ☐

SUMMARY

Customer No.	75-804583
Invoice No.	0810020179
Obligation(s)	0000000448
Statement Date:	03/17/08
Due Date:	03/27/08

Due	Past Due	This Period	Total Due
Principal	0.00	2,000,000.00	2,000,000.00
Total	0.00	2,000,000.00	2,000,000.00

Amount Enclosed

CES ENVIRONMENTAL SERVICES
INC
4904 GRIGGS RD
HOUSTON TX 77021-3208

BANK OF AMERICA NA
P O BOX 660576
DALLAS TX 75266-0576

RECEIVED
MAR 21 2008
BY:

7500008045831081002017903270802000000003300000113

"0810020179" :553990010: 7500008045831"

Please detach and return top portion with payment by MARCH 27, 2008.

IMPORTANT INFORMATION

A late fee will be assessed in accordance with the terms of your note if full payment is not made promptly.

Excess payment amounts will be applied to your principal balance.

ACTIVITY SINCE YOUR LAST STATEMENT

CES ENVIRONMENTAL SERVICES	Customer No. 75-804583	Invoice No. 0810020179	Due Date 03/27/08	Total Due 2,000,000.00

OBLIGATION NO.	RATE	NOTE DATE	ORIG/RENEWAL AMOUNT	MATURITY
448	7.250	12/28/07	2,000,000.00	03/27/08

Date	Transaction Description	Activity	Balance
	Starting Balance		0.00
12/28/07	Principal Advance	2,000,000.00	2,000,000.00
03/27/08	Principal Due	2,000,000.00	

	PAST DUE	THIS PERIOD	TOTAL DUE
PRINCIPAL	0.00	2,000,000.00	2,000,000.00
TOTAL	0.00	2,000,000.00	2,000,000.00

BANK OF AMERICA NA
P O BOX 660576
DALLAS TX 75266-0576

Bank of America

Please retain this portion of invoice for your records

Commercial Loan Invoice

M Avila

on 19

10:29 am

832-326-8615

Do not ship liquids, blood or diagnostics in this packaging.

12

300

FedEx. *US Airbill* Express

FedEx Tracking Number 8626 1562 2905

SDA11

Form ID No. 0215 — Sender's Copy

1 From *Please print and press hard.*

Date

Sender's FedEx Account Number 2704-4446-6

Sender's Name 099 0004339 BUSINESS BA Phone (888) 852-5000

Company BANK OF AMERICA/TX5-284-01-01

Address 12605 EAST FWY STE 108

Dept./Floor/Suite/Room

City HOUSTON State TX ZIP 77015-5619

2 Your Internal Billing Reference First 24 characters will appear on invoice. OPTIONAL

3 To

Recipient's Name Jose Madrigal Phone (888) 832-5800 x5110

Company Bank of America Business Banking

Recipient's Address

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address 12605 East Fwy Ste108

To request a package be held at a specific FedEx location, print FedEx address here.

City Houston State TX ZIP 77015

0366717200

4a Express Package Service *Packages up to 150 lbs.*

- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [x] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [ ] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
		$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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EPAHO12000454

Texas
Loan Documentation and Collateral Checklist

CONFIDENTIAL
Run Date 04/07/08

Package No: 50418435

Client Name(s)		*Customer #*	*Note #*
CES ENVIRONMENTAL SERVICES, INC.		0000804583	
Name of Guarantor(s)		*Name of Collateral Owner(s) if different from Borrower(s)*	
Matthew Bowman			
Client Manager	*Amount of Loan*	*Attorney Prep.*	*Date of Loan*
Jose Madrigal	$500,000.00	No	04/08/08

DOCUMENT	COMMENTS
I. Selected Documents:	
Approval Documents/Debt Instruments/Misc.	
S Loan Agreement/Amendment	
F Compliance Certificate	
R Approval Document (CAR, SCM, Workbook, etc.)	
N Notice of Final Agreement	
N Information Sharing Notice	
S Disbursement Request & Authorization	
Corporation (Incl. Sub-S, P.A., P.C., & Non-Profit)	
F Certificate of Good Standing	
N Incumbency Certificate	
F Resolution Authorizing Transaction	
N Assumed Name Certificate	
Guarantors	
N Notice to Cosigner	
F Guaranty(ies)/Suretyship	
N Consent and Reaffirmation of Guaranty	
N Resolution Authorizing Guaranty	
Accounts Rec/Inventory	
S Security Agreement	
F Lien Search - prior to funding	
N Inventory Certificate	
N Borrowing Base Certificate	
N Landlord's Lien Waiver	
N Insurance with Bank as mortgagee clause	
N Lien Search - Post Filing (>$500K)	
O UCC-1 Financing Statement	
N Aging of Receivables	
Equipment (Incl. Farm Equipment)	
S Security Agreement	
F Lien Search - prior to funding	
N Landlord's Lien Waiver	
N Insurance with Bank as mortgagee clause	
N Lien Search - Post Filing (>$500K)	

EPAHO120000455

Texas
Loan Documentation and Collateral Checklist

CONFIDENTIAL
Run Date 04/07/08

Package No: 50418435

DOCUMENT	COMMENTS
_O_ UCC-1 Financing Statement	

II. Exceptions (Please List):

1. UCC - 1 to be filed online

III. Documents Waived: Please list each document waived and include the reason for waiver. Waiver approval levels are outlined in the Credit Policy Guide.

IV. Other (Please list documents, instructions or comments):

1. Compliance Certificate sent with STATS #50410466

V. Approvals*

Line Officers

Name	Initial	Date
Jose Madrigal		

Credit Policy

Name	Initial	Date

***Client Manager Signature required on all checklists submitted.**

***Authorized Signature(s) as appropriate for funding with exceptions or waiver approvals.**

Checklist Prepared by: Mable V. Gray Processing Center

Verified by (if appr.):

EPAHO120000456

Bank of America

Loan Agreement

Date of Agreement: April 8, 2008

Principal Amount:	$500,000.00	Account Number:	TX - 804583

Introduction. This Agreement dated and effective as of April 8, 2008, is entered into between CES Environmental Services Inc (the "Borrower") and Bank of America, N.A. (the "Bank"). The Borrower agrees to the following terms and conditions:

1. LINE OF CREDIT

1.1 Line of Credit Amount.

(a) During the availability period described below, the Bank will provide a line of credit to the Borrower. The amount of the line of credit (the "Commitment") is Five Hundred Thousand and 00/100 Dollars ($500,000.00).

(b) This is a revolving line of credit. During the availability period, the Borrower may repay principal amounts and reborrow them.

(c) The Borrower agrees not to permit the principal balance outstanding to exceed the Commitment. If the Borrower exceeds this limit, the Borrower will immediately pay the excess to the Bank upon the Bank's demand.

1.2 Availability Period. The line of credit is available between the date of this Agreement and April 8, 2009, or such earlier date as the availability may terminate as provided in this Agreement (the "Expiration Date").

The availability period for this line of credit will be considered renewed if and only if the Bank has sent to the Borrower a written notice of renewal effective as of the Expiration Date for the line of credit (the "Renewal Notice"). If this line of credit is renewed, it will continue to be subject to all the terms and conditions set forth in this Agreement except as modified by the Renewal Notice. If this line of credit is renewed, the term "Expiration Date" shall mean the date set forth in the Renewal Notice as the Expiration Date, and all outstanding principal plus all accrued interest shall be paid on the Expiration Date. The same process for renewal will apply to any subsequent renewal of this line of credit. A renewal fee may be charged at the Bank's option. The amount of the renewal fee will be specified in the Renewal Notice. If this line of credit is not renewed, the Bank in its sole discretion may allow the outstanding balance to be repaid in installments over a term specified by the Bank at the time. The Borrower specifically understands that the interest rate applicable to the line of credit may be increased upon term-out and that the new interest rate will apply to the entire outstanding principal balance due hereunder. A transaction fee may be charged at the Bank's option. If so, the amount will be specified in the term-out notice.

1.3 Repayment Terms.

(a) The Borrower will pay interest on May 8, 2008, and then on the same day of each month thereafter until payment in full of any principal outstanding under this Agreement.

(b) The Borrower will repay in full any principal, interest or other charges outstanding under this Agreement no later than the Expiration Date.

1.4 Interest Rate.

(a) The interest rate is a rate per year equal to the lesser of (i) Bank's Prime Rate, or (ii) the maximum lawful rate of interest permitted under applicable usury laws, now or hereafter enacted (the "Maximum Rate").

(b) The Prime Rate is the rate of interest publicly announced from time to time by the Bank as its Prime Rate. The Prime Rate is set by the Bank based on various factors, including the Bank's costs and desired return, general economic conditions and other factors, and is used as a reference point for pricing some loans. The Bank may price loans to its customers at, above, or below the Prime Rate. Any change in the Prime Rate shall take effect at the opening of business on the day specified in the public announcement of a change in the Bank's Prime Rate.

EPAHO120000457

2. FEES AND EXPENSES

2.1 Fees.

(a) Loan Fee. The Borrower agrees to pay a loan fee in the amount of Two Thousand Five Hundred and 00/100 Dollars ($2,500.00). This fee is due on the date of this Agreement.

(b) Periodic Fee. The Borrower agrees to pay a fee in the amount of Two Thousand Five Hundred and 00/100 Dollars ($2,500.00). This fee is due on April 8, 2008, and on the same day of each following year until the expiration of the availability period.

(c) Waiver Fee. If the Bank, at its discretion, agrees to waive or amend any terms of this Agreement, the Borrower will, at the Bank's option, pay the Bank a fee for each waiver or amendment in an amount advised by the Bank at the time the Borrower requests the waiver or amendment. Nothing in this paragraph shall imply that the Bank is obligated to agree to any waiver or amendment requested by the Borrower. The Bank may impose additional requirements as a condition to any waiver or amendment.

(d) Late Fee. To the extent permitted by law, the Borrower agrees to pay a late fee in an amount not to exceed four percent (4%) of any payment that is more than fifteen (15) days late. The imposition and payment of a late fee shall not constitute a waiver of the Bank's rights with respect to the default.

(e) No Excess Fees. Notwithstanding anything to the contrary in this Section, in no event shall any sum payable under this Section (to the extent, if any, constituting interest under applicable laws), together with all other amounts constituting interest under applicable laws and payable in connection with the credit evidenced hereby, exceed the amount of interest computed at the Maximum Rate.

2.2 Expenses. The Borrower agrees to immediately repay the Bank for expenses that include, but are not limited to, filing, recording and search fees, appraisal fees, title report fees, documentation fees, and all fees and taxes required by law in connection with providing the credit.

2.3 Reimbursement Costs. The Borrower agrees to reimburse the Bank for the cost of periodic field examinations of Borrower's books, records and collateral, and appraisals of the collateral, at such intervals as the Bank may reasonably require. The actions described in this paragraph may be performed by employees of the Bank or by independent appraisers.

3. COLLATERAL

3.1 Personal Property. The personal property listed below now owned or owned in the future by the parties listed below will secure Borrower's obligations to the Bank under this Agreement. The collateral is further defined in security agreement(s) executed by the owners of the collateral. In addition, all personal property collateral owned by the Borrower securing this Agreement shall also secure all other present and future obligations of the Borrower to the Bank (excluding any consumer credit covered by the federal Truth in Lending law, unless the Borrower has otherwise agreed in writing or received written notice thereof). All personal property collateral securing any other present or future obligations of the Borrower to the Bank shall also secure this Agreement.

(a) Equipment owned by the Borrower.

(b) Inventory owned by the Borrower.

(c) Receivables owned by the Borrower.

4. DISBURSEMENTS, PAYMENTS AND COSTS

4.1 Telephone Authorization.

EPAHO120000458

(a) The Bank may honor telephone instructions for advances or repayments given, or purported to be given, by any one of the individuals authorized to sign loan agreements on behalf of the Borrower, or any other individual designated by any one of such authorized signers.

(b) Advances will be deposited in and repayments will be withdrawn from account number **TX - 5772224533** owned by the Borrower, or such other of the Borrower's accounts with the Bank as designated in writing by the Borrower.

(c) The Borrower will indemnify and hold the Bank harmless from all liability, loss, and costs in connection with any act resulting from telephone instructions the Bank reasonably believes are made by any individual authorized by the Borrower to give such instructions. This paragraph will survive this Agreement's termination, and will benefit the Bank and its officers, employees, and agents.

4.2 Direct Debit (Pre-Billing).

(a) The Borrower agrees that the Bank will debit deposit account number **TX - 5772224533** owned by the Borrower, or such other of the Borrower's accounts with the Bank as designated in writing by the Borrower (the "Designated Account") on the date each payment from the Borrower becomes due (the "Due Date"). Payments include interest payments, principal payments (if applicable) and fees (if applicable).

(b) Prior to each Due Date, the Bank will mail to the Borrower a statement of the amounts that will be due on that Due Date (the "Billed Amount"). The bill will be mailed a specified number of calendar days prior to the Due Date, which number of days will be mutually agreed from time to time by the Bank and the Borrower. The calculations in the bill will be made on the assumption that no new extensions of credit or payments will be made between the date of the billing statement and the Due Date, and that there will be no changes in the applicable interest rate.

(c) The Bank will debit the Designated Account for the Billed Amount, regardless of the actual amount due on that date (the "Accrued Amount"). If the Billed Amount debited to the Designated Account differs from the Accrued Amount, the discrepancy will be treated as follows:

(i) If the Billed Amount is less than the Accrued Amount, the Billed Amount for the following Due Date will be increased by the amount of the discrepancy. The Borrower will not be in default by reason of any such discrepancy.

(ii) If the Billed Amount is more than the Accrued Amount, the Billed Amount for the following Due Date will be decreased by the amount of the discrepancy.

Regardless of any such discrepancy, interest will continue to accrue based on the actual amount of principal outstanding without compounding. The Bank will not pay the Borrower interest on any overpayment.

(d) The Borrower will maintain sufficient funds in the Designated Account to cover each debit. If there are insufficient funds in the Designated Account on the date the Bank enters any debit authorized by this Agreement, the Bank may reverse the debit.

(e) The Borrower may terminate this direct debit arrangement at any time by sending written notice to the Bank. If the Borrower terminates this arrangement, then the principal amount outstanding under this Agreement will at the option of the Bank bear interest at a rate per annum which is the lesser of (i) the Maximum Rate or (ii) one (1.0) percentage point higher than the rate of interest otherwise provided under this Agreement and the amount of each payment will be increased accordingly.

4.3 Banking Days. Unless otherwise provided in this Agreement, a banking day is a day other than a Saturday, Sunday or other day on which commercial banks are authorized to close, or are in fact closed, in the state where the Bank's lending office is located, and, if such day relates to amounts bearing interest at an offshore rate (if any), means any such day on which dealings in dollar deposits are conducted among banks in the offshore dollar interbank market. All payments and disbursements which would be due on a day which is not a banking day will be due on the next banking day. All payments received on a day which is not a banking day will be applied to the credit on the next banking day.

4.4 Interest Calculation. Except as otherwise stated in this Agreement, all interest and fees, if any, will be computed on the basis of a 360-day year and the actual number of days elapsed. This results in more interest or a higher fee than if

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a 365-day year is used. Installments of principal which are not paid when due under this Agreement shall continue to bear interest until paid.

4.5 Default Rate. Upon the occurrence of any default or after maturity or after judgment has been rendered on any obligation under this Agreement, all amounts outstanding under this Agreement, including any interest, fees, or costs which are not paid when due, will at the option of the Bank bear interest at a rate which is the lesser of (i) the Maximum Rate or (ii) 6.0 percentage point(s) higher than the rate of interest otherwise provided under this Agreement. This may result in compounding of interest. This will not constitute a waiver of any default.

5. CONDITIONS

Before the Bank is required to extend any credit to the Borrower under this Agreement, it must receive any documents and other items it may reasonably require, in form and content acceptable to the Bank, including any items specifically listed below.

5.1 Authorizations. If the Borrower or any guarantor is anything other than a natural person, evidence that the execution, delivery and performance by the Borrower and/or such guarantor of this Agreement and any instrument or agreement required under this Agreement have been duly authorized.

5.2 Governing Documents. If required by the Bank, a copy of the Borrower's organizational documents.

5.3 Guaranties. Guaranty signed by Matthew L. Bowman ("Matthew L. Bowman").

5.4 Security Agreements. Signed original security agreements covering the personal property collateral which the Bank requires.

5.5 Perfection and Evidence of Priority. Evidence that the security interests and liens in favor of the Bank are valid, enforceable, properly perfected in a manner acceptable to the Bank and prior to all others' rights and interests, except those the Bank consents to in writing. All title documents for motor vehicles which are part of the collateral must show the Bank's interest.

5.6 Payment of Fees. Payment of all fees, expenses and other amounts due and owing to the Bank. If any fee is not paid in cash, the Bank may, in its discretion, treat the fee as a principal advance under this Agreement or deduct the fee from the loan proceeds.

6. REPRESENTATIONS AND WARRANTIES

When the Borrower signs this Agreement, and until the Bank is repaid in full, the Borrower makes the following representations and warranties. Each request for an extension of credit constitutes a renewal of these representations and warranties as of the date of the request:

6.1 Formation. If the Borrower is anything other than a natural person, it is duly formed and existing under the laws of the state or other jurisdiction where organized.

6.2 Authorization. This Agreement, and any instrument or agreement required hereunder, are within the Borrower's powers, have been duly authorized, and do not conflict with any of its organizational papers.

6.3 Good Standing. In each state in which the Borrower does business, it is properly licensed, in good standing, and, where required, in compliance with fictitious name statutes.

6.4 Financial Information. All financial and other information that has been or will be supplied to the Bank is sufficiently complete to give the Bank accurate knowledge of the Borrower's (and any guarantor's) financial condition, including all material contingent liabilities. Since the date of the most recent financial statement provided to the Bank, there has been no material adverse change in the business condition (financial or otherwise), operations, properties or prospects of the Borrower (or any guarantor). If the Borrower is comprised of the trustees of a trust, the foregoing representations shall also pertain to the trustor(s) of the trust.

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6.5 Lawsuits. There is no lawsuit, tax claim or other dispute pending or threatened against the Borrower which, if lost, would impair the Borrower's financial condition or ability to repay the loan, except as have been disclosed in writing to the Bank.

6.6 Other Obligations. The Borrower is not in default on any obligation for borrowed money, any purchase money obligation or any other material lease, commitment, contract, instrument or obligation, except as have been disclosed in writing to the Bank.

6.7 Tax Matters. The Borrower has no knowledge of any pending assessments or adjustments of its income tax for any year and all taxes due have been paid, except as have been disclosed in writing to the Bank.

6.8 No Event of Default. There is no event which is, or with notice or lapse of time or both would be, a default under this Agreement.

6.9 Collateral. All collateral required in this Agreement is owned by the grantor of the security interest free of any title defects or any liens or interests of others, except those which have been approved by the Bank in writing.

7. COVENANTS

The Borrower agrees, so long as credit is available under this Agreement and until the Bank is repaid in full:

7.1 Use of Proceeds. To use the proceeds of the credit only for business purposes.

7.2 Financial Information. To provide the following financial information and statements in form and content acceptable to the Bank, and such additional information as requested by the Bank from time to time. The Bank reserves the right, upon written notice to the Borrower, to require the Borrower to deliver financial information and statements to the Bank more frequently than otherwise provided below, and to use such additional information and statements to measure any applicable financial covenants in this Agreement.

(a) Within 120 days of Borrower's fiscal year end:

(i) The annual financial statements of the Borrower certified and dated by an authorized financial officer. These financial statements must be reviewed by a Certified Public Accountant acceptable to the Bank. The statements shall be prepared on a consolidated basis.

(ii) A properly completed personal financial statement of Matthew L. Bowman on the Bank's form with all questions fully answered and all schedules completed in their entirety, including all requested income/expense information, contingent liabilities disclosure; provided that, if the party providing the financial information uses his/her own automated financial statement, they may supplement the statement with supporting schedules, certifications or other details so that all information requested on the Bank's financial statement form is provided in lieu of using such form.

(iii) Copies of the federal income tax return of Matthew L. Bowman and, if requested by the Bank, copies of any extensions of the filing date.

(b) Within 45 days of the period's end (including the last period in each fiscal year), quarterly financial statements of the Borrower, certified and dated by an authorized financial officer. These financial statements must be reviewed by a Certified Public Accountant acceptable to the Bank. The statements shall be prepared on a consolidated basis.

(c) Each financial statement of the Borrower required above must be accompanied by a certificate substantially in the form of the Compliance Certificate required by the Bank, signed by the party submitting the information or, if such party is a business entity, an authorized financial officer of the party. The Compliance Certificate shall state whether there existed as of the date of such financial statements, and whether there exists as of the date of the certificate, any event of default under this Agreement and, if any such default exists, specifying the nature thereof and the action the party is taking and proposes to take with respect thereto.

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7.3 Debt Service Coverage Ratio. To maintain on a consolidated basis a Debt Service Coverage Ratio of at least 1.25:1.0.

"Debt Service Coverage Ratio" means the ratio of Cash Flow to the sum of the current portion of long-term debt and the current portion of capitalized lease obligations, plus interest expense on all obligations.

"Cash Flow" is defined as (a) net income, after income tax, (b) less income or plus loss from discontinued operations and extraordinary items, (c) plus depreciation, depletion, and amortization, (d) plus interest expense on all obligations, and (e) minus dividends, withdrawals, and other distributions. This ratio will be calculated at the end of each reporting period for which the Bank requires financial statements, using the results of the twelve-month period ending with that reporting period. The current portion of long-term liabilities will be measured as of the date twelve (12) months prior to the current financial statement.

7.4 Tangible Net Worth. To maintain on a consolidated basis Tangible Net Worth equal to at least the amounts indicated for each period specified below:

Period	Amounts
From January 1, 2007 through December 31, 2007	$1,000,000.00
From January 1, 2008 through December 31, 2008	$1,500,000.00
From January 1, 2009 through December 31, 2009	$2,000,000.00
From January 1, 2010 through December 31, 2010	$2,500,000.00
From January 1, 2011 through December 31, 2011	$3,000,000.00
From January 1, 2012 and thereafter	$3,500,000.00

"Tangible Net Worth" means the value of total assets (including leaseholds and leasehold improvements and reserves against assets but excluding goodwill, patents, trademarks, trade names, organization expense, unamortized debt discount and expense, capitalized or deferred research and development costs, deferred marketing expenses, and other like intangibles, and monies due from affiliates, officers, directors, employees, shareholders, members or managers) less total liabilities, including but not limited to accrued and deferred income taxes, but excluding the non-current portion of Subordinated Liabilities.

"Subordinated Liabilities" means liabilities subordinated to the Borrower's obligations to the Bank in a manner acceptable to the Bank in its sole discretion.

7.5 Other Debts. Not to have outstanding or incur any direct or contingent liabilities or lease obligations (other than those to the Bank), or become liable for the liabilities of others, without the Bank's written consent. This does not prohibit:

(a) Acquiring goods, supplies, or merchandise on normal trade credit.

(b) Liabilities, lines of credit and leases in existence on the date of this Agreement disclosed in writing to the Bank.

(c) If the Borrower is a natural person, additional debts of the Borrower as an individual for consumer purposes.

7.6 Other Liens. Not to create, assume, or allow any security interest or lien (including judicial liens) on property the Borrower now or later owns, except:

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(a) Liens and security interests in favor of the Bank.

(b) Liens for taxes not yet due.

(c) Liens outstanding on the date of this Agreement disclosed in writing to the Bank.

7.7 Maintenance of Assets.

(a) Not to sell, assign, lease, transfer or otherwise dispose of any part of the Borrower's business or the Borrower's assets except in the ordinary course of the Borrower's business.

(b) Not to sell, assign, lease, transfer or otherwise dispose of any assets for less than fair market value, or enter into any agreement to do so.

(c) Not to enter into any sale and leaseback agreement covering any of its fixed assets.

(d) To maintain and preserve all rights, privileges, and franchises the Borrower now has.

(e) To make any repairs, renewals, or replacements to keep the Borrower's properties in good working condition.

7.8 Loans. Not to make any loans, advances or other extensions of credit to any individual or entity except for extensions of credit in the nature of accounts receivable or notes receivable arising from the sale or lease of goods or services in the ordinary course of business to non-affiliated entities.

7.9 Change of Management. Not to make any substantial change in the present executive or management personnel of the Borrower.

7.10 Change of Ownership. If the Borrower is anything other than a natural person, not to cause, permit, or suffer any change in capital ownership such that there is a material change, as determined by the Bank in its sole discretion, in the direct or indirect capital ownership of the Borrower.

7.11 Additional Negative Covenants. Not to, without the Bank's written consent:

(a) Enter into any consolidation, merger, or other combination, or become a partner in a partnership, a member of a joint venture, or a member of a limited liability company.

(b) Acquire or purchase a business or its assets.

(c) Engage in any business activities substantially different from the Borrower's present business.

(d) Liquidate or dissolve the Borrower's business.

7.12 Notices to Bank. To promptly notify the Bank in writing of:

(a) Any event of default under this Agreement, or any event which, with notice or lapse of time or both, would constitute an event of default.

(b) Any change in the Borrower's name, legal structure, place of business, or chief executive office if the Borrower has more than one place of business.

7.13 Insurance

(a) General Business Insurance. To maintain insurance as is usual for the business it is in.

(b) Insurance Covering Collateral. To maintain all risk property damage insurance policies (including without limitation windstorm coverage, and hurricane coverage as applicable) covering the tangible property comprising the collateral. Each insurance policy must be for the full replacement cost of the collateral and include a replacement cost endorsement. The insurance must be issued by an insurance company acceptable to the Bank

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and must include a lender's loss payable endorsement in favor of the Bank in a form acceptable to the Bank.

(c) Evidence of Insurance. Upon the request of the Bank, to deliver to the Bank a copy of each insurance policy, or, if permitted by the Bank, a certificate of insurance listing all insurance in force.

7.14 ompliance with Laws. To comply with the laws (including any fictitious or trade name statute), regulations, and orders of any government body with authority over the Borrower's business. The Bank shall have no obligation to make any advance to the Borrower except in compliance with all applicable laws and regulations and the Borrower shall fully cooperate with the Bank in complying with all such applicable laws and regulations.

7.15 Books and Records. To maintain adequate books and records.

7.16 Audits. To allow the Bank and its agents to inspect the Borrower's properties and examine, audit, and make copies of books and records at any reasonable time. If any of the Borrower's properties, books or records are in the possession of a third party, the Borrower authorizes that third party to permit the Bank or its agents to have access to perform inspections or audits and to respond to the Bank's requests for information concerning such properties, books and records.

7.17 Perfection of Liens. To help the Bank perfect and protect its security interests and liens, and reimburse it for related costs it incurs to protect its security interests and liens.

7.18 Cooperation. To take any action reasonably requested by the Bank to carry out the intent of this Agreement.

7.19 Bank as Principal Depository. To maintain, the Bank as its principal depository bank, including for the maintenance of business, cash management, operating and administrative deposit accounts.

8 DEFAULT AND REMEDIES

If any of the following events of default occurs, the Bank may do one or more of the following without prior notice: declare the Borrower in default, stop making any additional credit available to the Borrower, and require the Borrower to repay its entire debt immediately. If an event which, with notice or the passage of time, will constitute an event of default has occurred and is continuing, the Bank has no obligation to make advances or extend additional credit under this Agreement. In addition, if any event of default occurs, the Bank shall have all rights, powers and remedies available under any instruments and agreements required by or executed in connection with this Agreement, as well as all rights and remedies available at law or in equity. If an event of default occurs under the paragraph entitled "Bankruptcy," below, with respect to the Borrower, then the entire debt outstanding under this Agreement will automatically be due immediately.

8.1 Failure to Pay. The Borrower fails to make a payment under this Agreement when due.

8.2 Other Bank Agreements. Any default occurs under any other agreement the Borrower (or any Obligor) has with the Bank or any affiliate of the Bank. For purposes of this Agreement, "Obligor" shall mean any guarantor, any party pledging collateral to the Bank, or, if the Borrower is comprised of the trustees of a trust, any trustor.

8.3 Cross-default. Any default occurs under any agreement in connection with any credit the Borrower (or any Obligor) has obtained from anyone else or which the Borrower (or any Obligor) or any of the Borrower's related entities or affiliates has guaranteed.

8.4 False Information. The Borrower or any Obligor has given the Bank false or misleading information or representations.

8.5 Bankruptcy. The Borrower, any Obligor, or any general partner of the Borrower or of any Obligor files a bankruptcy petition, a bankruptcy petition is filed against any of the foregoing parties, or the Borrower, any Obligor, or any general partner of the Borrower or of any Obligor makes a general assignment for the benefit of creditors.

8.6 Receivers. A receiver or similar official is appointed for any portion of the Borrower's or any Obligor's business, or the business is terminated, or, if any Obligor is anything other than a natural person, such Obligor is liquidated or dissolved.

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8.7 Revocation or Termination. If the Borrower is comprised of the trustee(s) of a trust, the trust is revoked or otherwise terminated or all or a substantial part of the Borrower's assets are distributed or otherwise disposed of.

8.8 Lien Priority. The Bank fails to have an enforceable first lien (except for any prior liens to which the Bank has consented in writing) on or security interest in any property given as security for this Agreement (or any guaranty).

8.9 Judgments. Any judgments or arbitration awards are entered against the Borrower or any Obligor.

8.10 Death. If the Borrower or any Obligor is a natural person, the Borrower or such Obligor dies or becomes legally incompetent; if the Borrower or any Obligor is a trust, a trustor dies or becomes legally incompetent; if the Borrower or any Obligor is a partnership, any general partner dies or becomes legally incompetent.

8.11 Material Adverse Change. A material adverse change occurs, or is reasonably likely to occur, in the Borrower's (or any Obligor's) business condition (financial or otherwise), operations, properties or prospects, or ability to repay the credit.

8.12 Government Action. Any government authority takes action that the Bank believes materially adversely affects the Borrower's or any Obligor's financial condition or ability to repay.

8.13 Default under Related Documents. Any default occurs under any guaranty, subordination agreement, security agreement, deed of trust, mortgage, or other document required by or delivered in connection with this Agreement or any such document is no longer in effect, or any guarantor purports to revoke or disavow the guaranty.

***8.14* Other Breach Under Agreement.** A default occurs under any other term or condition of this Agreement not specifically referred to in this Article.

9 ENFORCING THIS AGREEMENT; MISCELLANEOUS

9.1 GAAP. Except as otherwise stated in this Agreement, all financial information provided to the Bank and all financial covenants will be made under generally accepted accounting principles, consistently applied or another basis acceptable to the Bank.

9.2 Governing Law. This Agreement is governed by Texas law. It is the intention of the parties to comply with applicable usury laws. The parties agree that the total amount of interest contracted for, charged, collected or received by the Bank under this Agreement shall not exceed the Maximum Rate. To the extent, if any, that Chapter 303 of the Texas Finance Code (the "Code") is relevant to the Bank for purposes of determining the Maximum Rate, the parties elect to determine the Maximum Rate under the Code pursuant to the "weekly ceiling" from time to time in effect, as referred to and defined in § 303.001-303.016 of the Code; subject, however, to any right the Bank subsequently may have under applicable law to change the method of determining the Maximum Rate. Notwithstanding any contrary provisions contained herein, (a) the Maximum Rate shall be calculated on the basis of the actual number of days elapsed over a year of 365 or 366 days, as the case may be; (b) in determining whether the interest hereunder exceeds interest at the Maximum Rate, the total amount of interest shall be spread throughout the entire term of this Agreement until its payment in full; (c) if at any time the interest rate chargeable under this Agreement would exceed the Maximum Rate, thereby causing the interest payable under this Agreement to be limited to the Maximum Rate, then any subsequent reductions in the interest rate(s) shall not reduce the rate of interest charged under this Agreement below the Maximum Rate until the total amount of interest accrued from and after the date of this Agreement equals the amount of interest which would have accrued if the interest rate(s) had at all times been in effect; (d) if the Bank ever charges or receives anything of value which is deemed to be interest under applicable Texas law, and if the occurrence of any event, including acceleration of maturity of obligations owing to the Bank, should cause such interest to exceed the maximum lawful amount, any amount which exceeds interest at the Maximum Rate shall be applied to the reduction of the unpaid principal balance under this Agreement or any other indebtedness owed to the Bank by the Borrower, and if this Agreement and such other indebtedness are paid in full, any remaining excess shall be paid to the Borrower; and (e) Chapter 346 of the Code shall not be applicable to this Agreement or the indebtedness outstanding hereunder.

9.3 Successors and Assigns. This Agreement is binding on the Borrower's and the Bank's successors and assignees. The Borrower agrees that it may not assign this Agreement without the Bank's prior consent.

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9.4 Dispute Resolution Provision. This paragraph, including the subparagraphs below, is referred to as the "Dispute Resolution Provision." This Dispute Resolution Provision is a material inducement for the parties entering into this agreement.

(a) This Dispute Resolution Provision concerns the resolution of any controversies or claims between the parties, whether arising in contract, tort or by statute, including but not limited to controversies or claims that arise out of or relate to: (i) this agreement (including any renewals, extensions or modifications); or (ii) any document related to this agreement (collectively a "Claim"). For the purposes of this Dispute Resolution Provision only, the term "parties" shall include any parent corporation, subsidiary or affiliate of the Bank involved in the servicing, management or administration of any obligation described or evidenced by this agreement.

(b) At the request of any party to this agreement, any Claim shall be resolved by binding arbitration in accordance with the Federal Arbitration Act (Title 9, U.S. Code) (the "Act"). The Act will apply even though this agreement provides that it is governed by the law of a specified state.

(c) Arbitration proceedings will be determined in accordance with the Act, the then-current rules and procedures for the arbitration of financial services disputes of the American Arbitration Association or any successor thereof ("AAA"), and the terms of this Dispute Resolution Provision. In the event of any inconsistency, the terms of this Dispute Resolution Provision shall control. If AAA is unwilling or unable to (i) serve as the provider of arbitration or (ii) enforce any provision of this arbitration clause, the Bank may designate another arbitration organization with similar procedures to serve as the provider of arbitration.

(d) The arbitration shall be administered by AAA and conducted, unless otherwise required by law, in any U.S. state where real or tangible personal property collateral for this credit is located or if there is no such collateral, in the state specified in the governing law section of this agreement. All Claims shall be determined by one arbitrator; however, if Claims exceed Five Million Dollars ($5,000,000), upon the request of any party, the Claims shall be decided by three arbitrators. All arbitration hearings shall commence within ninety (90) days of the demand for arbitration and close within ninety (90) days of commencement and the award of the arbitrator(s) shall be issued within thirty (30) days of the close of the hearing. However, the arbitrator(s), upon a showing of good cause, may extend the commencement of the hearing for up to an additional sixty (60) days. The arbitrator(s) shall provide a concise written statement of reasons for the award. The arbitration award may be submitted to any court having jurisdiction to be confirmed and have judgment entered and enforced.

(e) The arbitrator(s) will give effect to statutes of limitation in determining any Claim and may dismiss the arbitration on the basis that the Claim is barred. For purposes of the application of any statutes of limitation, the service on AAA under applicable AAA rules of a notice of Claim is the equivalent of the filing of a lawsuit. Any dispute concerning this arbitration provision or whether a Claim is arbitrable shall be determined by the arbitrator(s), except as set forth at subparagraph (h) of this Dispute Resolution Provision. The arbitrator(s) shall have the power to award legal fees pursuant to the terms of this agreement.

(f) This paragraph does not limit the right of any party to: (i) exercise self-help remedies, such as but not limited to, setoff; (ii) initiate judicial or non-judicial foreclosure against any real or personal property collateral; (iii) exercise any judicial or power of sale rights, or (iv) act in a court of law to obtain an interim remedy, such as but not limited to, injunctive relief, writ of possession or appointment of a receiver, or additional or supplementary remedies.

(g) The filing of a court action is not intended to constitute a waiver of the right of any party, including the suing party, thereafter to require submittal of the Claim to arbitration.

(h) Any arbitration or trial by a judge of any Claim will take place on an individual basis without resort to any form of class or representative action (the "Class Action Waiver"). Regardless of anything else in this Dispute Resolution Provision, the validity and effect of the Class Action Waiver may be determined only by a court and not by an arbitrator. The parties to this Agreement acknowledge that the Class Action Waiver is material and essential to the arbitration of any disputes between the parties and is nonseverable from the agreement to arbitrate Claims. If the Class Action Waiver is limited, voided or found unenforceable, then the parties' agreement to arbitrate shall be null and void with respect to such proceeding, subject to the right to appeal the limitation or invalidation of the Class Action Waiver. **The Parties acknowledge and agree that under no circumstances will a class action be arbitrated.**

(i) By agreeing to binding arbitration, the parties irrevocably and voluntarily waive any right they may have to a trial

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by jury in respect of any Claim. Furthermore, without intending in any way to limit this agreement to arbitrate, to the extent any Claim is not arbitrated, the parties irrevocably and voluntarily waive any right they may have to a trial by jury in respect of such Claim. This waiver of jury trial shall remain in effect even if the Class Action Waiver is limited, voided or found unenforceable. **WHETHER THE CLAIM IS DECIDED BY ARBITRATION OR BY TRIAL BY A JUDGE, THE PARTIES AGREE AND UNDERSTAND THAT THE EFFECT OF THIS AGREEMENT IS THAT THEY ARE GIVING UP THE RIGHT TO TRIAL BY JURY TO THE EXTENT PERMITTED BY LAW.**

9.5 Severability; Waivers. If any part of this Agreement is not enforceable, the rest of the Agreement may be enforced. The Bank retains all rights, even if it makes a loan after default. If the Bank waives a default, it may enforce a later default. Any consent or waiver under this Agreement must be in writing.

9.6 Attorneys' Fees. The Borrower shall reimburse the Bank for any reasonable costs and attorneys' fees incurred by the Bank in connection with the enforcement or preservation of any rights or remedies under this Agreement and any other documents executed in connection with this Agreement, and in connection with any amendment, waiver, "workout" or restructuring under this Agreement. In the event of a lawsuit or arbitration proceeding, the prevailing party is entitled to recover costs and reasonable attorneys' fees incurred in connection with the lawsuit or arbitration proceeding, as determined by the court or arbitrator. In the event that any case is commenced by or against the Borrower under the Bankruptcy Code (Title 11, United States Code) or any similar or successor statute, the Bank is entitled to recover costs and reasonable attorneys' fees incurred by the Bank related to the preservation, protection, or enforcement of any rights of the Bank in such a case. To the extent permitted by law, as used in this paragraph, "attorneys' fees" includes the allocated costs of the Bank's in-house counsel.

9.7 Individual Liability. If the Borrower is a natural person, the Bank may proceed against the Borrower's business and non-business property in enforcing this and other agreements relating to this loan. If the Borrower is a partnership, the Bank may proceed against the business and non-business property of each general partner of the Borrower in enforcing this and other agreements relating to this loan.

9.8 Joint and Several Liability. If two or more Borrowers sign this Agreement, each Borrower agrees that it is jointly and severally liable to the Bank for the payment of all obligations arising under this Agreement, and that such liability is independent of the obligations of the other Borrowers.

9.9 One Agreement. This Agreement and any related security or other agreements required by this Agreement, collectively:

(a) represent the sum of the understandings and agreements between the Bank and the Borrower concerning this credit;

(b) replace any prior oral or written agreements between the Bank and the Borrower concerning this credit; and

(c) are intended by the Bank and the Borrower as the final, complete and exclusive statement of the terms agreed to by them.

In the event of any conflict between this Agreement and any other agreements required by this Agreement, this Agreement will prevail.

9.10 Indemnification. The Borrower will indemnify and hold the Bank harmless from any loss, liability, damages, judgments, and costs of any kind relating to or arising directly or indirectly out of (a) this Agreement or any document required hereunder, (b) any credit extended or committed by the Bank to the Borrower hereunder, and (c) any litigation or proceeding related to or arising out of this Agreement, any such document, or any such credit. This indemnity includes but is not limited to attorneys' fees (including the allocated cost of in-house counsel). This indemnity extends to the Bank, its parent, subsidiaries and all of their directors, officers, employees, agents, successors, attorneys, and assigns. This indemnity will survive repayment of the Borrower's obligations to the Bank. All sums due to the Bank hereunder shall be obligations of the Borrower, due and payable immediately without demand.

9.11 Notices. Unless otherwise provided in this Agreement or in another agreement between the Bank and the Borrower, all notices required under this Agreement shall be personally delivered or sent by first class mail, postage prepaid, or by overnight courier to the addresses on the signature page of this Agreement, or to such other addresses as the Bank and the Borrower may specify from time to time in writing. Notices and other communications shall be

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effective (i) if mailed, upon the earlier of receipt or five (5) days after deposit in the U.S. mail, first class, postage prepaid, or (ii) if hand-delivered, by courier or otherwise (including telegram, lettergram or mailgram), when delivered.

9.12 Headings. Article and paragraph headings are for reference only and shall not affect the interpretation or meaning of any provisions of this Agreement.

9.13 Counterparts. This Agreement may be executed in as many counterparts as necessary or convenient, and by the different parties on separate counterparts each of which, when so executed, shall be deemed an original but all such counterparts shall constitute but one and the same agreement.

9.14 Borrower Information; Reporting to Credit Bureaus. The Borrower authorizes the Bank at any time to verify or check any information given by the Borrower to the Bank, check the Borrower's credit references, verify employment, and obtain credit reports. The Borrower agrees that the Bank shall have the right at all times to disclose and report to credit reporting agencies and credit rating agencies such information pertaining to the Borrower and/or all guarantors as is consistent with the Bank's policies and practices from time to time in effect.

EPAHO120000468

9.15 Notice of Final Agreement. THIS WRITTEN LOAN AGREEMENT AND THE LOAN DOCUMENTS EXECUTED IN CONNECTION HEREWITH REPRESENT THE FINAL AGREEMENT BETWEEN THE PARTIES AND MAY NOT BE CONTRADICTED BY EVIDENCE OF PRIOR, CONTEMPORANEOUS OR SUBSEQUENT ORAL AGREEMENTS OF THE PARTIES.

THERE ARE NO UNWRITTEN ORAL AGREEMENTS BETWEEN THE PARTIES.

This Agreement is executed as of the date stated at the top of the first page.

Bank:

Bank of America, N.A.

By: _____
Jose P. Madrigal, Senior Vice President

Borrower:

CES Environmental Services Inc

By: _____
Matthew L. Bowman, President

Address where notices to the Bank are to be sent:

Bank of America, N.A.
Dallas - Attn: Notice Desk
TX1-609-06-01
1201 Main, 6th Floor
Dallas, TX 75202

Address where notices to the Borrower are to be sent:

CES Environmental Services Inc
4904 Griggs
Houston, TX 77021-3208

EPAHO120000469

USA PATRIOT ACT NOTICE

Federal law requires all financial institutions to obtain, verify and record information that identifies each person who opens an account or obtains a loan. The Bank will ask for the Borrower's legal name, address, tax ID number or social security number and other identifying information. The Bank may also ask for additional information or documentation or take other actions reasonably necessary to verify the identity of the Borrower, guarantors or other related persons.

AFFILIATE SHARING NOTICE

Notice to Individual Borrowers, Guarantors and Pledgors ("Obligors"): From time to time Bank of America, N.A. (the "Bank") may share information about the Obligor's experience with Bank of America Corporation (or any successor company) and its subsidiaries and affiliated companies (the "Affiliates"). The Bank may also share with the Affiliates credit-related information contained in any applications, from credit reports and information it may obtain about the Obligor from outside sources. If the Obligor is an individual, the Obligor may instruct the Bank not to share this information with the Affiliates. The Obligor can make this election by (1) calling the Bank at 1.888.341.5000, (2) visiting the Bank online at www.bankofamerica.com, selecting "Privacy & Security," and then selecting "Set Your Privacy Preferences," or (3) contacting the Obligor's client manager or local banking center. To help the Bank complete the Obligor's request, the Obligor should include the Obligor's name, address, phone number, account number(s) and social security number. If the Obligor makes this election, certain products or services may not be made available to the Obligor. This request will apply to information from applications, consumer reports and other outside sources only, and may take six to eight weeks to be fully effective. Through the normal course of doing business, including servicing the Obligor's accounts and better serving the Obligor's financial needs, the Bank will continue to share transaction and account experience information, as well as other general information among the Affiliates. The Bank may change this policy from time to time. Visit our website, www.bankofamerica.com, for the latest policy.

EPAHO120000470

Bank of America

SECURITY AGREEMENT
(Multiple Use)

1. THE SECURITY. The undersigned CES Environmental Services Inc (the "Pledgor") hereby assigns and grants to Bank of America, N.A. (the "Bank") a security interest in the following described property now owned or hereafter acquired by the Pledgor ("Collateral"):

(a) All accounts, contract rights, chattel paper, instruments, deposit accounts, letter of credit rights, payment intangibles and general intangibles, including all amounts due to the Pledgor from a factor; rights to payment of money from the Bank under any Swap Contract (as defined in Paragraph 2 below); and all returned or repossessed goods which, on sale or lease, resulted in an account or chattel paper.

(b) All inventory, including all materials, work in process and finished goods.

(c) All machinery, furniture, fixtures and other equipment of every type now owned or hereafter acquired by the Pledgor, (including, but not limited to, the equipment described in the attached Equipment Description, if any).

(d) All negotiable and nonnegotiable documents of title covering any Collateral.

(e) All accessions, attachments and other additions to the Collateral, and all tools, parts and equipment used in connection with the Collateral.

(f) All substitutes or replacements for any Collateral, all cash or non-cash proceeds, product, rents and profits of any Collateral, all income, benefits and property receivable on account of the Collateral, all rights under warranties and insurance contracts, letters of credit, guaranties or other supporting obligations covering the Collateral, and any causes of action relating to the Collateral.

(g) All books and records pertaining to any Collateral, including but not limited to any computer-readable memory and any computer hardware or software necessary to process such memory ("Books and Records").

2. THE INDEBTEDNESS. The Collateral secures and will secure all Indebtedness of the Pledgor to the Bank. Each party obligated under any Indebtedness is referred to in this Agreement as a "Debtor." "Indebtedness" means all debts, obligations or liabilities now or hereafter existing, absolute or contingent of the Debtor or any one or more of them to the Bank, whether voluntary or involuntary, whether due or not due, or whether incurred directly or indirectly or acquired by the Bank by assignment or otherwise. Indebtedness shall include, without limitation, all obligations of the Debtor arising under any Swap Contract. "Swap Contract" means any interest rate, credit, commodity or equity swap, cap, floor, collar, forward foreign exchange transaction, currency swap, cross currency rate swap, currency option, securities puts, calls, collars, options or forwards or any combination of, or option with respect to, these or similar transactions now or hereafter entered into between the Debtor and the Bank.

3. PLEDGOR'S COVENANTS. The Pledgor represents, covenants and warrants that unless compliance is waived by the Bank in writing:

(a) The Pledgor will properly preserve the Collateral; defend the Collateral against any adverse claims and demands; and keep accurate Books and Records.

(b) The Pledgor resides (if the Pledgor is an individual), or the Pledgor's chief executive office (if the Pledgor is not an individual) is located, in the state specified on the signature page hereof. In addition, the Pledgor (if not an individual or other unregistered entity), is incorporated in or organized under the laws of the state specified on such signature page. The Pledgor shall give the Bank at least thirty (30) days notice before changing its residence or its chief executive office or state of incorporation or organization. The Pledgor will notify the Bank in writing prior to any change in the location of any Collateral, including the Books and Records.

(c) The Pledgor will notify the Bank in writing prior to any change in the Pledgor's name, identity or business structure.

(d) Unless otherwise agreed, the Pledgor has not granted and will not grant any security interest in any of the Collateral except to the Bank, and will keep the Collateral free of all liens, claims, security interests and encumbrances of any kind or nature except the security interest of the Bank.

(e) The Pledgor will promptly notify the Bank in writing of any event which affects the value of the Collateral, the ability of the Pledgor or the Bank to dispose of the Collateral, or the rights and remedies of the Bank in relation thereto, including, but not limited to, the levy of any legal process against any Collateral and the adoption of any marketing order, arrangement or procedure affecting the Collateral, whether governmental or otherwise.

(f) The Pledgor shall pay all costs necessary to preserve, defend, enforce and collect the Collateral, including but not limited to taxes, assessments, insurance premiums, repairs, rent, storage costs and expenses of sales, and any costs to perfect the Bank's security interest (collectively, the "Collateral Costs"). Without waiving the Pledgor's default for failure to make any such payment, the Bank at its option may pay any such Collateral Costs, and discharge encumbrances on the Collateral, and such Collateral Costs payments shall be a part of the Indebtedness and bear interest at the rate set out in the Indebtedness. The Pledgor agrees to reimburse the Bank on demand for any Collateral Costs so incurred.

(g) Until the Bank exercises its rights to make collection, the Pledgor will diligently collect all Collateral.

(h) If any Collateral is or becomes the subject of any registration certificate, certificate of deposit or negotiable document of title, including any warehouse receipt or bill of lading, the Pledgor shall immediately deliver such document to the Bank, together with any necessary endorsements.

(i) The Pledgor will not sell, lease, agree to sell or lease, or otherwise dispose of any Collateral except with the prior written consent of the Bank; provided, however, that the Pledgor may sell inventory in the ordinary course of business.

(j) The Pledgor will maintain and keep in force insurance covering the Collateral against fire and extended coverages (including without limitation windstorm coverage, and hurricane coverage as applicable), to the extent that any Collateral is of a type which can be so insured. Such insurance shall require losses to be paid on a replacement cost basis, be issued by insurance companies acceptable to the Bank and include a loss payable endorsement in favor of the Bank in a form acceptable to the Bank. Upon the request of the Bank, the Pledgor will deliver to the bank a copy of each insurance policy, or, if permitted by the Bank, a certificate of insurance listing all insurance in force.

(k) The Pledgor will not attach any Collateral to any real property or fixture in a manner which might cause such Collateral to become a part thereof unless the Pledgor first obtains the written consent of any owner, holder of any lien on the real property or fixture, or other person having an interest in such property to the removal by the Bank of the Collateral from such real property or fixture. Such written consent shall be in form and substance acceptable to the Bank and shall provide that the Bank has no liability to such owner, holder of any lien, or any other person.

4. ADDITIONAL OPTIONAL REQUIREMENTS. The Pledgor agrees that the Bank may at its option at any time, whether or not the Pledgor is in default:

(a) Require the Pledgor to deliver to the Bank (i) copies of or extracts from the Books and Records, and (ii) information on any contracts or other matters affecting the Collateral.

(b) Examine the Collateral, including the Books and Records, and make copies of or extracts from the Books and Records, and for such purposes enter at any reasonable time upon the property where any Collateral or any Books and Records are located.

(c) Require the Pledgor to deliver to the Bank any instruments, chattel paper or letters of credit which are part of the Collateral, and to assign to the Bank the proceeds of any such letters of credit.

(d) Notify any account debtors, any buyers of the Collateral, or any other persons of the Bank's interest in the Collateral.

5. DEFAULTS. Any one or more of the following shall be a default hereunder:

(a) Any Indebtedness is not paid when due, or any default occurs under any agreement relating to the Indebtedness, after giving effect to any applicable grace or cure periods.

(b) The Pledgor breaches any term, provision, warranty or representation under this Agreement, or under any other obligation of the Pledgor to the Bank, and such breach remains uncured after any applicable cure period.

(c) The Bank fails to have an enforceable first lien (except for any prior liens to which the Bank has consented in writing) on or security interest in the Collateral.

(d) Any custodian, receiver or trustee is appointed to take possession, custody or control of all or a substantial portion of the property of the Pledgor or of any guarantor or other party obligated under any Indebtedness.

(e) The Pledgor or any guarantor or other party obligated under any Indebtedness becomes insolvent, or is generally not paying or admits in writing its inability to pay its debts as they become due, fails in business, makes a general assignment for the benefit of creditors, dies, or commences any case, proceeding or other action under any bankruptcy or other law for the relief of, or relating to, debtors.

(f) Any case, proceeding or other action is commenced against the Pledgor or any guarantor or other party obligated under any Indebtedness under any bankruptcy or other law for the relief of, or relating to, debtors.

(g) Any involuntary lien of any kind or character attaches to any Collateral, except for liens for taxes not yet due.

(h) The Pledgor has given the Bank any false or misleading information or representations.

6. BANK'S REMEDIES AFTER DEFAULT. In the event of any default, the Bank may do any one or more of the following, to the extent permitted by law:

(a) Declare any Indebtedness immediately due and payable, without notice or demand.

(b) Enforce the security interest given hereunder pursuant to the Uniform Commercial Code and any other applicable law.

(c) Enforce the security interest of the Bank in any deposit account of the Pledgor maintained with the Bank by applying such account to the Indebtedness.

(d) Require the Pledgor to obtain the Bank's prior written consent to any sale, lease, agreement to sell or lease, or other disposition of any Collateral consisting of inventory.

(e) Require the Pledgor to segregate all collections and proceeds of the Collateral so that they are capable of identification and deliver daily such collections and proceeds to the Bank in kind.

(f) Require the Pledgor to direct all account debtors to forward all payments and proceeds of the Collateral to a post office box under the Bank's exclusive control.

(g) Require the Pledgor to assemble the Collateral, including the Books and Records, and make them available to the Bank at a place designated by the Bank.

(h) Enter upon the property where any Collateral, including any Books and Records, are located and take possession of such Collateral and such Books and Records, and use such property (including any buildings and facilities) and any of the Pledgor's equipment, if the Bank deems such use necessary or advisable in order to take possession of, hold, preserve, process, assemble, prepare for sale or lease, market for sale or lease, sell or lease, or otherwise dispose of, any Collateral.

(i) Demand and collect any payments on and proceeds of the Collateral. In connection therewith the Pledgor irrevocably authorizes the Bank to endorse or sign the Pledgor's name on all checks, drafts, collections, receipts and other documents, and to take possession of and open the mail addressed to the Pledgor and remove therefrom any payments and proceeds of the Collateral.

(j) Grant extensions and compromise or settle claims with respect to the Collateral for less than face value, all without prior notice to the Pledgor.

(k) Use or transfer any of the Pledgor's rights and interests in any Intellectual Property now owned or hereafter acquired by the Pledgor, if the Bank deems such use or transfer necessary or advisable in order to take possession of, hold, preserve, process, assemble, prepare for sale or lease, market for sale or lease, sell or lease, or otherwise dispose of, any Collateral. The Pledgor agrees that any such use or transfer shall be without any additional consideration to the Pledgor. As used in this paragraph, "Intellectual Property" includes, but is not limited to, all trade secrets, computer software, service marks, trademarks, trade names, trade styles, copyrights, patents, applications for any of the foregoing, customer lists, working drawings, instructional manuals, and rights in processes for technical manufacturing, packaging and labeling, in which the Pledgor has any right or interest, whether by ownership, license, contract or otherwise.

(l) Have a receiver appointed by any court of competent jurisdiction to take possession of the Collateral. The Pledgor hereby consents to the appointment of such a receiver and agrees not to oppose any such appointment.

(m) Take such measures as the Bank may deem necessary or advisable to take possession of, hold, preserve, process, assemble, insure, prepare for sale or lease, market for sale or lease, sell or lease, or otherwise dispose of, any Collateral, and the Pledgor hereby irrevocably constitutes and appoints the Bank as the Pledgor's attorney-in-fact to perform all acts and execute all documents in connection therewith.

(n) Without notice or demand to the Pledgor, set off and apply against any and all of the Indebtedness any and all deposits (general or special, time or demand, provisional or final) and any other indebtedness, at any time held or owing by the Bank or any of the Bank's agents or affiliates to or for the credit of the account of the Pledgor or any guarantor or endorser of the Pledgor's Indebtedness.

(o) Exercise any other remedies available to the Bank at law or in equity.

7. MISCELLANEOUS.

(a) Any waiver, express or implied, of any provision hereunder and any delay or failure by the Bank to enforce any provision shall not preclude the Bank from enforcing any such provision thereafter.

(b) The Pledgor shall, at the request of the Bank, execute such other agreements, documents, instruments, or financing statements in connection with this Agreement as the Bank may reasonably deem necessary.

(c) All notes, security agreements, subordination agreements and other documents executed by the Pledgor or furnished to the Bank in connection with this Agreement must be in form and substance satisfactory to the Bank.

(d) This Agreement shall be governed by and construed in accordance with the laws of the State of Texas. To the extent that the Bank has greater rights or remedies under federal law, whether as a national bank or otherwise, this paragraph shall not be deemed to deprive the Bank of such rights and remedies as may be available under federal law. Jurisdiction and venue for any action or proceeding to enforce this Agreement shall be the forum appropriate for such action or proceeding against the Debtor, to which jurisdiction the Pledgor irrevocably submits and to which venue the Pledgor waives to the fullest extent permitted by law any defense asserting an inconvenient forum in connection therewith.

(e) All rights and remedies herein provided are cumulative and not exclusive of any rights or remedies otherwise provided by law. Any single or partial exercise of any right or remedy shall not preclude the further exercise thereof or the exercise of any other right or remedy.

(f) All terms not defined herein are used as set forth in the Uniform Commercial Code.

(g) In the event of any action by the Bank to enforce this Agreement or to protect the security interest of the Bank in the Collateral, or to take possession of, hold, preserve, process, assemble, insure, prepare for sale or lease, market for sale or lease, sell or lease, or otherwise dispose of, any Collateral, the Pledgor agrees to pay immediately the costs and expenses thereof, together with reasonable attorneys' fees and allocated costs for in-house legal services to the extent permitted by law.

(h) In the event the Bank seeks to take possession of any or all of the Collateral by judicial process, the Pledgor hereby irrevocably waives any bonds and any surety or security relating thereto that may be required by applicable law as an incident to such possession, and waives any demand for possession prior to the commencement of any such suit or action.

(i) This Agreement shall constitute a continuing agreement, applying to all future as well as existing transactions, whether or not of the character contemplated at the date of this Agreement, and if all transactions between the Bank and the Pledgor shall be closed at any time, shall be equally applicable to any new transactions thereafter.

(j) The Bank's rights hereunder shall inure to the benefit of its successors and assigns. In the event of any assignment or transfer by the Bank of any of the Indebtedness or the Collateral, the Bank thereafter shall be fully discharged from any responsibility with respect to the Collateral so assigned or transferred, but the Bank shall retain all rights and powers hereby given with respect to any of the Indebtedness or the Collateral not so assigned or transferred. All representations, warranties and agreements of the Pledgor if more than one are joint and several and all shall be binding upon the personal representatives, heirs, successors and assigns of the Pledgor.

8. FINAL AGREEMENT. **BY SIGNING THIS DOCUMENT EACH PARTY REPRESENTS AND AGREES THAT: (A) THIS DOCUMENT REPRESENTS THE FINAL AGREEMENT BETWEEN THE PARTIES WITH RESPECT TO THE SUBJECT MATTER HEREOF, (B) THIS DOCUMENT SUPERSEDES ANY COMMITMENT LETTER, TERM SHEET, OR OTHER WRITTEN OUTLINE OF TERMS AND CONDITIONS RELATING TO THE SUBJECT MATTER HEREOF, UNLESS SUCH COMMITMENT LETTER, TERM SHEET, OR OTHER WRITTEN OUTLINE OF TERMS AND CONDITIONS EXPRESSLY PROVIDES TO THE CONTRARY, (C) THERE ARE NO UNWRITTEN ORAL AGREEMENTS BETWEEN THE PARTIES, AND (D) THIS DOCUMENT MAY NOT BE CONTRADICTED BY EVIDENCE OF ANY PRIOR, CONTEMPORANEOUS, OR SUBSEQUENT ORAL AGREEMENTS OR UNDERSTANDINGS OF THE PARTIES.**

9. Notice of Final Agreement. **THIS WRITTEN AGREEMENT AND THE LOAN DOCUMENTS EXECUTED IN CONNECTION HEREWITH REPRESENT THE FINAL AGREEMENT BETWEEN THE PARTIES AND MAY NOT BE CONTRADICTED BY EVIDENCE OF PRIOR, CONTEMPORANEOUS OR SUBSEQUENT ORAL AGREEMENTS OF THE PARTIES.**

THERE ARE NO UNWRITTEN ORAL AGREEMENTS BETWEEN THE PARTIES.

Date: April 8, 2008

BANK OF AMERICA, N.A.

By: _____
Jose P. Madrigal, Senior Vice President

Address for Notices:
Dallas - Credit Services
Attn: Notice Desk
TX1-609-06-01
1201 Main Street, 6th Floor
Dallas, TX 75202

CES Environmental Services Inc

By: _____
Matthew L. Bowman, President

Pledgor's Location:

4904 Griggs Road
Houston, TX 77021

Pledgor's state of incorporation
or organization: Texas

Bank of America

DISBURSEMENT AND FEE STATEMENT

Date: April 8, 2008

Borrower:	**CES Environmental Service Inc** **4904 Griggs Road** **Houston, TX 77021-3208**	**Bank:**	**Bank of America, N.A.** **Business Credit Services** **M/C TX1-609-06-01** **1201 Main Street, 6th Floor** **Dallas, TX 75202**

Re: Revolving Line of Credit **$500,000.00.**

DISBURSEMENTS. Loan proceeds will not be disbursed until all of the Bank's conditions for extending the credit have been satisfied. The proceeds of the credit will be disbursed as follows. Final disbursement amounts may be adjusted by the Bank as applicable.

Disbursement Amount(s):

Undisbursed Funds:	$500,000.00

CHARGES AND FEES TO BE PAID. The following charges and fees are now due: will be due on or before the closing of the referenced credit:

Commitment/Loan Fee	$2,500.00
Lien Search	$ 15.00
UCC Filing Fees	$ 5.00
Amount Due From Borrower	$2,520.00

Please remit your check made payable to Bank of America for the Amount Due From Borrower and your executed loan closing documents to the address indicated above in the envelope provided.

The Amount Due from Borrower will be due at closing.

EPAHO120000477

The Borrower agrees with the foregoing disbursement instructions.

Borrower:

CES Environmental Services Inc

By: _____
Matthew L. Bowman, President

EPAHO120000478

024379 200712 LM2

IRS Department of the Treasury
Internal Revenue Service
MEMPHIS, TN 38101-0249

Notice Number: CP 504
Notice Date: 07-13-2009

SSN/EIN: 76-0592985
Caller ID:

71617618363076692267

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

760592985221

079260

Urgent !!

We intend to levy on certain assets. Please respond NOW.
(To avoid additional penalty and interest, pay the amount you owe within ten days from the date of this notice.)

Our records indicate that you haven't paid the amount you owe. The law requires that you pay your tax at the time you file your return. This is your notice, as required by Internal Revenue Code Section 6331(d), of our intent to levy (take) any state tax refunds that you may be entitled to if we don't receive your payment in full. In addition, we will begin to search for other assets we may levy. We can also file a Notice of Federal Tax Lien, if we haven't already done so. **To prevent collection action, please pay the current balance now.** If you've already paid, can't pay, or have arranged for an installment agreement, it is important that you **call us immediately** at the telephone number shown below. Current balance may include Civil Penalty, if assessed.

~~Spoke~~ spoke to IRS 7/21/09
moved 08 Taxes paid to 2007
Obligation.

Account Summary

Form: 1120	Tax Period: 12-31-2007
Current Balance:	$181,238.32
Includes:	
Penalty:	$744.90
Interest:	$1,035.39
Last Payment:	$0.00

1120 K Credit.

For information on your penalty & interest computations, you may call 1-800-829-0115

Questions? Call us at **1-800-829-0115**

See the enclosed Publication 594, *The IRS Collection Process*, and Notice 1219B, *Notice of Potential Third Party Contact*, for additional information

Please mail this part with your payment, payable to United States Treasury.

Notice Number: CP 504
Notice Date: 07-13-2009

write on your check:

1120	12-31-2007	76-0592985

Amount Due: $181,238.32

Find information about filing and paying taxes at: www.irs.gov
Enter Keyword: filing late (or) paying late

Internal Revenue Service
CINCINNATI, OH 45999-0150

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

760592985 JN CESE 02 2 200712 670 00018123832

EPAHO120000479

079260

Cut and use this coupon if you are sending us correspondence only with NO payment enclosed.

(For payments, please use the other coupon attached to the notice.)

Please mail this part with your inquiry.

Notice Number: CP504
Notice Date: 07-13-2009

write on your check:

1120	12-31-2007	76-0592985

Amount Due:
$181,238.32

Internal Revenue Service
P.O. BOX 249
MEMPHIS, TN 38101-0249

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

760592985 JN CESE 02 2 200712 670 00018123832

IRS Department of the Treasury
Internal Revenue Service
MEMPHIS, TN 38101-0249

Notice Number: CP504

7161 7618 3630 7669 2267

079260.581794.0642.015 2 AT 0.482 1714

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

760592985221

079260

This notice contains two pre-addressed coupons for your convenience. Please detach the appropriate coupon and return to us in the envelope provided. Please refer to the information below to determine the correct address:

To send **correspondence** regarding this account with **NO** payment

Use the coupon addressed to:

Internal Revenue Service
P.O. BOX 249
MEMPHIS, TN 38101-0249

To send a **payment** or correspondence with a payment

Use the coupon addressed to:

Internal Revenue Service
CINCINNATI, OH 45999-0150

EPAHO120000481

76-0592985
CESE

Penalty and Interest

About Your Notice - The penalty and interest charges on your account are explained below. If you want a more detailed explanation of your penalties and interest, please call the telephone number listed on the front of this notice. You may call your local IRS telephone number if the number shown on your notice is a long-distance call for you. All days mentioned in the paragraphs below are calendar days, unless specifically stated otherwise.

079260

Penalty: $744.90

07 Paying Late

IRC section 6651 (a) (2)

We charged a penalty because you didn't pay your tax on time. Initially, the penalty is 1/2 % of the unpaid tax for each month or part of a month you didn't pay your tax.

If you disagree with this penalty, see "Removal of Penalties" in this notice.

Removal of Penalties

The law lets us remove or reduce penalties if you have reasonable cause or receive erroneous written advice from IRS.

Reasonable Cause

If you believe you have an acceptable reason why IRS should remove or reduce your penalties, send us a signed explanation. After we review your explanation, we will notify you of our decision. In some cases, we may ask you to pay the tax in full before we remove or reduce the penalty for paying late.

Erroneous Advice from IRS

We will remove your penalty if all of the following apply:

1. You asked IRS for advice on a specific issue,
2. You gave IRS complete and accurate information,
3. You received advice from IRS,
4. You relied on the advice IRS gave you, and
5. You were penalized based on the advice IRS gave you.

To request removal of the penalty because of erroneous advice from IRS, you should do the following: (1) complete Form 843, *Claim for Refund and Request for Abatement*; and (2) send it to the IRS Service Center where you filed your return.

Interest: $1,035.39

09 Interest

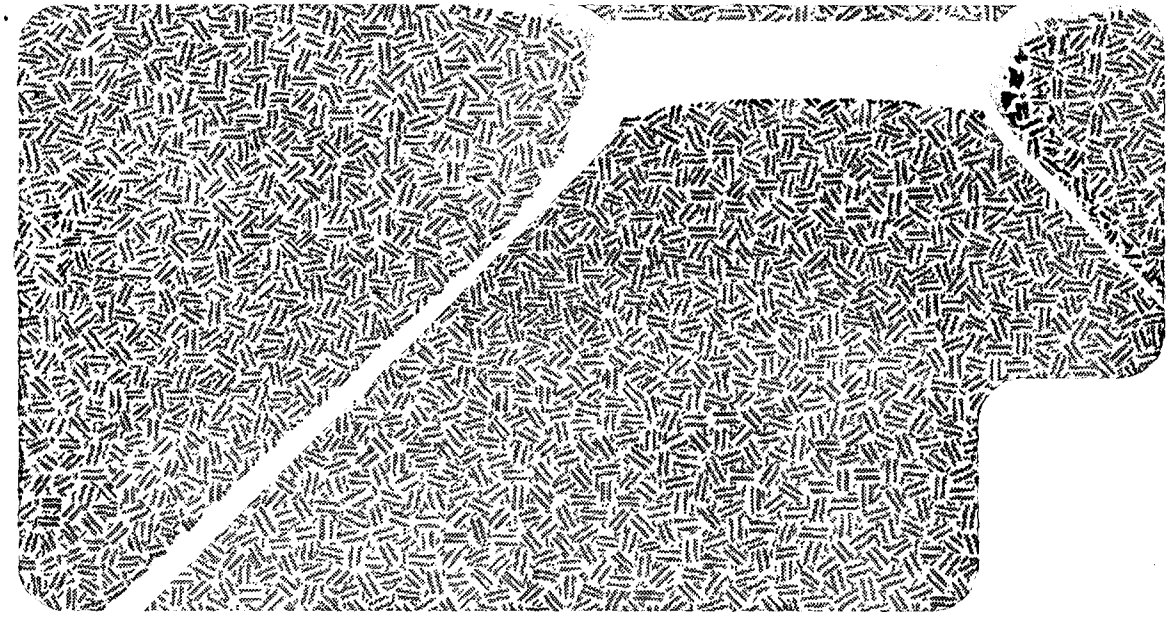
IRC section 6601

We charge interest when your tax isn't paid on time. Interest is computed from the due date of your return (regardless of extensions) until paid in full.

Interest compounds daily except on late or underpaid estimated taxes for individuals or corporations. Interest is also charged on penalties for late filing, over or understating valuations, and substantially understating the tax you owe.

Corporate Interest - We charge additional interest of 2% if, according to our records, you didn't make your corporate tax payment within 30 days after the IRS notified you of the underpayment of tax. This interest begins on the 31st day after we notify you of the underpayment on tax amounts you owe over $100,000, minus your timely payments and credits.

CERTIFIED MAIL



PRESORTED
FIRST-CLASS MAIL
POSTAGE AND FEES PAID
IRS
PERMIT NO. G-48

Official Business
Penalty for Private Use, $300

EPAHQ12000484

JN 02 200712 670 7650 29 29310-060-27802-9 B0031606 134B
200912 016966 77021 IRS USE ONLY 760592985 LM 2

Department of the Treasury
Internal Revenue Service
OGDEN UT 84201-0039

For assistance, call:
1-800-829-0115

APR 13 2009

Notice Number: CP134B
Date: April 6, 2009

002627.597041.0014.001 2 AT 0.471 1385

Taxpayer Identification Number:
76-0592985
Tax Form: 1120
Tax Period: December 31, 2007

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

002627

FTD/Estimated Payments Discrepancy Notice - Balance Due

Why We Are Writing You

We found that the amount credited to your account as Total Federal Tax Deposits differs from the amount reported on your tax return for the above tax period. You now have an outstanding balance on your account of $176,814.00.

Payments or Credits Applied

Date	Type	Amount	Date	Type	Amount
06/18/2007	ESP	$20,000.00	09/17/2007	ESP	$90,000.00
12/18/2007	ESP	$158,227.42	01/14/2008	ESP	$232,000.00
03/17/2008	ESP	$50,000.00			

Calculation of Balance Due

Total Tax Due on Return	$699,209.00
Total Estimated Tax Payments	$268,227.42
Other Payments and Credits	$282,000.00
Total	$550,227.42
Unpaid	$148,981.58
Penalty on unpaid amount	$21,632.51
Interest on unpaid amount	$6,199.91
Balance Due Amount	**$176,814.00**

5C

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JN 02 200712 670 7650 29 82354-540-15398-9 B0086218 220
200921 013317 77021 IRS USE ONLY 760592985 LM 2

Department of the Treasury
Internal Revenue Service
OGDEN UT 84201-0039

For assistance, call:
1-800-829-0115

Notice Number: CP220
Date: June 8, 2009

001877.615908.0011.001 1 AT 0.357 855

Taxpayer Identification Number:
76-0592985
Tax Form: 1120
Tax Period: December 31, 2007

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

001877

Amount You Owe as of: June 22, 2009
$179,458.03

29310-060-27802-9

Statement of Adjustment to Your Account

Balance Due on Account Before Adjustment	$176,814.00
Late Payment Penalty - See Explanation	$1,489.82

Adjustment Computation

Penalty Decrease - Estimated Tax	$389.46	
Interest Charged	$1,543.67	
Net Adjustment Charge		$1,154.21
Total Amount You Owe		**$179,458.03**

We reduced the interest and/or penalty because you were located in a Presidentially declared disaster area. We eliminated the interest or penalty charged during the time period for which an extension of time to file returns and pay taxes was granted.

To avoid additional penalty and/or interest, please allow enough mailing time so that we receive your payment by **June 22, 2009.** Make your check or money order payable to the United States Treasury. Write your Taxpayer Identifying Number on your payment and mail it with the stub portion of this notice. If you are enrolled in the Electronic Federal Tax Payment System (EFTPS), you may use that method to make your payment.

If you believe this notice is not correct, please call us at the number listed above. When you call, please have your payment information and a copy of your return available. This information will help us find any payment you made that we haven't applied.

Partial Payments

Payment - Please make your check or money order payable to the United States Treasury. Write on your payment your Taxpayer Identification Number, the tax period and tax form. Mail your payment with the stub below in the enclosed envelope or to the address on the front of this notice.

EPAHO120000486

Notice About Partial Payments - Generally, we apply your payment first to tax, then to penalty, and finally to the interest you owe.

Status of Your Account (Exam)

This notice isn't the result of an examination of your return. We notify a taxpayer when we select his/her return for examination.

Penalty and Interest

About Your Notice - The penalty and/or interest charges on your account are explained on the following pages. If you want a more detailed explanation of your penalties and interest, please call the telephone number listed on the top of this notice. You may call your local IRS telephone number if the number shown on your notice is a long-distance call for you. All days mentioned in the paragraphs below are calendar days, unless specifically stated otherwise.

Penalties:

07 Paying Late $1,489.82

We charged a penalty because you paid your taxes late. We count part of a month as a full month. If you disagree with this penalty, see "Removal of Penalties" in this notice. To avoid this penalty in the future, you should pay your taxes by the due date. Even if you have an extension to file your tax return, you do not have additional time to pay your tax.

(Internal Revenue Code section 6651 (a) (2))

The table below shows how we figured your penalty. It may include amounts charged before the Adjustment. We multiplied the number of months times the monthly rate (1/2 percent) times the principal (not to exceed 25%).

Date	No. Months	Rate/Month	Principal	Penalty
09/15/2008	06	0.50%	148,981.58	4,469.45
06/15/2009	05	0.50%	148,981.58	3,724.54
		Total Penalty:		8,193.99

Removal of Penalties

The law lets us remove or reduce penalties if you have reasonable cause or receive erroneous written advice from IRS.

Reasonable Cause

If you believe you have an acceptable reason why IRS should remove or reduce your penalties, send us a signed explanation. After we review your explanation, we will notify you of our decision. In some cases, we may ask you to pay the tax in full before we reduce or remove the penalty for paying late.

EPAHO120000487

Erroneous Advice from IRS
We will remove your penalty if all the following apply:

1. You asked IRS for advice on a specific issue,
2. You gave IRS complete and accurate information,
3. You received advice from IRS,
4. You relied on the advice IRS gave you, and
5. You were penalized based on the advice IRS gave you.

To request removal of the penalty because of erroneous advice from IRS, you should do the following: (1) complete Form 843, *Claim for Refund and Request for Abatement;* and (2) send it to the IRS Service Center where you filed your return.

001877

Interest: $1,543.67

09 Interest

We charged interest because you did not pay your tax on time. Generally, we calculate interest from the due date of your return (regardless of extensions) until you pay your tax in full. The interest rate is variable and may change quarterly. We charge interest on all penalties except estimated tax penalties.

(Internal Revenue Code section 6601)

The interest rates on underpayment and overpayment of taxes are as follows:

Periods	Percentage Rates	
	UNDERPAYMENT	OVERPAYMENT
July 1, 1996 through March 31, 1998	9	8
April 1, 1998 through December 31, 1998	8	7
January 1, 1999 through March 31, 1999	7	7
April 1, 1999 through March 31, 2000	8	8
April 1, 2000 through March 31, 2001	9	9
April 1, 2001 through June 30, 2001	8	8
July 1, 2001 through December 31, 2001	7	7
January 1, 2002 through December 31, 2002	6	6
January 1, 2003 through September 30, 2003	5	5
October 1, 2003 through March 31, 2004	4	4
April 1, 2004 through June 30, 2004	5	5
July 1, 2004 through September 30, 2004	4	4
October 1, 2004 through March 31, 2005	5	5
April 1, 2005 through September 30, 2005	6	6
October 1, 2005 through June 30, 2006	7	7
July 1, 2006 through December 31, 2007	8	8
January 1, 2008 through March 31, 2008	7	7
April 1, 2008 through June 30, 2008	6	6
July 1, 2008 through September 30, 2008	5	5
October 1, 2008 through December 31, 2008	6	6
January 1, 2009 through March 31, 2009	5	5
Beginning April 1, 2009	4	4

Beginning January 1, 1999, the interest rate we pay on overpayment of taxes, except for corporate taxes, is the same as the rate of interest we charge on the underpayment of taxes. The law requires us to determine

EPAHO120000488

hese interest rates quarterly. From January 1, 1987 through December 31, 1998, the interest rate we paid on an overpayment of taxes was 1% less than the rate of interest we charged on your underpayment of taxes. Effective January 1, 1995, we pay a reduced rate of interest on corporate overpayments that exceed $10,000. This reduced rate is the short-term federal interest rate plus 1/2%.

Corporate Interest - We charge additional interest of 2% if, according to our records, you didn't make your corporate tax payment within 30 days after the IRS notified you of the underpayment of tax. This interest begins on the 31st day after we notify you of the underpayment on tax amounts you owe over $100,000, minus your timely payments and credits.

19 Interest - Additional Interest Charges

If the amount you owe is $100,000 or more, please make sure that we receive your payment within 10 work days from the date of your notice. If the amount you owe is less than $100,000, please make sure that we receive your payment within 21 calendar days from the date of your notice. If we don't receive full payment within these time frames, the law requires us to charge interest until you pay the full amount you owe.

For tax forms, instructions and information visit **www.irs.gov.** (Access to this site will not provide you with your specific taxpayer account information.)

EPAHO120000489

Seq. No.: B0086218 CP: 220
TIN: 76-0592985 Form: 1120 Tax Period: December 31, 2007

001877

CUT HERE

Return this voucher with your payment or correspondence.

Your Telephone Number: ( )____-_____

Best Time to Call: ____AM____PM

Amount you owe: $179,458.03

- You will avoid additional penalties and/or interest if we receive your full payment by **June 22, 2009**

☐ **Amount enclosed: $_____**

- Make payable to United States Treasury
- Write Taxpayer Identification Number, tax period and tax form number on payment

☐ **Correspondence enclosed**

LM 200921 021625070919 82354-540-15398-9

220 Internal Revenue Service
OGDEN UT 84201-0039

CES ENVIRONMENTAL SERVICES INC
% MATTHEW BOWMAN
4904 GRIGGS RD
HOUSTON TX 77021-3208046

760592985 JN CESE 02 2 200712 670 00017945803

Log - Rail

EPAHO120000491

Log Rail

EPAHO12000492

Guy,
Here are my comments.

GREG,
FYI. This is a typical base agreement w/comments from RS. Send it back my way AFTER

UNION TANK CAR COMPANY

CAR SERVICE AGREEMENT

Effective this first day of _____, 20__, **UNION TANK CAR COMPANY,** a Delaware corporation ("Lessor"), and _____, a _____ corporation ("Lessee"), agree as follows:

ARTICLE I
Lease of Cars

SECTION 1.01. Lease. Lessor agrees to lease to Lessee, and Lessee agrees to lease from Lessor, upon the terms and conditions set forth herein, the railroad cars described in riders which are from time to time be added to this Agreement by agreement of the parties. Such cars are referred to herein as the "cars" or "car". This Agreement will be effective from the date hereof and will expire upon the expiration of the term of lease of the last car leased hereunder, except that all obligations of Lessor and Lessee which have not been satisfied in full by that time shall continue until so satisfied.

SECTION 1.02. Term. The term of lease of each car shall be stated in the rider as the minimum rental period and shall begin as set forth therein.

SECTION 1.03. Rental. The monthly rental rate for each car shall be stated in the rider. Rental shall begin on the date the car is forwarded to Lessee's disposition, or in the case of a car which is to be lined, coated or otherwise modified by Lessor, the facility where such work is to be done. Rental shall cease on the date the car is released to Lessor in the manner provided in Section 1.08. Lessor will allow Lessee mileage credits against such rental in the manner provided in Section 1.06.

SECTION 1.04. Right of Rejection. (a) Lessee shall cause the car to be inspected within five (5) days of the date of the initial receipt of the car. At that time, Lessee may reject the car for lease if the car is found to be damaged or in need of repair, to have defective or missing parts, or to be in non-compliance with the rules and regulations referred to in Section 2.03. The failure to reject the car within the time specified or the initial loading of the car shall be conclusive evidence of Lessee's acceptance of such car for lease hereunder.

(b) Prior to the commencement of the term of lease of any car, Lessor will, if requested by Lessee, arrange a joint inspection of the car at a repair shop designated by Lessor. Unless prior to the first loading of the car by Lessee a joint inspection reporting setting forth the nature and amount of any then existing damage is signed by both parties, it shall be conclusively presumed that the car was free of defects and corrosion or other commodity-related damage at the time of commencement of the term of lease of such car.

older cars will have some damage - need to inspect B4 loading

SECTION 1.05. Payments. Lessor will invoice Lessee for rental monthly. Lessee shall pay all rental and other amounts required to be paid by it hereunder in United States dollars within ten (10) days of Lessor's invoice therefor. Allowance for contesting an invoice if found to be in error. When will shoptime credits be made?

SECTION 1.06. Mileage Credits. (a) All compensation paid by the railroads with respect to the use of any car shall be paid to and retained by Lessor, but Lessor shall credit to Lessee mileage allowances earned by the car while on lease hereunder and actually received by it against rental hereunder to the extent and in the manner herein provided. Lessor will credit such mileage payments to Lessee's rental account as soon as practicable after receipt from Lessee of the information to be furnished by Lessee pursuant to Section 1.07. Any mileage payments made to Lessee which are subsequently disallowed by the railroad shall be repaid to Lessor by Lessee immediately upon notification by Lessor of such event.

(b) Credits for each movement for which mileage payments are made by a railroad will be computed using the applicable mileage rate of the railroad in effect on the date of movement and the distance as published in the mileage tariffs of such railroad, as follows: (i) for railroads allowing equal payment for each loaded and empty miles, credits will be based on double the loaded mileage rate times the number of loaded miles; and (ii) for railroads allowing for loaded miles only, credits will be based on loaded miles only.

(c) Credits will first be applied against rental for the entire calendar year in which such credits accrued. Excess credits, if any, will then be applied against rental for the preceding period this Agreement was in effect to the extent not previously covered by credits. Any remaining credits will then be applied against rental for the five (5) succeeding calendar years, or such shorter period as this Agreement may remain in effect, but only after allowance of credits earned by the cars while on lease to Lessee during such period. Upon termination of this Agreement, any unused credits will be canceled and will remain the property of Lessor.

SECTION 1.07. Reports. In order to assist Lessor in the collection and crediting of mileage allowances pursuant to Section 1.06, Lessee shall promptly report to Lessor the point and date of shipment, mileage rate, routing and destination of each loaded car movement. Lessee must provide a claim to Lessor within two (2) years of the date of such movement, or Lessee will not be entitled to any mileage credits with respect to such movement. Lessee shall provide Lessor such other information concerning any car as Lessor may from time to time reasonably request. What if rate are negotiated w/o mileage credits - still required?

SECTION 1.08. Return of Cars. Promptly upon the expiration or earlier termination of term of lease of any car, Lessee shall release such car to a forwarding railroad within the boundaries of the continental United States (excluding Alaska) in accordance with disposition instructions furnished by Lessor. Lessee shall release such car empty, clean, free of all residue and otherwise in the same condition in which it was furnished except for ordinary wear and tear and such maintenance and repairs as are the responsibility of Lessor hereunder; and if the car is not released in such condition, rental shall continue until the required cleaning, maintenance and repairs have been completed at Lessee's expense. If any car is not released in the condition required hereunder within twenty-one (21) days after the expiration of the term of lease of such car, Lessee shall pay Lessor rental until the car is so released at a rate equal to two (2) times the rate specified in the rider as to such car. Such payments shall be in addition to any other remedies Lessor may have hereunder. Define ordinary wear & what is allowed?

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ARTICLE II
Condition and Care of Cars

SECTION 2.01. Condition of Cars. Lessee shall be solely responsible for determining that each car is in proper condition for loading and shipment.

SECTION 2.02. Cleaning of Cars. Any cleaning of and interior preparation for cars that may be necessary to prepare them for shipment of commodities shall be done at Lessee's expense and responsibility.

SECTION 2.03. Maintenance of Cars: Lessor: Except as otherwise provided in this Agreement, Lessor is responsible for maintaining and repairing the cars in accordance with the Code of Interchange Rules of the Association of American Railroads ("AAR") and the regulations of the U.S. Department of Transportation and other federal authorities having jurisdiction. Lessor shall have no such responsibility until informed of the need for such maintenance or repair. If any car requires maintenance or repairs which are Lessor's responsibility hereunder, Lessee shall so notify Lessor and shall cause such car to be delivered empty to a repair location designated by Lessor; and if requested by Lessor, Lessee shall cause the car to be clean and free of all residue at Lessee's expense prior to such delivery.

SECTION 2.04. Maintenance of Cars: Lessee. Lessee may make repairs to the lining or coating of any car, but shall not otherwise modify or repair any car without first obtaining the prior written approval of Lessor. Any modifications or repairs done by Lessee shall be done in accordance with all applicable standards and regulations, and shall be of like quality to the parts being modified or repaired. Lessee shall promptly advise Lessor concerning any such modifications or repairs performed by it.

SECTION 2.05. Modification. If at any time after the effective date of any rider a modification to any car covered thereby should be required by any governmental, railroad or other authority, Lessor may (but shall not be required to) make such modification. If Lessor elects to make such modification, (i) Lessee shall deliver the car empty (and if required by Lessor, clean and free of all residue) at the shop and at such time as Lessor shall designate for the purpose thereof, (ii) rental as to such car shall abate for the same period as is specified under Section 2.08 for a car requiring repairs, and (iii) rental as to such car shall be increased by an amount determined as provided in the rider (or an amendment thereto) covering such car commencing on the first day of the month immediately following the month in which such modification is completed. If Lessor elects not to make such modification, Lessee may, with Lessor's prior written consent, make such modification at its own expense. If neither Lessor nor Lessee makes such modification, Lessee may release the car (in accordance with the provisions of this Agreement) at such time as it may no longer be used in loaded interchange.

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SECTION 2.06. Interior Coatings or Linings. If the interior of any car is to be newly coated or lined prior to the initial use of such car by Lessee or at any other time during the term of lease of such car, the application or installation of any such coating or lining shall be at Lessee's expense. Lessee will maintain, repair or replace any coating or lining (whether newly installed or previously used) as may be required in connection with its use of any car. If requested by Lessor, Lessee will, at Lessee's expense, remove any coating or lining prior to the return of the car to Lessor. NA

SECTION 2.07. Lessee Improvements. All additions and improvements to any car made at Lessee's request, including without limitation parts, accessories, linings, coatings and modifications, shall be considered accessions to such car, and title thereto shall immediately vest in Lessor without cost or expense to Lessor. Only if requested by Lessor, Lessee shall, at Lessee's expense, remove any such additions or improvements and return the cars, without damage thereto, to the same condition as furnished, ordinary wear and tear excepted prior to the release of any car.

Cars w/ carbon steel eductor tubes will need to be changed to SS - who pays

SECTION 2.08. Abatement of Rental. (a) Except as provided in Sections 2.08(b) and 2.10, if any car is reported as bad order and requires repairs, or if any car is removed from service at Lessor's request for preventive maintenance, inspection or testing, rental as to such car shall cease as of the date Lessor receives notice from Lessee that the car has been forwarded empty (and, if required by Lessor, clean and free of all residue) to a shop designated by Lessor, and shall resume upon completion of such repairs, preventive maintenance, inspection or testing.

(b) There shall be no abatement of rental when (i) modifications or other work to a car which are not the responsibility of Lessor hereunder are performed at Lessee's request, (ii) a car is out of service for coating or lining application, maintenance or removal, (iii) a car is reported bad order at a time when it is overdue for inspection, testing or maintenance and Lessor has given Lessee reasonable advance notice of such requirement, (iv) the repairs are the responsibility of Lessee hereunder or (v) performance of the repairs is the responsibility of a railroad and such repairs are not made at a shop designated by Lessor.

SECTION 2.09. Damage to Cars; Lost or Damaged Parts. (a) Lessee shall be liable for and notify Lessor of all damage to any car which (i) is caused by the negligence or misconduct of Lessee or its agents or customers or (ii) occurs while such car is located on the premises of Lessee, its agents or customers, regardless of the cause thereof.

Don't RR's notify lessor & owners when they damage a car?

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(b) In addition, if any removable car part (including, but not limited to, outlet caps, valves, dome coverings and fittings) is damaged, lost or removed without the consent of Lessor, Lessee shall be liable therefor, regardless of the cause thereof, unless (i) full responsibility therefor has been assumed by one or more railroads or (ii) such loss or damage occurs while the car is located at a repair facility of Lessor and is the result of the negligence or misconduct of Lessor or its agents.

(c) Lessee shall not use any car for the transportation or handling of any commodity or other material which may damage the car. If any car suffers corrosion or other damage related to or connected with the commodity or other material placed or allowed to accumulate in or on the car, or to which the car is exposed, Lessee shall be liable for such damage, regardless of how caused and whether or not due to Lessee's negligence. Such damage shall not be considered "ordinary wear and tear".

If cars supplied in condition or w/ materials contrary to requested specs — UTLX responsible? should Be

SECTION 2.10. Destroyed Cars. If any car is destroyed, the lease as to such car shall terminate and rental therefor will cease on the later of (i) the date of such destruction, (ii) the date the commodity, if any, loaded therein has been unloaded by Lessee and the car has been cleaned of all residue, or (iii) if Lessee is liable for such loss hereunder, the date Lessee pays to Lessor the depreciated value of such car determined in accordance with the AAR Interchange Rules.

Typically a shipper of a car destroyed by railroads in a derailment.

SECTION 2.11. Substitution of Cars. If any car is destroyed or requires repairs which Lessor determines would be uneconomical to perform, Lessor may, but shall not be obligated to, furnish Lessee a replacement car of the same type. If Lessee elects to accept any replacement car upon the terms offered by Lessor, such car shall become subject to the terms hereof on the date such car is forwarded to Lessee. All provisions of this Agreement shall apply to any replacement car; and upon request of Lessor, Lessee shall execute such documents as may be necessary to effect the substitution.

ARTICLE III
Use of Cars

SECTION 3.01. Specifications. Lessee shall be solely responsible for determining that the specifications and design of any car are appropriate for the commodities to be loaded therein.

SECTION 3.02. Area of Use. Each car shall be used exclusively within the boundaries of the continental United States of America, Canada and Mexico, subject to the provisions of Section 3.09. Lessee shall be responsible for all customs duties, taxes and other charges made by any governmental or other authority or any railroad and for complying with all governmental and other requirements arising in connection with any car leaving, operating outside of or returning to the boundaries of the continental United States; and Lessee shall indemnify Lessor against and hold it harmless from any damages, losses, liabilities, costs and expenses connected therewith. This indemnity shall survive the expiration or earlier termination of this Agreement.

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SECTION 3.03. Compliance With Law. Lessee shall use the cars and shall perform all its obligations hereunder in compliance with all laws and regulations of all federal, state, local, foreign and railroad authorities having jurisdiction.

SECTION 3.04. High Mileage. Lessee shall not, without the prior written consent of Lessor, use any car or permit such car to be used in such a manner that in any calendar year it accumulates in excess of the maximum mileage (loaded and empty) specified in the rider as to such car. If the mileage specified is exceeded, Lessee shall pay Lessor a mileage charge in the amount specified in such rider for each mile such car moves in excess of such limitation.

SECTION 3.05. SUBLEASE AND ASSIGNMENT. LESSEE SHALL NOT LOAN OR SUBLET ANY CAR OR TRANSFER OR ASSIGN ANY OF ITS INTERESTS OR OBLIGATIONS UNDER THIS AGREEMENT, WHETHER BY OPERATION OF LAW OR OTHERWISE, WITHOUT THE PRIOR WRITTEN CONSENT OF LESSOR, EXCEPT THAT LESSEE MAY LOAN OR SUBLET CARS TO (i) ITS AFFILIATED COMPANIES, OR (ii) ITS CONSIGNEES OR SUPPLIERS IN CONNECTION WITH THE HANDLING OF COMMODITIES SOLD, BOUGHT OR SUPPLIED FOR THE ACCOUNT OF LESSEE AND TRANSPORTED THEREIN. NO SUBLEASE, ASSIGNMENT OR TRANSFER OF ANY CAR OR ANY INTEREST IN THIS AGREEMENT SHALL RELIEVE LESSEE OF ANY OF ITS OBLIGATIONS HEREUNDER.

SECTION 3.06. Empty Miles. Lessee shall use its best efforts to minimize the empty mileage traveled by the cars on each railroad over which they move. With respect to each calendar year or portion thereof during the term of this Agreement, Lessee shall pay Lessor an amount equal to the charges, if any, that Lessor would have had to pay railroads or other parties by reason of the empty mileage traveled by the cars if the cars (i) had been the only railway cars which either were owned by Lessor or carried its reporting marks, and (ii) had been in use during such years only while they were on lease hereunder.

SECTION 3.07. Use of Cars Under AAR Circular OT-5. Whenever approval of the originating line haul carrier(s) is required in order that cars may be placed in service pursuant to AAR Circular OT-5 and any revisions or successors thereto, Lessor shall, upon written request of Lessee, use reasonable efforts to aid Lessee in obtaining such approval. In no event shall Lessor be liable if any such approval is not obtained for any reason or is withdrawn or modified, and this Agreement shall continue in full force and effect notwithstanding such withdrawal or modification or the failure to obtain such approval.

SECTION 3.08. Additional Charges. If any charges are made against Lessor by any railroad in connection with Lessee's use of the cars, Lessee shall pay Lessor for such charges within the period prescribed by, and at the rates and under the conditions established by, such railroads. Lessee shall pay (or reimburse Lessor upon demand for) all costs, charges

EPAHO120000498

and expenses relating to switching, demurrage, detention, storage, special handling, transportation or movement of any car, including but not limited to freight and switching charges for movement to and from repair shops, storage or terminal facilities. Lessee's tracks shall be considered home tracks for the cars and Lessor shall have the use thereof without charge (including demurrage).

SECTION 3.09. Tax Benefits. Lessee agrees to use each car predominantly within the United States within the meaning of the U.S. Internal Revenue Code of 1954, as amended. If all or any portion of the accelerated depreciation with respect to such car otherwise allowable to Lessor (or its assigns) pursuant to such Code is disallowed or recaptured as a direct or indirect result of Lessee's violation of this Section, Lessee shall pay Lessor an amount which, after deduction of all federal, state and local taxes in respect of the amount payable by Lessee to Lessor under this Section, shall be equal to such credit or portion thereof so disallowed or recaptured.

ARTICLE IV
Miscellaneous Provisions

SECTION 4.01. Marking. No marking of any kind shall be placed upon any car without the prior written consent of Lessor, except that (i) Lessee may cause any car to be stencilled, boarded or placarded with letters not to exceed two inches (2") in height to indicate to whom the cars are leased, and (ii) any car may be marked in accordance with the applicable requirements of the AAR or any governmental or other regulatory authority having jurisdiction over such car. If requested by Lessor, Lessee will remove any such markings at the termination of the lease of such car.

SECTION 4.02. Damage To or By Commodities. Lessor shall not be liable for any loss of or damage to any commodity loaded or shipped in any car, regardless of how such loss or damage may be caused. Lessee shall indemnify Lessor against and hold Lessor harmless from all claims, liabilities, losses, damages, costs and expenses (including reasonable attorneys' fees) arising out of or resulting from the loss of or damage to any such commodity or the loading, unloading, spillage, leakage, emission or discharge of commodity in or from the car, including without limitation any liability for injury, death, property damage or environmental pollution. This indemnification shall survive the expiration or earlier termination of this Agreement.

SECTION 4.03. Taxes and Liens. Lessor shall be liable for and pay all personal property taxes properly imposed on or measured by the cars or the mileage thereon by any jurisdiction within the United States and file all property tax returns relating thereto. Lessee shall be liable for and shall pay or reimburse Lessor for the payment of other taxes and governmental charges arising out of the ownership of or sale of any car to Lessee, possession, lease, rental, use, operation, storage or delivery of any car (including, but not limited to, sales, use, leasing or excise taxes but not including any tax which is based upon or measured by Lessor's net income), together with any penalties, fines and interest thereon. LESSEE SHALL KEEP THE CARS FREE FROM ALL LIENS AND ENCUMBRANCES OTHER THAN THOSE CREATED BY OR RESULTING FROM THE ACTIONS OF LESSOR.

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SECTION 4.04. Subordination. THIS AGREEMENT AND ALL RIGHTS OF LESSEE (AND ANY PERSONS CLAIMING OR WHO MAY HEREAFTER CLAIM UNDER OR THROUGH LESSEE) ARE HEREBY MADE SUBJECT AND SUBORDINATE TO ANY SECURITY AGREEMENTS, CHATTEL MORTGAGES, CONDITIONAL SALES AGREEMENTS, LEASE AGREEMENTS, EQUIPMENT TRUST AGREEMENTS AND OTHER SECURITY INSTRUMENTS HERETOFORE OR HEREAFTER CREATED BY LESSOR WITH RESPECT TO ANY CARS, AND MAY BE ASSIGNED BY LESSOR WITHOUT NOTICE TO OR CONSENT REQUIRED OF LESSEE. NO ASSIGNMENT OR ANY SUCH SECURITY AGREEMENT SHALL MATERIALLY CHANGE THE OBLIGATIONS OF LESSEE UNDER THIS AGREEMENT. ANY SUBLEASE OF CARS MADE BY LESSEE AND OTHERWISE PERMITTED BY SECTION 3.05 SHALL CONTAIN LANGUAGE WHICH EXPRESSLY MAKES SUCH SUBLEASE SUBJECT TO THE SUBORDINATION CONTAINED HEREIN. AT LESSOR'S ELECTION, ANY CAR MAY BE MARKED TO INDICATE THE RIGHTS OF LESSOR, OR A TRUSTEE, MORTGAGEE, PLEDGEE, ASSIGNEE OR OTHER HOLDER OF A SECURITY INTEREST IN SUCH CAR, OR A LESSOR TO LESSOR. LESSOR SPECIFICALLY DISCLAIMS AND EXCLUDES ANY WARRANTY, EITHER EXPRESS OR IMPLIED, OF QUIET ENJOYMENT OF THE CARS. SUBJECT TO THE FOREGOING, AS LONG AS LESSEE CONTINUES TO MEET ALL OBLIGATIONS UNDER THIS AGREEMENT, LESSEE IS ENTITLED TO USE OF THE CARS PURSUANT TO THE TERMS OF THIS AGREEMENT AND THE APPLICABLE RIDER. IN NO EVENT, EITHER BY OPERATION OF LAW, LESSOR DEFAULT OR OTHERWISE, SHALL LESSEE ACQUIRE TITLE OR OWNERSHIP OR SIMILAR RIGHTS IN THE CARS.

SECTION 4.05. Indemnification. Lessee shall defend (if such defense is tendered to Lessee), indemnify and hold Lessor harmless from and against all claims, liabilities, losses, damages, costs and expenses (including reasonable attorneys' fees) arising out of or in connection with the use of any car during the term of this Agreement, except claims, liabilities, losses, damages, costs and expenses (i) for which one or more railroads has assumed full responsibility or (ii) which result solely from the negligence or willful misconduct of Lessor. This indemnification shall survive the expiration or earlier termination of this Agreement. (As used in Sections 3.02, 4.02 and 4.05 of this Agreement, the term "Lessor" shall include any party having a security, ownership or other such interest in the cars.)

Accepted to Lessor wording

SECTION 4.06. Past Due Payments. Any rental or other sum payable to Lessor under this Agreement and not paid when due shall (whether or not Lessor shall then be entitled to exercise its rights under Section 4.07) thereafter bear interest at a rate per annum equal to the greater of (a) twelve (12%) or (b) the prime rate in effect from time to time as published in the Wall Street Journal (but not in excess of the maximum rate permitted by law).

Contested payments should not be subject to penalty. Define means and timing to contest.

EPAHO120000500

SECTION 4.07. Default. (a) By Lessee. If (1) Lessee defaults in the payment when due of any rental or other sum required to be paid by it under this Agreement or defaults in the performance or observance of any other term or condition to be performed or observed by it under this Agreement and any such default continues for fifteen (15) days after Lessor shall have mailed written notice to Lessee specifying such default and demanding the same to be remedied, or (2) any bankruptcy, reorganization, arrangement, insolvency, receivership or similar proceeding (other than a proceeding commenced pursuant to Title 11 of the United States Code, Section 101 et seq., as amended) is instituted by or against Lessee or substantially all of its property (and in the case of a proceeding instituted against Lessee and not consented to by Lessee, such proceeding shall remain undischarged or unstayed for thirty (30) days), then Lessor shall have the right, at its option, to do any one or more of the following: (i) proceed by appropriate court action to enforce performance by Lessee of the terms of this Agreement, to recover damages for the breach thereof, or both; (ii) terminate this Agreement with respect to any or all of the cars and Lessee's rights thereunder with respect to such cars, and Lessee shall thereafter forward the cars to Lessor in the manner required in Section 1.08; and (iii) immediately take possession of the cars without demand or notice and without hearing, court order or other process of law (Lessee hereby waiving all damages occasioned by such taking of possession).

If Lessor elects to proceed under clause (iii) above, Lessor may, at its option, (but shall not be required to), lease any of the cars for such rental and upon such terms and conditions as Lessor may deem appropriate. Lessee shall pay Lessor on demand (a) the deficiency, if any, during the balance of the term of this Agreement between the rental provided for under this Agreement and any rental paid by others with respect to the lease of the cars; (b) all costs and expenses for repairing damage to the cars which is Lessee's responsibility under this Agreement, and (c) any other losses, damages, costs and expenses arising from Lessee's default.

The remedies provided herein are not exclusive but are cumulative and, to the extent not in conflict herewith, are in addition to all other remedies existing at law or in equity. Lessee shall pay Lessor on demand all of Lessor's costs and expenses arising from Lessee's default, including reasonable attorneys' fees and costs of collection. No termination, repossession or other act of Lessor after default shall relieve Lessee from any of its aforesaid obligations.

Lessee shall not be entitled to any mileage credits after any such default and as long as it continues.

(b) By Lessor. If (1) Lessor materially defaults in the performance or observance of any term or condition to be performed or observed by it under this Agreement and any such default continues for fifteen (15) days after Lessee shall have mailed written notice to Lessee specifying such default and demanding the same to be remedied, or (2) any bankruptcy, reorganization, arrangement, insolvency, receivership or similar proceeding (other than a proceeding commenced pursuant to Title 11 of the United States Code, Section 101 et seq., as amended) is instituted by or against Lessor or substantially all of its property (and in the case of a proceeding instituted against Lessor and not consented to by Lessor, such proceeding shall remain undischarged or unstayed for thirty (30) days), then Lessee shall have the right, at its option, to do any one or more of the following: (i) proceed by appropriate court action to enforce performance by Lessor of the terms of this Agreement, to recover damages for the breach thereof (in an amount not to exceed the amount of the rental paid by Lessee, net of any mileage credits received), or both; or (ii) terminate this Agreement with respect to the cars affected by such breach and Lessee shall thereafter forward the

Need language to protect lessors if business need changes & cars no longer needed - Lessee to make every reasonable effort to ~~sub~~lease to other lessors.

cars to Lessor in the manner required in Section 1.08.

The remedies provided herein are exclusive. Lessor shall pay Lessee on demand all of Lessee's costs and expenses arising from Lessor's default, including reasonable attorneys' fees and costs of collection. No termination, repossession or other act of Lessee after default shall relieve Lessor from any of its aforesaid obligations.

SECTION 4.08. Warranties. Lessor's obligations with respect to the cars are expressly limited to those set forth in this Agreement, and are extended only to Lessee. LESSOR MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR OTHERWISE, AND LESSOR SHALL HAVE NO LIABILITY TO ANY THIRD PARTY OR FOR ANY INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR ANY CAR LEASED HEREUNDER.

SECTION 4.09. GOVERNING LAW. IT IS SPECIFICALLY AGREED THAT THIS AGREEMENT AND PERFORMANCE OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF ILLINOIS, EXCLUDING ANY CHOICE OF LAW RULES WHICH MAY DIRECT THE APPLICATION OF THE LAWS OF ANY OTHER JURISDICTION.

SECTION 4.10. Severability. If any provision of this Agreement shall be held to be invalid or unenforceable by the final judgement of a court of competent jurisdiction, such invalidity or unenforceability shall not effect any other provision but this Agreement shall continue in full force and effect as if such provision had not been a part hereof.

SECTION 4.11. Headings. The Article and Section headings used herein are for convenience of reference only and shall not be used in interpreting this Agreement.

SECTION 4.12. Benefit. This Agreement shall be binding upon and inure to the benefit of Lessor and its successors and assigns, and Lessee and (to the extent permitted by Section 3.05) its successors and assigns.

SECTION 4.13. Entire Agreement. This Agreement, including all riders and other documents attached hereto or incorporated by reference herein, constitutes the entire agreement of the parties with respect to the subject matter hereof and supersedes all other understandings, oral or written, with respect to the same.

EPAHO120000502

SECTION 4.14. Force Majeure. Neither party shall be liable for delays directly affecting performance of any of its obligations hereunder if such delays are caused by unforeseen conditions beyond such party's reasonable control, provided notice thereof is given to the other party as soon as practicable. All such conditions preventing performance shall be remedied as soon as possible, except that settlement of strikes or other labor actions shall be at the discretion of the party so affected.

SECTION 4.15. Authority. Lessee represents that the execution, delivery and performance of this Agreement have been duly authorized by all requisite corporate action, and the signatory hereto has been so authorized.

SECTION 4.16. Amendment and Waiver. THIS AGREEMENT MAY NOT BE AMENDED OR MODIFIED EXCEPT BY WRITTEN AGREEMENT SIGNED BY THE PARTIES. No waiver of any provision of this Agreement shall be effective unless in writing signed by the party against whom enforcement of such waiver is sought, and unless otherwise expressly so provided such waiver shall be limited only to the specific situation for which it was given. Failure of either party to enforce or compel strict compliance with every term and condition of this Agreement shall not operate as a waiver.

Lessee initials for Section 4.16:_____

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

UNION TANK CAR COMPANY _____

By _____ By

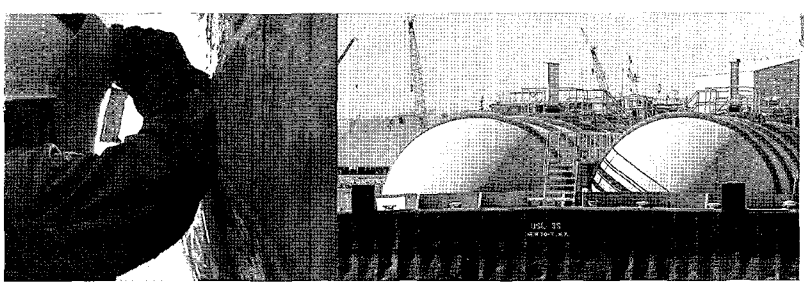
Title: Vice President-Fleet Management Title

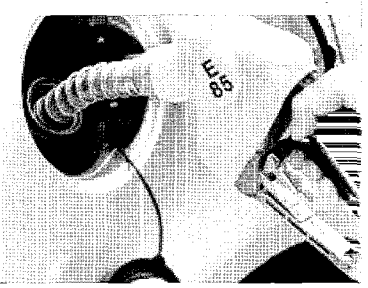
EPAHO120000503

Log - Barge

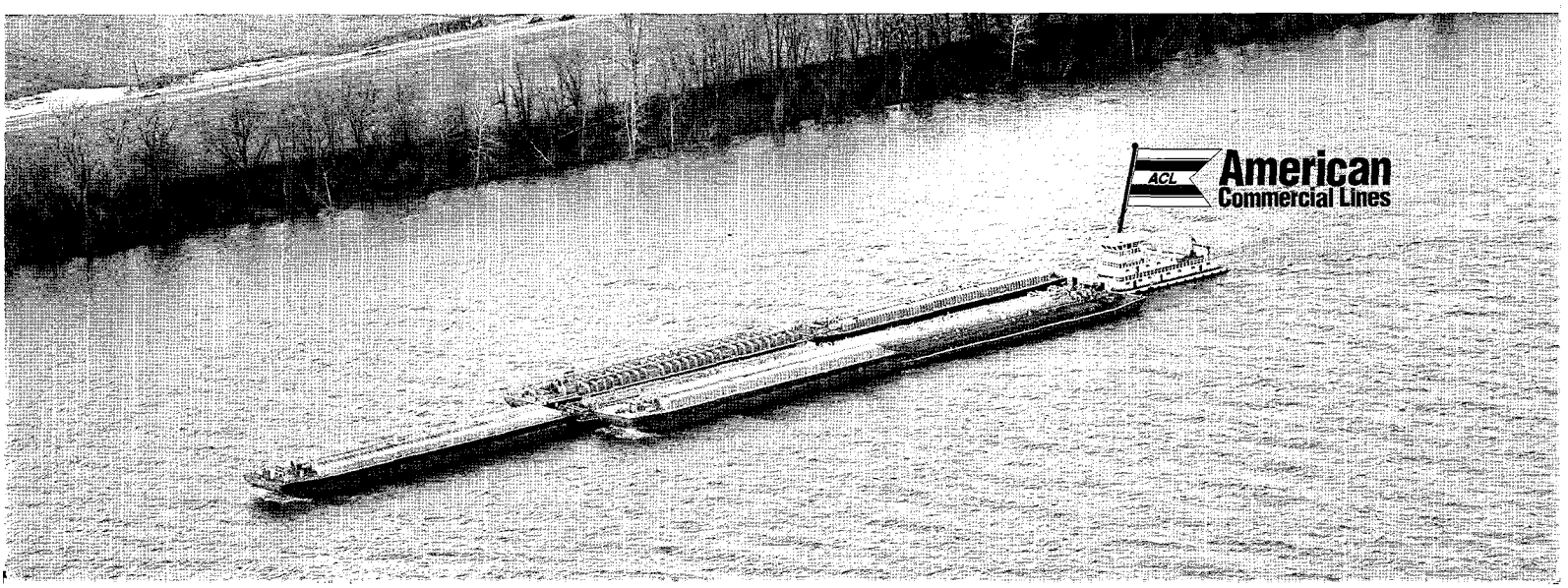
EPAHQ1200005624

Follow The River...





To the most economical transportation solution for liquids...



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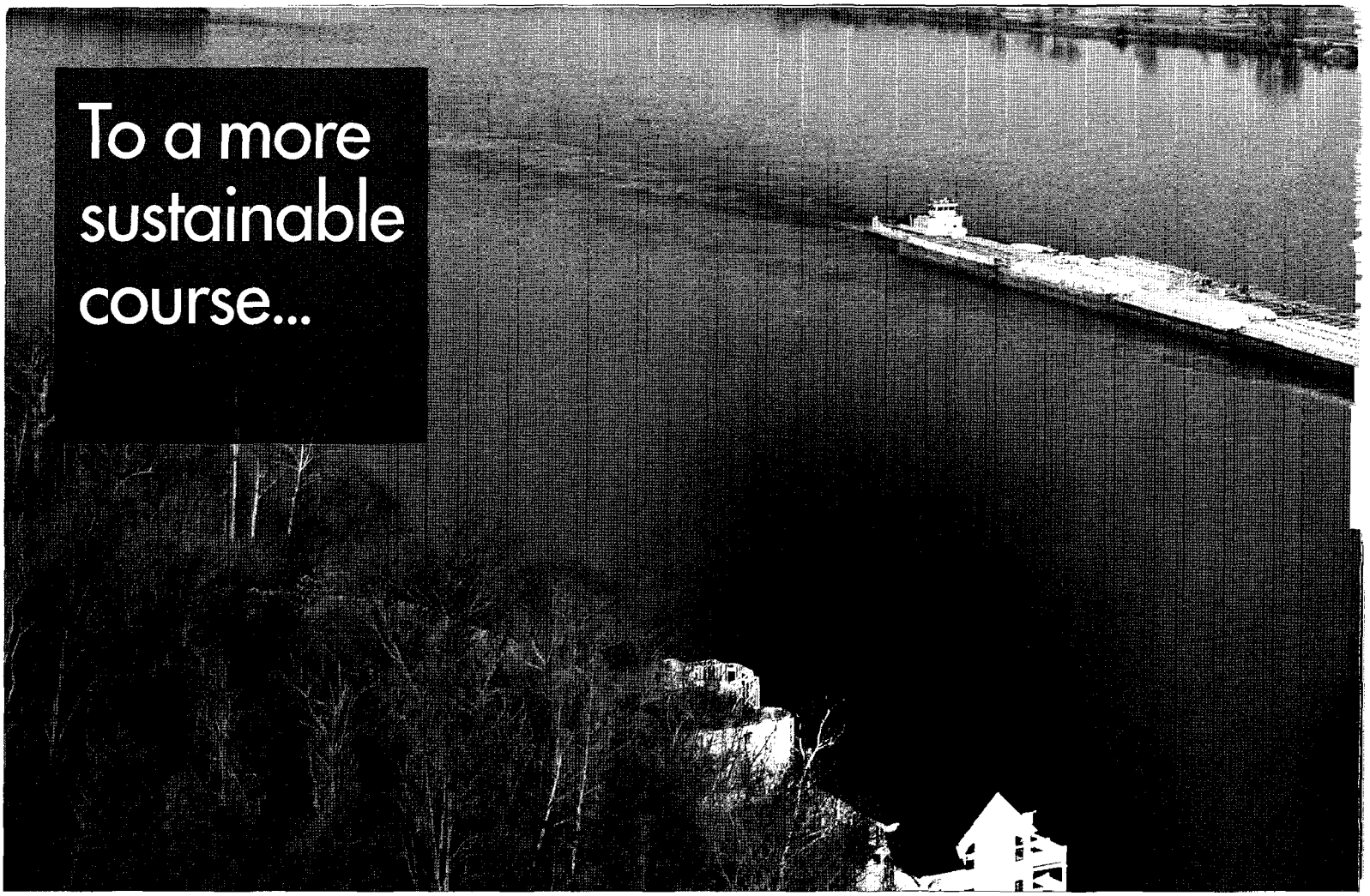


EFFICIENT ACL barges can move more cargo at a lower freight cost than railroads or trucks.

CONSISTENT ACL barges deliver consistent transit times for more cost effective supply chain planning.

SAFE ACL has extensive experience and expertise transporting liquids, including chemicals, renewable fuels, petroleum, and edible oils, and we are a proud member of the Responsible Care Partners Program.

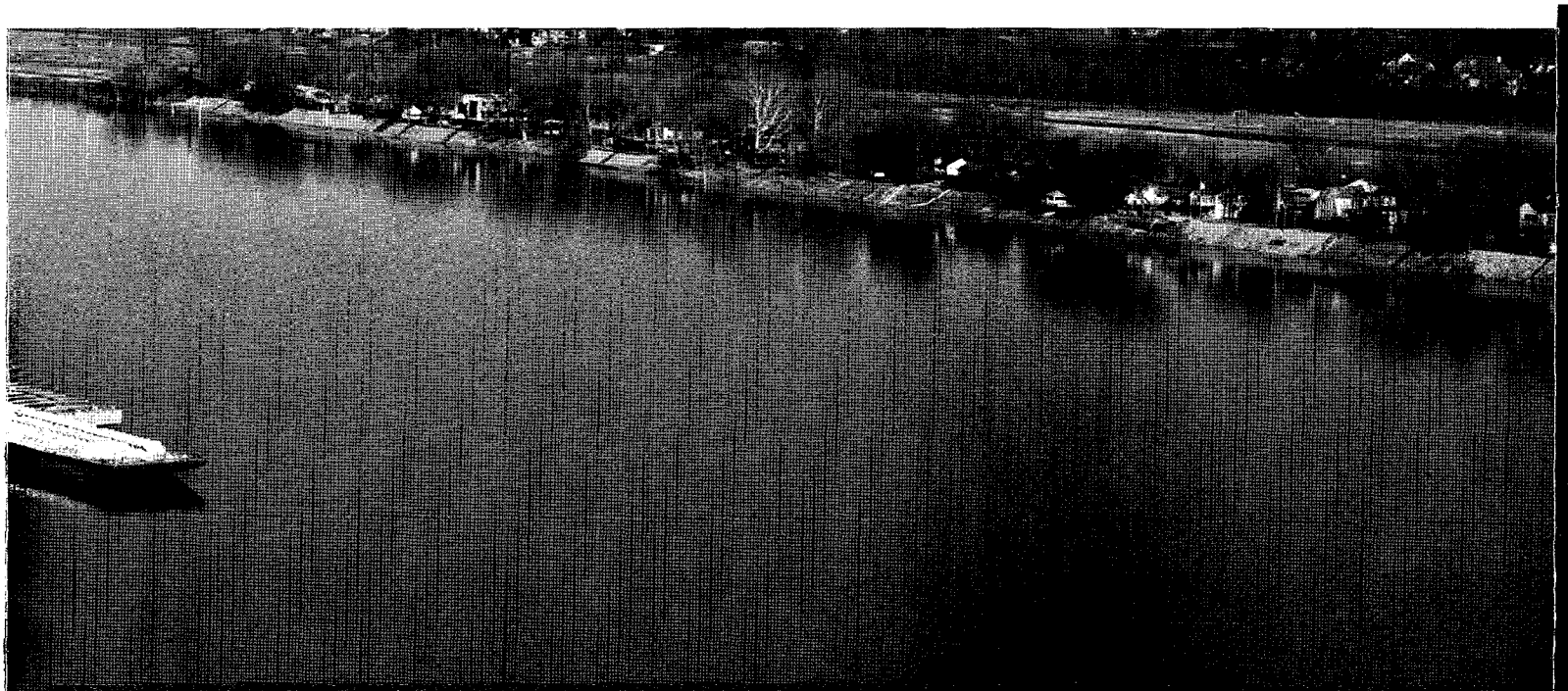
Responsible Care®
Good Chemistry at Work

GREEN Barges are unquestionably the most environmentally friendly transportation choice you can make. With ACL, You don't have to sacrifice your commitment to environmental stewardship to save money. We are your GREEN transportation choice.

Throughout our nation's history, we have followed our rivers to opportunity. As our transportation needs grow, we continue to navigate to our vast 12,000-mile network of rivers and the most economical, safest and greenest mode of transportation – inland barging. □ When you incorporate barging into your total transportation solution, you begin saving today while embarking on a more sustainable course for tomorrow.

It's why we at American Commercial Lines –
a leader in inland barge transportation – urge you to "Follow the River."

EPAHO120000506



To a complete supply chain solution...

Just as we expertly navigate changing river conditions, ACL anticipates and meets our customers' needs with a complete supply chain solution that includes barge transportation, multi-modal transloading, storage terminals and our proprietary River-Trac barge tracking system – all compelling reasons to Follow the River.

Barging

As the nation's second-largest provider of liquid cargo transportation on the Inland Waterways System, ACL has an extensive fleet of towboats and tank barges and the expertise and experience to meet your needs and save you money with the most efficient and cost effective transportation solutions available.

Multi-modal Transloading

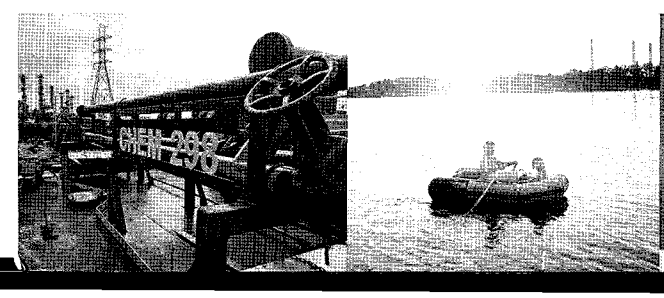
ACL has a proven track record of working with other modes of transportation to transport liquids beyond the barge. Whether as a total transportation solution or an integral part of your supply chain, ACL's multi-modal transloading capabilities meet your unique supply chain needs and reduce your transportation costs

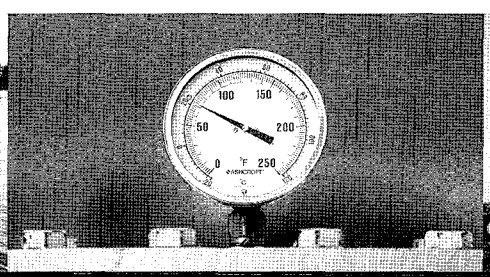
Storage Terminals

ACL has a 100,000-BBLS tank storage terminal in Memphis, TN and partnerships with storage facilities strategically located throughout our entire network to help shippers manage their supply chains and reach their end-use markets.

Industrial Development

ACL is replicating the industrial development model of the railroads. We will assist with site selection, construction of docks and terminals, and even capital expenditures through volume refund contracts. Give us the opportunity to demonstrate that with our industrial development assistance, you can't afford not to switch shipments to the most economical, safest and greenest mode of transportation.





To a more energy efficient, safer and greener way...

ACL transports more than 30 percent of the nation's liquid cargo. Why have so many chosen to follow the river? Besides the significant cost savings, barges are the safest, cleanest and most energy efficient mode of transportation. As trains and trucks clog the highways and railways that run through our communities, ACL barges offer a cleaner, greener and safer course.

ENERGY EFFICIENT
Barges consume significantly less fuel per ton-mile than trains or trucks.

CLEAN
Barges emit far less particulate matter, hydrocarbons, carbon monoxide and nitrous oxide per ton-mile than trains or trucks.

SAFE
Barges are the safest form of transportation, with fewer spills and injuries than rail or trucks.

To wherever you need to go...

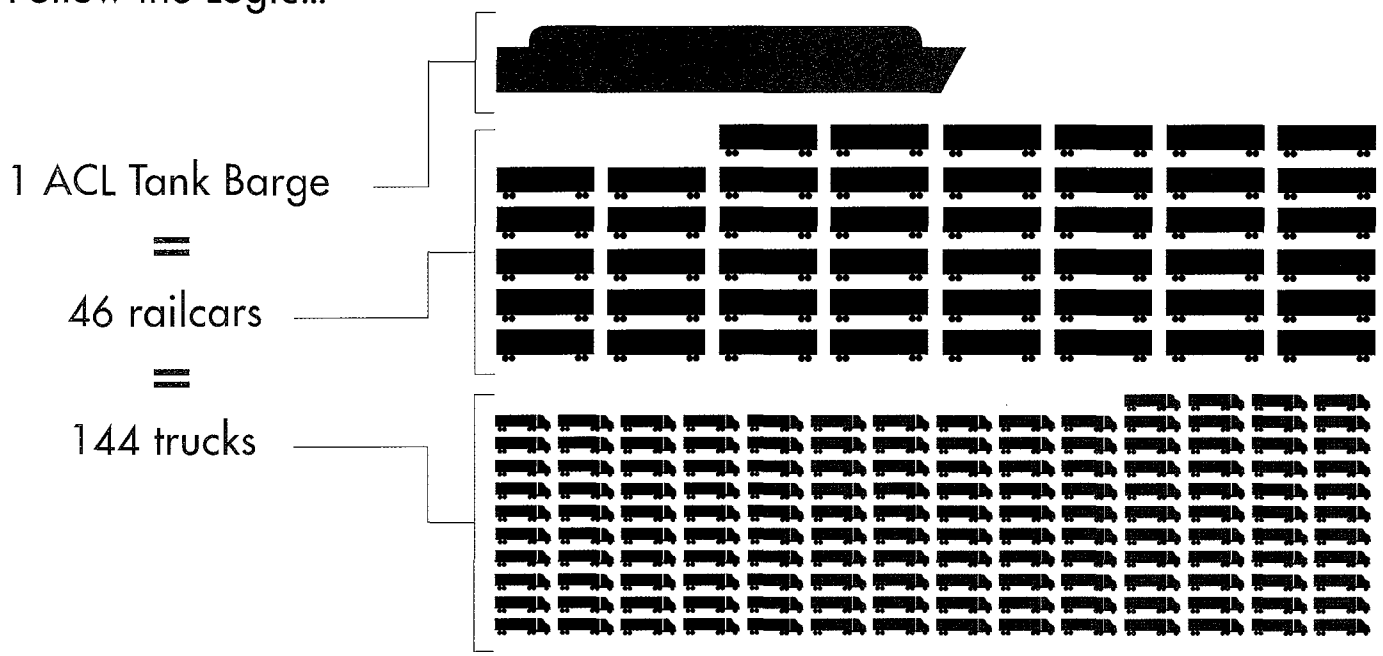
ACL has the network, the fleet, the facilities, and the multi-modal solutions to get you where you need to go. If you are getting there by rail or truck now, ACL can get you there, and anywhere your business may take you in the future, and we can do it for less. We're prepared to deliver for our customers.

EPAHO120000508

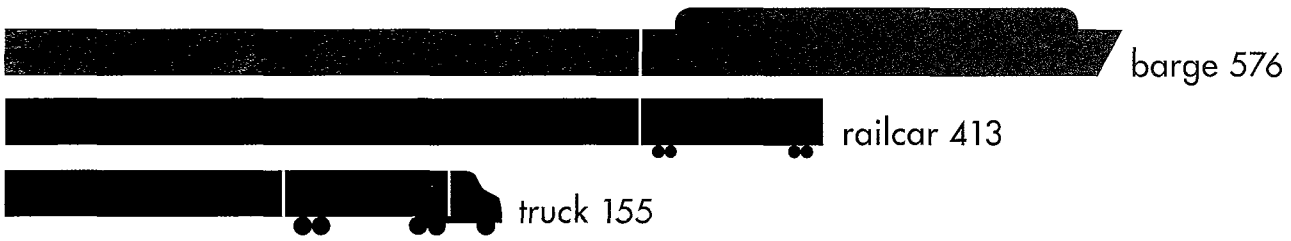
To a logical change of course...

Just one ACL tank barge can move 27,500 barrels of liquid cargo versus the 46 railcars or the 144 trucks that it would take to do the same job. That same barge can transport one ton of cargo 576 miles on one gallon of fuel – that's 163 miles further than a railcar and 421 more than a truck. When you float these numbers alongside the expected 70 percent increase in the national output of goods and services by 2020, the logic is easy to follow. The cost, congestion and delays associated with rail and trucks will continue to increase, making the cost savings, environmental benefits, and service reliability of barges the natural choice. It only makes sense to change course and "Follow the River."

Follow the Logic...



Ton-Miles Traveled Per Gallon of Fuel

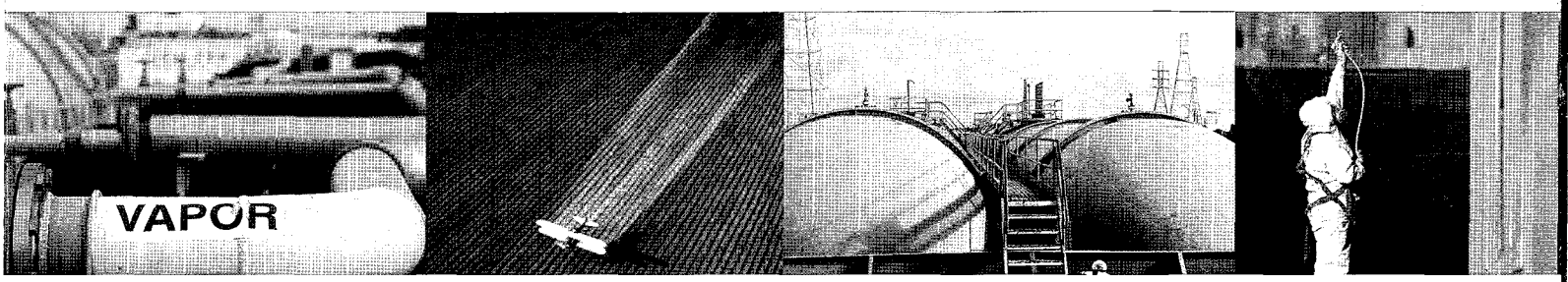


ACL and America's Inland Waterway System, which is estimated to be running at just 40 percent capacity, are tomorrow's transportation solution today.

Following Our Values

Like the constant flow of a river, our priorities at American Commercial Lines have remained constant over time. In everything we do, we continue to follow the same core values that launched us on our course.

SAFETY. Never compromise the safety of people, the environment, property or equipment. CUSTOMER FOCUS. Supply our customers with on-time, premium services and products of the highest quality. Always strive to exceed customer expectations. INTEGRITY. Always do the right thing. INNOVATION. Set the standard in transportation and manufacturing solutions. VALUE. Let the creation of value drive all we do.



ACL American Commercial Lines

1701 E. MARKET STREET, JEFFERSONVILLE IN 47130 PHONE 713-752-3690

WWW.ACLINES.COM

EPAHO120000510

date	
project	
page	

1st Barge

29000bbl

Need ~$25,000 gallon

· 1600 Bareboat

$1525/Day Charlie Kate

Mid-may

2nd

30

~~1900~~

1500 // Day

#1

w/Kate

Eom April

task list:

DRAFT

Spent Sodium Hydroxide Material Barge Shipment Cost to Pine Bluff, AK

ACL Barge

I. HINES 426 (Size 300ft x 54ft x 12ft) – Big Barge (29,000 bbl)

1. 29,000 bbl size (1,218,000 gal max) Maximum Capacity
2. 18,466 bbl size (775,555 gal max) at 9ft 6in Draft (3,410 tons)
3. 19,630 bbl size (824,444 gal max) at 10ft Draft (3,710 tons)

Cost

	Bareboat	Charter Rate
A.	$1,600/day	$48,000/mo
B.	$1,825/day	$54,750/mo

(Includes Maintenance, Hull Insurance, and Coast Guard)

II. Chem 308 (200ft x 53ft X 12.5ft) – Medium Barge (18,000 bbl)

1. 17,700 bbl size (743,400 gal max) Maximum Capacity
2. 12,677 bbl size (532,444 gal max) at 9ft 6in Draft (2, 396 tons)
3. 13,513 bbl size (567,555 gal max) at 10 ft Draft (2,554 tons)

Cost

	Bareboat	Charter Rate
A.	$1,300/day	$39,000/mo

III. Tug Rates

Port Arthur, TX to Pine Bluff, AK – Loaded: $31,750 + $4,550
Pine Bluff, AK to Port Arthur, TX – Empty: $19,900 + $4,100

To Pine Bluff, AK Round Trip – Full Going/Empty Back = $60,300

NOTE: Cost to move the large 29,000 bbl barge.

IV. Basic Costs

1,000,000 gallons (23,809 bbl) cost 45 days ($1,825) = $ 82,125
Transport: 31,750 + 4,550 + 19,900 + 4,100 = 60,300
Total 142,425

Other Costs

	ITEMS	AMOUNTS
1.	Sales Commission:	$ 30,000
2.	Small Barge 45 days (45 x 1,400):	$ 63,000
3.	SGS (4 x 3,000):	$ 12,000
4.	CES (Pine Bluff, AK)	$ 10,000
5.	PACES	$ 5,000
	Subtotal (1-5)	**$262,425**
6.	Sochem	$ 30,000
	TOTAL for (1-6)	**$292.425**

V. Pre Tax Profit

$ 490,000 (@1,000,000 gal @ $0.49 gallon)
- 292,425 (Costs)
$ 197,575 / Shipment

DRAFT

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4K. 3K-5K

V. Pre Tax Profit

$ 490,000 ($1,000,000 gal @ $0.49 gallon)
- 292,425 (Costs)
$ 197,575 / Shipment

GOV - Coast Guard

EPAHO12000514

CES Environmental Services, Inc.

CES

1

Date: April 14, 2009

Re: Activity#: 3350134
Request for Extension

Attn: Commander Strong
United States Coast Guard
Coast Guard Hearing Office

Dear Commander Strong,

The purpose of this letter is to request an extension in supplying an answer to the violation notice presented to CES Environmental Services on March 16, 2009. It is our very intention to respond in a timely fashion per your request. However, additional documentation is needed in order to provide a thorough response. We would like to request an extension of two weeks in order to do so; thus moving the deadline for response to April 30, 2009.

In addition, we would like to request a hearing of our case and will submit supporting documentation for review along with our response referenced in the previous paragraph.

We truly appreciate your consideration of our request and will look forward to your written response regarding your decision. If you have any questions in the interim, please do not hesitate to contact us.

Best Regards,

Anissa Wright
CES Environmental Services
713-676-1460
awright@cesenvironmental.com

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

CES 2

United Sates Coast Guard
4200 Wilson Blvd/MS 7160
Arlington, VA 20598-7160

Activity No. 3350134
Party: CES Environmental Services

Dear Commander Strong:

The purpose of this letter is to provide you with supporting documentation on behalf of CES Environmental Services, Inc. (CES), which is intended to aid you in rendering a final decision regarding Activity No. 3350134, Violation Notice dated September 26, 2009.
While CES admits that lightering operations were conducted on September 22, 2009, prior to written approval of our security plan, we request that the following mitigating circumstances be considered when evaluating the situation and determining applicable penalties.

1. Prior approval of Facility Security Plan
    a. CES hired a third party to assist us in preparing our Facility Security Plan. CES submitted to the United States Coast Guard (USCG) all required material at least two weeks prior to the event at issue. (see statement from Clint Hopkins)
    b. CES, along with the entire Houston and Port Arthur areas was greatly impacted by Hurricane IKE. During recovery, facility closures and waterway restrictions were changing rapidly. To accommodate the requirement to unload the ship, we anchored the Golden Charlotte at our dock but did not unload the vessel directly into the facility. We unloaded the ship into a barge adjacent to the ship. We communicated to the local CG our intent regarding unloading of the ship. At the time, we believed this was authorized since we had an approved mobile security plan. A companionway was established between the dock and the ship so that the agent could board the ship and complete necessary activities with the ship's Captain.
    c. The local Coast Guard authority provided written approval of our previously submitted FSP on November 14, 2008. The approval was provided without requiring any change to the written document that was submitted prior to the unloading event. (see statement from Clint Hopkins)
    d. The unloading of the Golden Charlotte on September 22, 2009, was the first efforts by CES to unload an ocean going vessel at our facility. The newness of this activity, lack of intimate familiarity with Coast Guard requirements, and general confusion in the aftermath of Hurricane IKE all contributed to the decision to unload the vessel. We were unaware that an approved FSP was required if the ship was tied off at our dock.
    e. While the Golden Charlotte is an international flag carrier, this vessel had already cleared customs in New Orleans prior to docking at the CES facility. It was our understanding that this would allow us to treat the vessel similar to a US flag carrier. (see statement from Clint Hopkins)

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

2. Security Procedures at the facility
    a. Statements made in the USCG packet indicate that security procedures at the gate were deficient. CES contracted with a third-party security company, Patriot Security, to provide on-site security for our facility. This firm provides similar services to other companies engaged in water operations. It was our belief that the security company was following standard protocol regarding identity verification. Upon notification, CES reinforced this requirement with the security company. (see statement from Clint Hopkins)
    b. During the course of unloading, the vessel did establish a companionway between the dock and the ship. A couple of the ship's crew members did stand on the dock around the entrance of the companionway. None of the crewmembers left the area immediately around the companionway.

It is our intention to follow all federal and local laws while operating our business. We in no way seek to be deceptive or incompliant. We are anxious to implement corrective actions in order to ensure that future violations will not occur. In your review and final determination, we ask that you take into consideration all of the supporting documents presented, which include an outline our communicative efforts with the USCG. We also request that you revise the penalty originally assessed against us in this matter, as it will cause extreme financial distress on our company.

Due to recent economic shifts involving the collapse of world financial systems and commodity markets, Hurricane Ike recovery efforts, and a significant reduction in business activity, our revenues have been reduced by 50%. Operating losses from continuing operations have exceeded $ 1.7 million from October 08 through February 09. We have reduced our workforce by 40% in January and February of this year, in addition to cutting the wages of remaining employees by 5 – 20%. While the financials are bad, our cash position is worse with cash loss from operations exceeding $ 885,000.00 and cash drain from establishing the Port Arthur facility of over $ 1,500,000.00. We would be happy to provide any documentation required as proof of financial distress.

Upon review of the information provided, we hope you will see that errors and omissions were unintentional and, once notified, CES took immediate corrective action. If you have any questions regarding the documents enclosed with this petition, please do not hesitate to contact me.

Sincerely,

Greg Bowman
Vice President Finance and Administration
CES Environmental Services, Inc

SD\664441.1

13 April 2009

I, Clinton R. Hopkins, make the following statement freely. All information relayed herein is to the best of my knowledge.

I served as the project manager/person responsible for coordinating the arrival of MT GOLDEN CHARLOTTE on Monday, 22 September 2008. The following listed sequence of events covers meetings and communication I had with Coast Guard officials at MSU Port Arthur.

Sequence of Events

23 June 08 - Attended a meeting at MSU Port Arthur which was scheduled to discuss security requirements for operating and conduct barge transfers at the Port Arthur site. Coast Guard was also briefed the layout of site. At the time, CES had not acquired site and ***was not*** planning to conduct lightering operations. **(SEE ATTACHMENT 1)**

2 September 08 - Initial planning for possible arrival of MT GOLDEN CHARLOTTE. MSU Coast Guard reps were contacted via phone to coordinate security plan submittal and other requirements. Dealt primarily with MK2 John Studstill. Also talked to personnel on duty. During the week of **8-12 September 08**, CES Environmental submitted a completed Facility Security Plan and Facility Security Assessment. Mobile transfer plans were also completed (CES already had approved plan for MSU Houston -Galveston) Necessary updates were made to this plan and submitted. Coast guard personnel were extremely busy at this time. Plans could have been submitted one week sooner but I was unable to meet directly with facility security personnel. Plans were dropped off with duty personnel and instructed to be forwarded to MSU Port Arthur facility security.

16 or 17 Sept 08 - A phone call was made to MSU Port Arthur personnel discussing arrival The MT GOLDEN CHARLOTTE and customs requirements. The foreign origin of the ship was discussed and any new requirement pertaining to this was inquired about concerning arrival. Coast Guard personnel (unsure of name, individual was on duty) informed me that since the ship cleared customs in New Orleans, LA all CES needed to issue to Coast Guard was a NOR (Notice of Registration). Notice of Registration was provided by ship's agent/chartering personnel. **(SEE ATTACHMENT 2, 3)**

20 September 08 - A facility self assessment was conducted and faxed to Robert Stegall. The self assessment was in to response to Marine Safety Information Bulletin 39-08. Details of ship to barge transfer include ship information and transfer date was included. **(SEE ATTACHMENT 4)**

Due to various communication exchanges with MSU Coast Guard personnel leading up to the arrival of The MT GOLDEN CHARLOTTE, I felt that the operation that we were performing (ship to barge transfer) was approved. We were not transferring product on shore and no personnel were planned to exit the ship. At no point did I encounter any ***rejection*** to our operation by Coast Guard personnel.

Furthermore, since were told that no special requirements were needed since the ship cleared customs in New Orleans, I felt assured that we were in compliance with customs requirements. At no time did I withhold information and I had no deceptive intent.

Clinton Hopkins

CES3

Clinton Hopkins

From: Jennifer Rust
Sent: Tuesday, September 02, 2008 3:43 PM
To: Karl Guidry; Marlin Moser; Prabhaker Thangudu; Matt Bowman; Clinton Hopkins
Cc: Steve Stricker
Subject: RE: ETA info Golden Charlotte - CES / GULF STREAM 9-02

Is it possible to have this ready by mid-September? We *might* have a ship coming in to do a ship to barge transfer.

Thank You,
Jennifer Rust

Direct: 713-800-7913
Cell: 713-367-8581

From: Karl Guidry
Sent: Tuesday, September 02, 2008 3:31 PM
To: Marlin Moser; Prabhaker Thangudu; Matt Bowman; Clinton Hopkins; Jennifer Rust
Cc: Steve Stricker
Subject: RE: ETA info Golden Charlotte - CES / GULF STREAM 9-02

Marlin,

We were inspected by the Coast Guard on July 24, 2008. All of the training records were checked and approved.

The Coast Guard trailer was inventoried and inspected with the only finding being the marking of the hoses. Steve held off on marking the hoses to insure the Coast Guard would allow for multi-use of the hoses. The Coast Guard agreed as long as a list of the products which flow through the hoses is maintained in the Coast Guard trailer. Steve will place the list in the trailer.

Security is in place at the site.

The mobile facility trailer contains booms, hoses, signs, absorbent pads, fire extinguisher, pump, other equipment and generator, plus test records for hoses.

We have over twenty people who are TWIC trained.

We have the necessary signs made, intrinsically safe radios and Coast Guard approval letters to operate the mobile facility.

We have also sent an updated PIC letter to the Coast Guard dated July 23, 2008 indicating Steve Stricker, Irvin Woodard, Joe Hernandez and Chris Saylor as the designated PIC personnel.

The only outstanding issue is to perform a "table-top" drill for an oil spill response following our response plan. (PIC training) We need to designate a facility PIC and a vessel PIC to conduct the drill. A draft of the tabletop drill is attached for review.

Karl Guidry

P.S. I put copies of the CG Inspection Sheet, Mobile Operations and Response Plan Approval Letters, Letter of Intent and PIC Letter on your desk.

From: Marlin Moser
Sent: Tuesday, September 02, 2008 11:09 AM
To: Karl Guidry; Prabhaker Thangudu; Matt Bowman; Clinton Hopkins; Jennifer Rust
Subject: FW: ETA info Golden Charlotte - CES / GULF STREAM 9-02

ATTACHMENT 1

Where are we at with this? I'm hoping someone on this message can fill me in. WE ARE NOT READY UNTIL EVERYONE IS TRAINED AND WE HAVE ALL NECESSARY EQUIPMENT, WRITTEN PROGRAMS, SECURITY AND PERMISSION. WE SHOULD NOT SCHEDULE ANYTHING UNTIL WE DO AND WE ARE CONFIDENT WE ARE IN COMPLIANCE.

From: Jennifer Rust
Sent: Tuesday, September 02, 2008 10:35 AM
To: Steve Stricker; Marlin Moser
Subject: FW: ETA info Golden Charlotte - CES / GULF STREAM 9-02

Coast Guard permit – is it in place now? We might be bringing in a ship mid September to discharge at our Port Arthur facility.

Thank You,
Jennifer Rust

Direct: 713-800-7913
Cell: 713-367-8581

From: Knut Scharning [mailto:knutsolo@sbcglobal.net]
Sent: Tuesday, September 02, 2008 11:24 AM
To: Jennifer Rust; Ramiz Tafilaj
Subject: ETA info Golden Charlotte - CES / GULF STREAM 9-02

Jennifer / Ramiz

Following ETA in form owners this morning – See below

Pls advise feedback from US Coast Guard regarding using your berth in Port Arthur
Do we have permit what requirements are needed or need to be met

Awaiting yours

BRGDS
Gulf Stream Tanker Chartering, Llc.
Knut A. Scharning
Phone 713 869 4657 Cell 713 291 0044 Fax 713 862 3199
Email: knutsolo@sbcglobal.net
IM Yahoo: shipknut

TO GULF STREAM
FM DORHOU

SEP 02, 2008

GOLDEN CHARLOTTE / C.E.S. INTL.
15 - 16 SEP ETA HOUSTON

THE ANTICIPATED OWNERS BERTH AT HOUSTON FOR BARGE DISCHARGE WILL BE EITHER VOPAK DEER PARK OR BAYTANK, WILL ADVISE SOONEST DECLARED.

BRGDS
DORVAL SHIPPING INC.

CES 4

Clinton Hopkins

From: Jennifer Rust
Sent: Thursday, September 18, 2008 2:40 PM
To: Greg Bowman; Matt Bowman; Clinton Hopkins; Marlin Moser
Cc: Ramiz Tafilaj; Steve Stricker; Ryan Thomas; Juanita Thomas; Melba Stephens
Subject: RE: GOLDEN CHARLOTTE arrival

Does this include the hours it will take to discharge into the barge?

Thank You,
Jennifer Rust

Direct: 713-800-7913
Cell: 713-367-8581

From: Greg Bowman
Sent: Thursday, September 18, 2008 2:26 PM
To: Matt Bowman; Clinton Hopkins; Marlin Moser
Cc: Jennifer Rust; Ramiz Tafilaj; Steve Stricker; Ryan Thomas; Juanita Thomas; Melba Stephens
Subject: RE: GOLDEN CHARLOTTE arrival

FYI all – It will cost CES and addl 15K to get the ship to our dock. The good news is that the job anticipated the following costs: 20K on barge movement and misc. (this should cover the 15K for ship plus shifting of our barge from beans fleet). This gameplane should allow us to avoid the following cost that were built into the job: in/out/storage at KMTEX. If this works as planned, we'll save about 25K.

Greg Bowman
Vice President Finance and Administration
CES Environmental Services
(713) 419-6076 (CELL)
(713) 676-1676 (FAX)

From: Matt Bowman
Sent: Wednesday, September 17, 2008 9:23 PM
To: Clinton Hopkins; Greg Bowman; Marlin Moser
Cc: Jennifer Rust; Knut Scharning; Ramiz Tafilaj; Steve Stricker; Ryan Thomas; Juanita Thomas; Melba Stephens
Subject: RE: GOLDEN CHARLOTTE arrival

Good Job Clint and Jenny....lets hope we can pull this first one off without a hitch! It appears as though you guys have done some good preparatory work. Please get a list of all costs for tugs, ship, dockman, etc. and get it in the job folder.

Thanks,
Matt

From: Clinton Hopkins
Sent: Wednesday, September 17, 2008 5:58 PM
To: Greg Bowman; Matt Bowman; Marlin Moser
Cc: Jennifer Rust; Knut Scharning; Ramiz Tafilaj; Steve Stricker
Subject: GOLDEN CHARLOTTE arrival

All,

ATTACHMENT 2

Here is status of planning for the GOLDEN CHARLOTTE arrival:

(1) I discussed our plan with Captain Tweedel (President of Sabine Pilots Association) today. He is open to serving us in bringing the
Ship to our dock with the necessary tugboats. He stressed the importance of the evolution taking the least amount of time as possible
Because we are in a narrow passage of the Intracoastal waterway. WE HAVE ABOUT 4-6 HOURS TO MAKE THIS HAPPEN. I will lock down pricing
Tomorrow.

(2) The Coast Guard only needs a notice of arrival (NOR) for the ship. Since the ship is in New Orleans, it has already cleared customs in an American port.
After speaking with Knut, it seems that the ship will arrive on Saturday. The NOR will not be available until Friday after operations are complete in
New Orleans. The Coast Guard is fine with this, since New Orleans is an American port and less than 24 hours from Port Arthur (transit time from New Orleans is
20 hours per Knut).

(3) Jennifer arranged SGS Lake Charles to complete a sounding of the water on our dock today. They should be complete now. They will provide documentation of
the sounding tomorrow morning. WE MUST HAVE 25 FEET FOR THE SHIP TO COME TO OUR DOCK. THIS IS A GO/NO-GO CRITERION FOR THE SHIP.
Once we have this information, the I will send it to Knut so he can notify the ship.

(4) Carlsen Mooring has agreed to serve as our lineman to moor the ship to our dock. We need this for a ship this size.

(5) Jennifer has worked out the schedule of arrival for the barge (CCL 26) and the associated tugboat. As of now the barge and equipment will be in place Friday, with the
Tugboat in place on Saturday for the ships arrival.

(6) Our required signage per 33 CFR is complete and will be picked up tomorrow by Arthur. I will take it to Port Arthur tomorrow. It must be mounted in place before the evolution.

<u>Miscellaneous information</u>
-Per our security plan, we must guard the barge while in place on our dock. Patriot Security is aware of what we need for this event. I am instructing them to monitor the barge (2) twice an hour. I will provide a pass-down document to ensure they know their responsibilities.

-I will develop a schedule of events by Friday that will serve as a template for this type of evolution.

-We need to develop a spreadsheet detailing all cost for this event so that we know how much CES is paying. I can create the document and send it to all involved to plug in
Actual cost per category (tugboats, linemen, SGS tankermen, barge rental and tug, ship cost to come to Port Arthur).

If there are any questions or additional information, please let me know.

Clinton R. Hopkins
Director of New Construction and Capital Projects
CES Environmental Services
work: (713) 676-1460
cell: (832) 298-9726

chopkins@cesenvironmental.com

"The significant problems we face cannot be solved at the same level of thinking we were at when we created them" - ***Albert Einstein***

EPAHO120000524

CESS

MT GOLDEN CHARLOTTE ARRIVAL

Concept of Operations

OPERATIONAL SITUATION

The MT GOLDEN CHARLOTTE, an ocean going tanker CES has charter to transport spent caustic from RasGas, has arrived in US waters. It is currently ported in New Orleans conducting offload/discharge operations. CES is coordinating arrival of the Golden Charlotte in Port Arthur. The tentative arrival date is Sunday, September 21.

MISSION

Our mission is to successfully bring the MT GOLDEN Charlotte to our dock and to transfer spent caustic from the ship provided by RasGas to a barge rented by CES for storage.

COORDINATION

Outside Agencies

1) Ship's Brokerage Service – Gulf Stream Tanker Chartering (Knut Scharning) is serving as liaison between CES, the ship owners, and the Golden Charlotte's captain.

2) Ship's Agent -

3) Pilot/Tugboat Services – The ship's agent has the responsibility of coordinating pilots/tugboats to ensure safe travel through the entry point to CES Environmental. Sabine Pilots was contacted by Clinton Hopkins (CES), Knut Scharning, and Golden Charlotte representatives.

4) U.S. Coast Guard – Clinton Hopkins (CES) contacted Coast Guard, officials on duty awaiting the NOR.

5) Linemen - Carlsen's Mooring & Marine contacted to serve as linemen.

6) Barge Company – Chem Carriers have provided the barge (CCL 26) for transfer of materials.

7) Tankermen – SGS Beaumont and been contacted to complete the transfer to the barge.

Internal Departments

1) Field Services – Steve Stricker was contacted to provide crane (to assist tankermen with putting equipment on the barge) and to acquire extra heavy duty tires for the dock.

2) Facility Security (Patriot Security) – Secuirty personnel informed of operation and responsibilities.

ATTACHMENT 3

SEQUENCE OF EVENTS

Sunday, September 21

5:00 pm	SGS tankermen arrive on site with hoses, reducers, and air ready to load barge with needed equipment for transfer.
8:00 pm	Tugboat dedicated to barge arrives on site. Tug boat will maneuver barge once ship arrives.

*Tankermen will wait in place for ship to arrive.
*Word of ship arrival will come from Sabine pilots dispatcher or ships agent.

Monday, September 22

2:00 am – 6:00 am	Window that Golden Charlotte arrives in Port Arthur. Upon arrival and communication with Sabine Pilots, Golden Charlotte will be tugged to CES dock.
6:00 am – 2:00 pm	Window allocated for connection and transfer of materials to barge.
2:00 pm	Ship departs enroute to Houston. Barge is positioned next to CES dock.

CES6

Clinton Hopkins

From: Robert.W.Stegall@uscg.mil on behalf of Stegall, Robert [Robert.W.Stegall@uscg.mil]
Sent: Saturday, September 20, 2008 8:01 PM
To: Clinton Hopkins
Subject: RE: Marine Safey Information Bulletin 39-08 requirements

Clinton,
We are scheduling your facility for a spotcheck.

Sent by GoodLink (www.good.com)

-----Original Message-----
From: Clinton Hopkins [mailto:chopkins@cesenvironmental.com]
Sent: Saturday, September 20, 2008 08:47 PM Eastern Standard Time
To: Stegall, Robert
Cc: Greg Bowman; Marlin Moser; Matt Bowman; Jennifer Rust; Knut Scharning
Subject: Marine Safey Information Bulletin 39-08 requirements

Mr. Stegall,

Attached is a PDF copy of the Post-Hurricane IKE Facility Self Assessment Checklist issued by COTP. I have faxed a copy

To you also. Please contact me with any questions or concerns.

We are looking to conduct a ship to barge transfer at our dock on 22 September 08 (Monday) at 600 am.

Clinton R. Hopkins

Director of New Construction and Capital Projects

CES Environmental Services

work: (713) 676-1460

cell: (832) 298-9726

chopkins@cesenvironmental.com

"The significant problems we face cannot be solved at the same level of thinking we were at when we created them" - Albert Einstein

EPAHO120000527

U.S. Department of Homeland Security

Marine Safety Unit Port Arthur, Texas

Marine Safety Information Bulletin
39-08
September 18, 2008

Post-Hurricane IKE – Facility Self- Assessment Checklist

The U.S. Coast Guard Captain of the Port (COTP) has restricted all cargo transfer operations until facilities have received approval from the COTP to do so.

The following checklist is being provided for your use in conducting a self-assessment of your facility. After all items are completed, please e-mail or fax this completed form to MSU Port Arthur, or your respective Captain of the Port zone. Upon receipt, the Coast Guard will contact you to schedule an inspection should that be necessary. Please use the "Comments" section under each question to document any issues or non-conformances, and provide a summary of your plans to insure safe and secure cargo transfers in the interim. Depending upon the significance of the issues, the Coast Guard inspectors may allow the submission of a request for a Letter of Alternative Compliance.

For MSU Port Arthur, email forms to Mr. Bob Stegall at Robert.W.Stegall@uscg.mil or fax forms to MSU Planning at 409-723-6532 or 409-723-6534. For MSU Lake Charles, email forms to CDR Buddy Reams at Wilford.R.Reams@uscg.mil or fax to MSU Lake Charles at 337-491-7840.

J. J. PLUNKETT
Captain, U. S. Coast Guard
Captain of the Port

(409) 540-6582

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

Fax

To: MSU Port Arthur - Planning *(ATTN: Mr. Robert Stegall)*

From: Clinton Hopkins
Pages: 4 (including cover)

Fax: (409) 723-6532

Date: 9/20/2008

Notes: Here is our self assessment per Marine Safety Information Bulletin 39-08. If there are any questions/concerns, contact Clinton Hopkins at (832) 298-9726 or chopkins@cesenvironmental.com. CES is looking to conduct a ship to barge transfer with the GOLDEN CHARLOTTE at 6 am on 22 September 2008.

ATTACHMENT 4

Date Completed:	20 SEPTEMBER 2008
Facility Name:	CES ENVIRONMENTAL SERVICES – PORT ARTHUR
Address (Street, City, Zip):	2420 SOUTH GULFWAY PORT ARTHUR, TX 77640
Point of Contact:	CLINTON HOPKINS
Contact Number(s):	(832) 298-9726 cell, chopkins@cesenvironmental.com
Dock(s):	CES DOCK (1)

An asterisk ("*") is listed by each item that represents a potential issue. If your answer coincides with the asterisk, please provide additional details in the comments section to describe the current situation and your plans to manage the situation created by the issue.

1. Firefighting			
a. Dock/Facility firefighting systems are fully operational	Yes	No*	(N/A*)
b. Mutual aid/municipal firefighting support is fully available	(Yes)	No*	N/A*
Comments: 7-10 (20) LB FIRE EXTINGUISHERS ARE USED TO SUPPRESS FIRE UNTIL SERVICES ARRIVE. CES DOES NOT TRANSFER FLAMMABLE CARGO.			

2. Medical Services			
a. On-site or community medical services are available, including transport and E/R services	(Yes)	No*	N/A*
Comments: CES WILL USE COMMUNITY MEDICAL SERVICES. TWO FIRST AID STATIONS ARE WITHIN IMMEDIATE VICINITY OF DOCK.			

3. Security			
a. Perimeter fencing is intact and entryways/gates secured or manned	(Yes)	No*	N/A*
b. Available means for 24-hours monitoring of security	(Yes)	No*	N/A*
c. Available for 24-hour access control	(Yes)	No*	N/A*
Comments: PATRIOT SECURITY PROVIDES 24-HOUR SECURITY/MONITORING OF OUR SITE.			

4. Soundings			
a. Soundings taken to identify submerged objects	Yes	(No*)	N/A*
b. Soundings taken to identify shoaling	Yes	(No*)	N/A*
c. Soundings include berth and entrance channel to your facilities	Yes	No*	N/A*
d. Controlling depth for each facility based on soundings taken	Enter dept in Feet:		N/A
Comments: CES WILL HAVE SOUNDINGS CONDUCTED OFF DOCK TO INDENTIFY DEPTH & SUBMERGED OBJECTS NLT 21 SEPTEMBER. INITIAL DEPTHS HAVE BEEN CONDUCTED TO DETERMINE DRAFT BY SGS SERVICES LAKE CHARLES.			

5. Facility Services			
a. Key facility utilities are operational, including power, nitrogen, air and water(as appropriate).	(Yes)	No*	N/A*
b. Oil/HAZMAT response services (on-site and through an OSRO if required) are confirmed available	(Yes)	No*	N/A*
Comments: CES IS RUNNING ELECTRICAL POWER VIA GENERATORS. WATER AND AIR IS AVAILABLE IN WARE HOUSE. CES USES CLEAN HARBORS FOR CLEAN UP SERVICES. INITIAL HAZMAT RESPONSE TO BE CONDUCTED BY CES.			

6. Facility Integrity			
a. The integrity of all MTR transfer systems has been confirmed	Yes	No*	N/A*
b. Oil/HAZMAT response services (on-site and through an OSRO if required) are confirmed available	(Yes)	No*	N/A*
c. All alert/warning systems are tested and operational	Yes	No*	(N/A*)
d. Integrity/operation of all mooring systems and dock structure confirmed	CONFIRMED BY CARLSEN MOORING.		
e. Facility is in compliance with all other aspects of their Facility Operations Manual	YES		
Comments:			

EPAHO120000530

7. Expected dates/time	
a. Ready for cargo transfers to begin:	22 SEPTEMBER 2008
b. Ready for inspection by USCG facility inspectors:	ASAP
Comments:	

8. Other comments: TRANSFER WILL BE SHIP TO BARGE. NO MATERIAL WILL BE TRANSFERRED TO LAND DURING OPERATION.

E-mail or fax forms to:

Port of Beaumont:	Robert.W.Stegall@uscg.mil
Port of Lake Charles:	Wilford.R.Reams@uscg.mil
Port of Orange:	Robert.W.Stegall@uscg.mil
Port of Port Arthur:	Robert.W.Stegall@uscg.mil

EPAHO120000531

CES 7

Anissa Wright

From: Knut Scharning [knutsolo@sbcglobal.net]
Sent: Thursday, April 30, 2009 10:08 AM
To: Anissa Wright; Clinton Hopkins
Cc: Matt Bowman; Ramiz Tafilaj; Jennifer Rust
Subject: US Coast Card / GOLDEN CHARLOTTE/CES - Port Arthur
Attachments: CHARLOTTE CES.doc

To : Anissa Wright, CES

Cc: Clinton Hopkins, CES
Cc: Matt Bowman, Ramiz Tafilaj, Jenifer Rust, CES

PLs implement the following communication as attachment to your response to the US Coast Guard

The below and the attached will illustrate how long we waited to make decision on go to Port Arthur, instead of Houston as agreed in the Charterparty and what was originally planned.

Pls Note
We had the C/P stating Owners Berth in Houston as discharge berth where cargo was to be pumped into barge.

Due to Hurricane Ike and its destruction and all the delays and further consequences for Port operation in the scheduled Port (Houston)- We came up with the most practical alternative – Using CES Berth in Port Arthur.

Taken the circumstances into effect and our effort in finding alternative berthing.
We had the following investigated - additional berthing alternatives :

- Odfjell Terminal – pls see contract proposal – ref J Rust
- Stolt Haven Terminal – ref Owner and J Rust
- Owners Scheduled – 6 – 8 vessels waiting – due to port delays
- Vopak terminal – Had small fire incident and had to close down the scheduled berth this happening just 24 – 48 hours prior to vessel was scheduled to Houston
- We and the Owners office here in Houston, had looked into lay-by berth in Houston in where discharge operation could take place – all were occupied due to the circumstances - IKE

Also our documentation to US Customs and other authorities for change of destination can be accessed and will illustrate our case.

We worked on all alternatives simultaneously and tried to come up with the best and most viable discharge dock possible

I strongly feel that we tried to look at all aspect of the operation in order to do everything legally correct and operationally professional. Then taken the very stress full situation for all parties involved - dealing with Ike's aftermaths did not help the situation.

Further - Taken into consideration that we were in direct dialog with the US Coast Guard – about the docking of the vessel at CES berth in Port Arthur and that the vessel came direct from Port of New Orleans were vessel had been officially cleared for US operation - we believed that all communication and necessary approvals had been taken care of.

With due respect for the honorable work the US Coast Guard are doing – We – CES, feel that the current penalties that CES has been given are excessive. Specially taken all the circumstances in to consideration. We do understand today that we did not have all and final signatures in place at the time when the operation took place, though we did strive hard to do all by the book and satisfy the authority.

I hope we can await a positive decision from the Coast Guard. In the case the US Coast Guard feel they can not dismiss the case – We, CES hope that the penalties will be made symbolic and not a burden to our operation. Times are hard and we are doing our best to keep people at work.

For and on behalf of CES

BRGDS
Gulf Stream Tanker Chartering, Llc.
Knut A. Scharning
Phone 713 869 4657 Cell 713 291 0044 Fax 713 862 3199
Email: knutsolo@sbcglobal.net
IM Yahoo: shipknut

From: Knut Scharning [mailto:knutsolo@sbcglobal.net]
Sent: Thursday, September 18, 2008 5:43 PM
To: 'Jennifer Rust'; 'Clark Hickman'; 'Clinton Hopkins'; 'Greg Bowman'; 'Ramiz Tafilaj'
Cc: 'Nancy LaBrozzi'; 'Matt Bowman'
Subject: FW: GCHARLOTTE/CES - Port Arthur

CES – Vessel operation

Pls note the following from the owner

Does CES have a BBL of CITRIC Acid for sale to the vessel – delivery in P Arthur

Pilots in Port Arthur have still not cleared and OKed the operation

– Clint Pls check if you can with Pilot - Captain "Twitel " I do not have his correct spelling

- Greg Just hold payment till we get OK
- Pls some one respond on citric acid

BRGDS
Gulf Stream Tanker Chartering, Llc.
Knut A. Scharning
Phone 713 869 4657 Cell 713 291 0044 Fax 713 862 3199
Email: knutsolo@sbcglobal.net
IM Yahoo: shipknut

From: Dorval Houston
Sent: Thursday, September 18, 2008 4:48 PM
To: 'Knut Scharning'
Subject: GCHARLOTTE/CES

TO GULF STREAM / KNUT
FM DORHOU / SS / 9-18-08

RE GOLDEN CHARLOTTE / C.E.S.

KNUT,

STILL WAITING TO HEAR BACK FORM SABINE PILOTS ABOUT DOCKING AT THE C.E.S. PORT ARTHUR BERTH, WILL CALL ASAP.

MEANTIME SO THAT WE CAN BE AS PREPARED IN ADVANCE AS POSSIBLE THE FOLLOWING ARE PENDING ASSUMING PORT ARTHUR CAN BE CONFIRMED:

- CHANGE IN DESTINATION LOI.
- SURRENDER OF ORIGINAL B/L (ALTHOUGH NON-PRESENTATION OF AN ORIGINAL CAN ALSO BE COVERED IN THE CHANGE IN DESTINATION LOI IF EASIER).
- ADDITIONAL LUMP SUM FOR PORT ARTHUR CALL (INVOICE ATTACHED).
- CUSTOMS CARGO ENTRY.

VESSEL STILL AT NEW ORLEANS BERTH WAITING FOR DISCHARGE APPROVAL BUT EXPECTED TO BE RESOLVED OVERNIGHT AND ETA PORT ARTHUR PM/21-AM/22.

PORT ARTHUR AGENTS:
INCHCAPE SHIPPING SERVICES,
2300 HIGHWAY 365, SUITE 220, NEDERLAND, TEXAS 77627
TEL 409-727 0588
FAX 409-727 0619
EMAIL iss.beaumont@iss-shipping.com

IF YOU COULD ARRANGE WITH YOUR CONTACTS AT THE TERMINAL TO SUPPLY THE VESSEL ON OUR BEHALF WITH A DRUM OF CITRIC ACID AT PORT ARTHUR THAT WOULD BE GREATLY APPRECIATED AND JUST HAVE CES SEND US A BILL FOR THE SUPPLY.

BRGDS
STEVE

EPAHO120000534

This fax was received by GFI FAXmaker fax server. For more information, visit: http://www.gfi.com

DORVAL KAIUN K.K

PORT PORT ARTHUR, U.S.A DATE 22ND SEP. 2008
CARGO: S. Sulfide S. B/L Q'TY : 1586.366MT

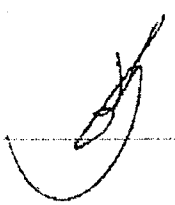
NOTICE OF READINESS

VESSEL M/T GOLDEN CHARLOTTE VOYAGE No. 12

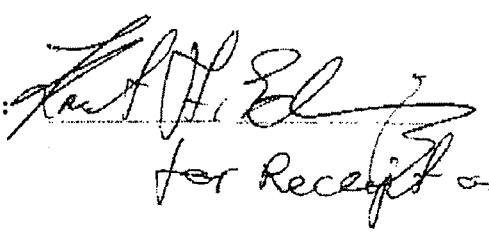
Dear Sirs,

This is to notify that above vessel arrived at port of PORT ARTHUR, U.S.A
at 0925 Hours on the 22ND day of SEP 2008
and that she is now ready in all respects to commence discharging her cargo in accordance with the terms and conditions of the relevant Fixture Note/Charter Party.

This Notice Readiness tendered at 0925 hours on the 22ND day of SEP 2008

MASTER : 

This Notice Readiness accepted at 17:07 hours on the Sept 22-08 day of SEP 2008

CHARTERER : 
for Receipt only.

From: 7546603777 Page: 1/8 Date: 11/10/2008 5:25:00 PM

9 ✓

INVOICE

ZIMMER WORLDWIDE LOGISTICS, INC
15710 JFK BOULEVARD, SUITE 575
HOUSTON, TX 77032
Tel: 832-300-5920 Fax: 832-201-7479

TO
Attn.: Jennifer Rust
CES ENVIRONMENTAL SERVICES, INC
4904 GRIGGS RD
HOUSTON, TX 77021

INVOICE NO.	DATE
780245-001	9/22/2008
FILE NO.	CUSTOMER NO.
	CESENVIR

Control #: ARC016399

YOUR REFERENCE GOLDEN CHARLOTTE

CARRIER	DEPARTURE	COUNTRY
Vessel: GOLDEN CHARLOTTE; Carrier: DRVK - DORVAL TANKSHIPS PTY LTD; Flight/Voyage: 12	ETD:7/13/2008	KR-KOREA, REPUBLIC OF

BILLS OF LADING, AIRWAYBILL, HOUSE AIRWAYBILL NO.
OCEAN

SHIPMENT		CH.WT.	GR.WT.
SODIUM SULFIDE SOLUTION	1VL		1568366.00Kg 3457698.10Lb

ARRIVAL	ENTRY TYPE	ENTRY NO.	DATE OF ENTRY
PORT ARTHUR, TX, US ETA:9/22/2008	01 - CONSUMPTION		9/22/2008

DESCRIPTION		AMOUNT(USD)
1. CUS	CUSTOMS CLEARANCE	195.00
2. MF	MESSENGER FEES	25.00
3. DUTY	DUTY	38.08
	Due Date: Balance:	258.08

Thank you, Nancy LaBrozzi

2nd Load
RasGas Caustic

POSTED
9-29-08

Thank you for using our Services

PAYABLE UPON PRESENTATION

If you are the importer of record, payment to the broker will not relieve you of liability for Customs charges in the event the charges are not paid by the broker. Therefore, if you pay by Check, Customs charges may be paid with a separate Check payable to "The Bureau of Customs and Border Protection"

Created By: NANCY LABROZZI (tel. 832-300-5904)

DEPARTMENT OF HOMELAND SECURITY
U.S. Customs and Border Protection

ENTRY SUMMARY

GEO 6100524-1	01 ABI/A		
4. Surety No. 891	5. Bond Type 8	6. Port Code 2101	7. Entry Date 9/22/08
8. Importing Carrier GOLDEN CHARLOTTE	9. Mode of Transport 10	10. Country of Origin OA	11. Import Date 9/22/08
12. B/L or AWB No. DRVK2213	13. Manufacturer ID OARASLAF2420DOH	14. Exporting Country KR	15. Export Date 8/10/08
16. I.T. No.	I.T. Date	18. Missing Docs	19. Foreign Port of Lading 58065
20. U.S. Port of Unlading 2101			
21. Location of Goods/G.O. No. U118 TRANSIT MIX	22. Consignee No. SAME	23. Importer No. 76-059298500	24. Reference No.

25. Ultimate Consignee Name and Address

City State TX Zip

26. Importer of Record Name and Address
CES ENVIRONMENTAL SERVICES INC
4904 GRIGGS RD
HOUSTON, TX-77021

City State TX Zip

27. Line No.	28. Description of Merchandise / 29. A. HTSUS No. B. AD/CVD Case No.	30. A. Gross Weight B. Manifest Qty.	31. Net Quantity in HTSUS Units	32. A. Entered Value B. CHGS C. Relationship	33. A. HTSUS Rate B. AD/CVD Rate C. IRC Rate D. Visa No.	34. Duty and I.R. Tax Dollars	Cents
001	1 BLK INVOICE OTHER WASTES FROM CHEM, OT 3825.69.0000 1568366 X MERCHANDISE PROCESSING FEE I.V. 10461.00 USD			NOT RELATED 1 10461 C1046F	PI780245 FREE .21%		21.97

Other Fee Summary for Block 39		35. Total Entered Value	CBP USE ONLY		TOTALS	
499	25.00	$ 10461	A. LIQ CODE	B. Ascertained Duty	37. Duty	
501	13.08	Total Other Fees $ 38.08	REASON CODE	C. Ascertained Tax	38. Tax	.00
				D. Ascertained Other	39. Other	38.08
				E. Ascertained Total	40. Total	38.08

36. DECLARATION OF IMPORTER OF RECORD (OWNER OR PURCHASER) OR AUTHORIZED AGENT

I declare that I am the ☒ Importer of record and that the actual owner, Purchaser, or consignee for CBO purposes is as shown above, OR ☐ owner or purchaser or agent thereof. I further declare that the merchandise ☒ was obtained pursuant to a purchase or agreement to purchase and that the prices set forth in the invoices are true, OR ☐ was not obtained pursuant to a purchase or agreement to purchase and that the statements in the invoices as to value or price are true to the best of my knowledge and belief. I also declare that the statements in the documents herein filed fully disclose to the best of my knowledge and belief the true prices, values, quantities, rebates, drawbacks, fees, commissions, and royalties and are true and correct, and that all goods or services provided to the seller of the merchandise either free or at reduced cost are fully disclosed.

I will immediately furnish to the appropriate CBP officer any information showing a different statement of facts.

41. DECLARANT NAME [signature] TITLE ATTY-IN-FACT SIGNATURE DATE 9/19/08

42. Broker/Filer Information (Name, address, phone number)
GEODIS WILSON USA INC
15700 EXPORT PLAZA
UNIT Q

43. Broker/Importer File No.
01617808000202 HOU78000202

Paperwork Reduction Act information printed on reverse.

CBP Form 7501 (04/05)

4S-7501-1105 WUSMAZU WUSMAZU 1 BROKER REF# 01617808000202

EPAHO120000537

Proforma Invoice

Shipper
Ras Laffan Liqualfed Natural Gas
P O Box 24200
Doha, Qatar

Date: 9/8/2008
Inv. Number: PI780245

INCOTerms: FOB
POL: Yosu, Korea
POE: Houston, TX
Carrier: ASBA
Vessel: GoldenCharlotte V12

Consignee
CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

BL: ASBAGCHYH-1201

Qty/MT	Weight	Description	USD Unit Price	USD Total
1566.366	1566366kg	Solution of water with sodium sulfide (3-5%) and other organic & inorganic contaminates	$6.67/MT	$10,461.00

3825.69.0000/x/Free

Country of Origin: Qatar

CES Environmental

Subtotal: $10,461.00
Tax: $0.00
Total $10,461.00

TIV/NGV

EPAHO120000538

CES Environmental Services, Inc.

TSCA STATEMENT

I CERTIFY THAT ALL CHEMICAL SUBSTANCES IN THIS SHIPMENT (CHECK ONE):

Sodium Sulfide Solution, MT

☑ DOES COMPLY WITH ALL APPLICABLE RULES OR ORDERS UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND THAT I AM NOT OFFERING A CHEMICAL SUBSTANCE FOR ENTRY INTO THE UNITED STATES IN VIOLATION OF TSCA OR ANY APPLICABLE RULE OR ORDER UNDER TSCA.

☐ ARE NOT SUBJECT TO THE TOXIC SUBSTANCES CONTROL ACT (TSCA).

PLEASE CONTACT THE UNDERSIGNED IF FURTHER INFORMATION IS REQUIRED.

SIGNATURE: _____
NAME: Greg Bowman
TITLE: VP of Finance & Administration
COMPANY: CES Environmental Services, Inc.
DATE: 9-19-08

1/2

Form Approved OMB No. 1651-0001; Exp. 12-31-2008

1. Name of Vessel	2. Nationality of Ship	3. IMO No.	4. Voyage No.	Page No.	DEPARTMENT OF HOMELAND SECURITY U.S. Customs and Border Protection **INWARD** **CARGO DECLARATION** 19 CFR 4.7, 4.7a, 4.8, 4.33, 4.34, 4.38, 4.84, 4.85, 4.86, 4.91, 4.93, 4.99
GOLDEN CHARLOTTE	PA	GCHARLOT	12	001 of 001	

5. Name of Master	6. Last Foreign Port Before U.S.	7. Port of Discharge	8. Date of Departure from Port of Loading	9. Time of Departure from Port of Loading (Zulu)
	YOSU,SAMIL,YEOSU,SOUTH KOREA	PORT ARTHUR,TX		

10. Shipper (SH) Consignee (CO) Notify address (NF)	11. Bill of Lading No.	12. Marks & Nos. (MN) Container Nos. (CN) Seal Nos. (SN)	13. No. & Kind of Packages Description of Goods Hazardous Materials (Must Provide UN Code)	Answer Col. 14 OR Col. 15		16. First Port/Place Where Carrier Takes Possession of Cargo	17. Foreign Port Where Cargo is Laden on Board
				14. Gross Wt. (lb. or kg.)	15. Measurement (per HTS)		
SH CES ENVIRONMENTAL SERVICES INC C/O RAS GAS COMPANY LIMITED QATAR AE CO CES ENVIRONMENTAL SERVICES INC 4904 GRIGGS ROAD HOUSTON TX US 77021 NF CES ENVIRONMENTAL SERVICES INC 4904 GRIGGS ROAD HOUSTON TX US 77021	2213	CN NC N/A	1 BLK SODIUM SULFIDE SOLUTION	1568 KG		YOSU,SAMIL,YEOSU,	YOSU,SAMIL,YEOSU,SOUTH KOREA

1/3

PAPERWORK REDUCTION ACT NOTICE: This request is in accordance with the Paperwork Reduction Act. We ask for the information in order to carry out the Customs laws of the United States. This form is used by vessel carriers to list all inward cargo on board and for the clearance of all cargo on board with commercial forms. It is mandatory. The estimated average burden associated with this collection of information is 10 minutes per respondent or record keeper depending on individual circumstances. Comments concerning the accuracy of this burden estimate and suggestions for reducing this burden should be directed to U.S. Customs and Border Protection, Information Services Branch, Washington, DC 20229 and to the Office of Management and Budget, Paperwork Reduction Project (1651-0001), Washington, DC 20503.

CBP Form 1302 (02/03)

EPAHO12000540

TO GULF STREAM
FM DORHOU

==========

DORVAL KAIUN K.K.
OCEAN FREIGHT INVOICE
INVOICE DATE: 9-18-08
INVOICE No: 0809006H

==========

VESSSEL : M/T GOLDEN CHARLOTTE
CHARTER PTY : C.E.S. ENVIRONMENTAL SERVICES, DATED 6-26-08
ORIGIN : YOSU
DESTINATION : HOUSTON

FREIGHT :
CHANGE DISCHARGE PORT TO PORT ARTHUR. LUMP SUM: USD 15,000.00

TOTAL FREIGHT DUE: USD 15,000.00

FREIGHT PAYABLE SEPT 19TH, FREE OF BANK CHARGES, BY T/T TO:-

SUMITOMO MITSUI BANKING CORPORATION,
TOKYO-CHUO BRANCH,
3-3, 1-CHOME YAESU, CHUO-KU,
TOKYO 104-0028, JAPAN

SWIFT CODE: SMBCJPJT

FOR CREDIT TO: DORVAL KAIUN K.K., U.S. DOLLAR ACCOUNT.

ACCOUNT No: 0012549

WITH INSTRUCTION TO CABLE ADVISE BENEFICIARY IMMEDIATELY ON RECEIPT OF FUNDS.

BRGDS
DORVAL/HOUSTON

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
Coast Guard Hearing Office

4200 Wilson Blvd/MS 7160
Arlington, VA 20598-7160
Phone:202-493-6870
Fax:202-493-6924
Toll-free: (866) 801-6178

CES ENVIRONMENTAL
4904 GRIGGS RD
HOUSTON, TX 77021

Activity No. 3350134
Party: CES Environmental
Date of Violation: September 26, 2008
Subject: CES Environmental Services, Inc.
Amount: $20,000.00
Date: May 21, 2009
Re: **HROP**

Dear Mr. Greg Bowman:

This letter confirms the date and time for your hearing via video-teleconferencing (VTC). Your hearing is scheduled for **Wednesday, June 10, 2009 at 1:00pm (CST).** The location is **Sector Houston/ Galveston.** The address is **9640 Clinton Drive, Houston, TX 77021.** Should we discover any technical problems with the VTC equipment we will notify you of the situation and reschedule your hearing to a future date. Specific driving directions can be obtained via map or internet map services such as, www.Mapquest.com.

You should be able to present a valid means of identification, and if driving, a valid drivers license and proof of insurance in the event that security requires presentation of these documents to enter Coast Guard areas. Practice normally requires that we provide the names of visitor(s) before your arrival. Please provide a list of any persons who will be attending the hearing. Please provide this information by close of business on Friday, June 5, 2009. An escort will be provided to take you to the VTC hearing.

If you intend on referring to any documentation during the hearing, please fax or mail a copy to our office prior to the hearing. Our overnight mail is often delayed, so if using overnight mail allow an additional 2-3 days. This will enable the Hearing Officer to have access to any exhibits or other documentation you are referring to during the hearing.

Following the hearing you will be provided 10 business days to submit any additional information and evidence to the Hearing Officer. A final determination in this case will be made shortly thereafter.

Failure to appear will result in waiver of the hearing and a final assessment will be made in this case based on the evidence in the file

Sincerely,

A. Scott

A. SCOTT
Administrative Support Staff

U.S. Department of Homeland Security
United States Coast Guard

Commanding Officer
Coast Guard Hearing Office

4200 Wilson Blvd/MS 7160
Arlington, VA 20598-7160
Phone:202-493-6870
Fax:202-493-6924
Toll-free: (866) 801-6178

CES ENVIRONMENTAL
4904 GRIGGS RD
HOUSTON, TX 77021

Activity No. 3350134
Party: CES Environmental
Date of Violation: September 26, 2008
Subject: CES Environmental Services, Inc.
Amount: $20,000.00
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Sincerely,

A. Scott

A. SCOTT
Administrative Support Staff

********** -IND. XMT Journal- ********** Date APR-30-2009 ***** Time 17:43 ********

Date/Time = APR-30-2009 17:09

Journal No. = 149

Comm. Result = OK

Page(s) = 007/007

Duration = 00:01:39

File No. = 012

Mode =

Destination = 12024936924

Received ID = / 2024936924

Resolution = Fine

-CES ENVIROMENTAL -

***** DP-C264 ********** - - ***** - 7137488664- *********

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
Coast Guard Hearing Office

4200 Wilson Blvd/MS 7160
Arlington, VA 20598-7160
Phone:202-493-6870
Fax:202-493-6924
Toll-free: (866) 801-6178

CES ENVIRONMENTAL
4904 GRIGGS RD
HOUSTON, TX 77021

Activity No. 3350134
Party: CES ENVIRONMENTAL
Date of Violation: September 26, 2008
Subject: CES ENVIRONMENTAL SERVICES INC.
Amount: $20,000.00
Date: March 11, 2009
Re: **PAL**

Dear Sir or Madam:

In my capacity as a Coast Guard Civil Penalty Hearing Officer, I have received a report alleging that you, as owner of the CES ENVIRONMENTAL SERVICES, INC., are liable for a civil penalty for violation of Federal law as described on the Charge Sheet enclosure.

The Coast Guard's civil penalty procedures are contained in Subpart 1.07 of Title 33 of the Code of Federal Regulations (33 CFR 1.07). My role is to determine whether there was a violation. If I find that there was a violation, I must then decide what civil penalty, if any, is appropriate. The maximum civil penalty that may be assessed in this case is $57,500.00. Based upon the information in the case file that I have, it appears to me that a violation did occur and that a civil penalty of $20,000.00 is appropriate. However, I will not make a final decision until you have had an opportunity to respond.

You have a right to examine the entire case file, a copy of which is enclosed. You may make a written request for a hearing or submit written evidence in lieu of a hearing; however, our rules allow you only 30 days from when you receive this letter to do either of those things. If you do not ask for a hearing within 30 days, you will lose your right to a hearing. In addition, if you fail to respond within 30 days from receipt of this letter, I will decide the case based upon the evidence I already have. If you have any information that you believe I should consider, you should send it to me within 30 days from receipt of this letter. Whatever you want me to consider should be supported by evidence, or else it might not be very persuasive. As a third alternative, you may decide not to contest the penalty, and simply pay the amount specified above.

The enclosed pamphlet should help you in deciding among your alternatives. Whatever your choice, I urge you to respond promptly. If paying now, please complete the enclosed "Payment Form" and mail it to the address printed on the form. Enclose your check, money order, or credit card authorization along with the form. If you are unable to pay the penalty in full, you may wish to contact our collection office to discuss a payment plan:

Commander (lc)
Maintenance & Logistics Command Pacific
Coast Guard Island, Bldg 54-A
Alameda, CA 94501-5100
Attn: S. Fan
510 437-3644

Sincerely,

D. STRONG
Commander, U. S. Coast Guard
Coast Guard Hearing Office

Encl: (1) Charge sheet
(2) Payment Form
(3) Copy of civil penalty case file 3350134
(4) Your Alternatives in the Coast Guard Civil Penalty Process

HEARINGS BY VIDEO-TELECONFERENCE

The Coast Guard Hearing Office now provides for hearings before a Coast Guard Hearing Officer using new technology: **video-teleconferencing**. A video-teleconference hearing is a convenient, efficient, and economical way for you to present your side of the facts and circumstances surrounding the violation(s) charged and any evidence in your defense or extenuation (reasons to excuse the violation) or mitigation (reasons to lessen the penalty).

A video-teleconference hearing allows you, your representative if you have one, and any witnesses as well as the Hearing Officer to see and hear each other through special television screens. It is as if everyone is in a "virtual" room together.

Except for the equipment, a video-teleconference hearing is no different than a hearing in which you appear in person. The only persons that can see and hear each other are the persons that should be at the hearing—you, your representative, witnesses and the Hearing Officer. The transmission is private. Hearing Officers make final penalty determinations on the evidence in the case file and evidence presented at a hearing if you request a hearing. It makes no difference whether the hearing is by video-teleconference or live appearance; any evidence presented by you at either type of hearing is given the same consideration and weight in your case by the Hearing Officer. Evidence presented at a hearing is given the same consideration and weight as evidence presented in writing to the Coast Guard Hearing Office.

The advantages of a video-teleconference hearing for you as the party charged are:

1. The hearing can be scheduled faster than if you have to wait for the Hearing Officer to conduct a "live appearance" hearing.

2. Often a site for the video-teleconference hearing can be found closer to you than the distance to a Coast Guard location. This means less travel for you and any potential witnesses, and therefore, less expense and time away from work or other activities.

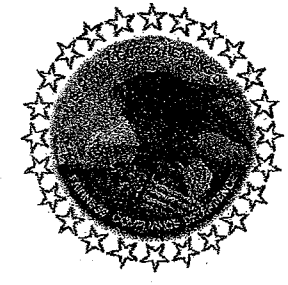
3. A video-teleconference hearing is easier to schedule for your convenience. A live appearance hearing is limited to the dates when a Hearing Officer will travel. Generally, if your hearing is scheduled for live appearance before a Hearing Officer and you fail to appear or cancel without good cause, the final penalty determination will be made based on the evidence in the case file at that time.

If you request a hearing, you will be contacted by our Hearing Coordinator. The Hearing Coordinator will arrange a date and time for you to appear for the video-teleconference. Once confirmations are made to ensure the equipment is available and working on the selected date and time, the Hearing Coordinator will send you a letter advising you of any details for the hearing. The letter will set forth the address where the hearing will be held, and the date and time.

Prior to a hearing by video-teleconference you will be asked to mail or fax any materials to the Hearing Officer that you will present at the hearing. This is necessary so that if you are referring to a document at your location during the hearing, the Hearing Officer at his or her location may have the document available for reference as well.

Address:
Commanding Officer
U. S. Coast Guard Hearing Office
CG HO MS 7160
4200 Wilson Blvd, Suite 600
Arlington, VA 20598-7160

Telephone: (202) 493-6870
Fax: (202) 493-6924
Website: http://www.uscg.mil/legal/cgho/



EPAHO1200005-10

Marine Violation Charge Sheet

Total Charges/ 2 Current Activity Number/ 3350134

Charged Party: CES Environmental

1. Charge/ 33 CFR 105.200 Finding/ Proved Imposed/ Yes

Penalty Amount/ $20,000.00 Max Penalty/ $25,000.00

Regulation Description/
Failure of facility owner or operator to ensure the facility operates in compliance with security requirements.

2. Charge/ 33 CFR 158.133(c) Finding/ Dismissed w/out Prejudice Imposed/ Yes

Penalty Amount/ $0.00 Max Penalty/ $32,500.00

Regulation Description/
Failure of a port or terminal to provide a reception facility meeting Subpart D of 33 CFR 158.

Case No: 3350134

Name: CES Environmental
Address: 4904 Griggs RD
Houston, TX 77021
US

Amount Due: $20,000.00

Select Method of Payment:
_____Payments of $10,000 or more must be made by wire transfer.

_____ Check (enclosed)

_____ Master Card or VISA (only)

If paying by credit card, please charge my (circle one) Master Card Visa

Expiration date: _____ (mm/yy)

Card Number

Signature:_____

ENCLOSE THIS FORM WITH YOUR PAYMENT AND MAIL TO:

Regular Mail Address:

U.S. COAST GUARD - CIVIL PENALTIES
P.O. BOX 70945
CHARLOTTE, NC 28272-0945

Overnight Courier Address:

Wachovia QLP Wholesale Lockbox – NC0810
Lockbox #70945
1525 West WT Harris Blvd
Charlotte, NC 28262

Wire Transfer:

Send to:	Federal Reserve Bank, New York City, NY
BNF:	70060000
ABA #:	021030004 Treas NYC
Type/Subtype Code:	10 00
OBI:	Coast Guard Civil Penalty 3350134

For Office Use Only:

Clerk	Auth No.	Ref. No.
*3350134	$20,000.00	

Encl: (2)
xx

Activity # 3350134

UNITED STATES OF AMERICA DEPARTMENT OF HOMELAND SECURITY

UNITED STATES COAST GUARD

Charged Party	Enforcement Activity #	Originating Unit
CES Environmental	3350134	MSU PrtArthur
Enforcement Summary	Violation Location CES ENVIRONMENTAL SERVICES, INC	
		Violation Date 26 Sep 2008

Summary of Current Violation(s)

Law/Reg	Description	Recommended Penalty
33 CFR 105.200 (SSI)	Failure of facility owner or operator to ensure the facility operates in compliance with security requirements.	$25000
33 CFR 158.133(c)	Failure of a port or terminal to provide a reception facility meeting Subpart D of 33 CFR 158.	$32500

Narrative Overview of the Activity

DURING HURRICANE IKE RECOVERY OPERATIONS, CES WAS DISCOVERED TO HAVE A FOREIGN FLAGGED VESSEL MOORED AND CONDUCTING LIGHTERING OPERATIONS TO A BARGE. THE BROW WAS ALSO DOWN AND SEVERAL CREW MEMBERS CAME ASHORE WITHOUT PROPER ACCESS CONTROL.
THE FSP WAS NOT APPROVED WHICH WAS RECEIVED LESS THAN 60 DAYS OF SUBMITTAL.
CES IS NOT APPROVED TO REMOVE SPENT CAUSTIC FROM THE BARGE TILL THE FSP AND MOBILE OPERATIONS MANUAL HAVE BEEN PROPERLY APPROVED.

Charged Party's Particulars

Name **CES Environmental**		Capacity in which Charged owner	ID N/A
Street 4904 Griggs RD			
City Houston	State TX	Zip 77021	Country US
Phone		Fax	

Involved Subjects

Facility Name	ID	Role
CES ENVIRONMENTAL SERVICES, INC.	PATMS135	Site of Incident

Other Involved Parties (besides Charged Party)

Name **Matt, Bowman**	
Role Responsible Party	

Past Violation(s) History

No prior violations

EPAHO120000549

1st Charge	
Law or Regulation Cite	33 CFR 105.200 (SSI)
Description	Failure of facility owner or operator to ensure the facility operates in compliance with security requirements.
Statutory Authority	PL 107-295 Sec 102(d)
Max Penalty	$25000
Recommended Penalty:	$25000
Date of the Violation	26 Sep 2008
Location	CES ENVIRONMENTAL SERVICES, INC

Details of the Violation

Jurisdictional Elements

1. CES Environmental is charged as the owner of CES ENVIRONMENTAL SERVICES, INC..
2. CES ENVIRONMENTAL SERVICES, INC is located on the Sabine Neches waterway, Texaco Island turning basin, is subject to 33 CFR 105 regulations..

Factual Elements

1. DURING HURRICANE IKE RECOVERY OPERATIONS, CES WAS DISCOVERED TO HAVE A FOREIGN FLAGGED VESSEL MOORED AND CONDUCTING LIGHTERING OPERATIONS TO A BARGE. THE BROW WAS ALSO DOWN AND SEVERAL CREW MEMBERS CAME ASHORE WITHOUT PROPER ACCESS CONTROL.
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Exhibit Label: 3334664-1410304
Evidence Desc: Captain of the port order issued to CES Environmental

Exhibit Label: 3334664-1410305
Evidence Desc: Witness statement provided by LCDR Keith Donohue

Exhibit Label: 3334664-1410307
Evidence Desc: Witness statement provided by MST1 Salmeron

Exhibit Label: 3334664-1410309
Evidence Desc: Witness statement provided by BM1 Greg Feister

Exhibit Label: 3334664-1410310
Evidence Desc: Witness statement provided by BM3 Tucker

Exhibit Label: 3334664-1410311
Evidence Desc: Statement provided by CES Environmental

Exhibit Label: 3334664-1410312
Evidence Desc: Pictures taken by MK2 Studstill

Exhibit Label: 3334664-1410313
Evidence Desc: Witness statement provided by LTJG Turner

Exhibit Label: 3334664-1410314
Evidence Desc: Witness statement provided by PSC Atkins

Aggravating/Mitigating Factors

1. DURING HURRICANE IKE RECOVERY OPERATIONS, CES WAS DISCOVERED TO HAVE A FOREIGN FLAGGED VESSEL MOORED AND CONDUCTING LIGHTERING OPERATIONS TO A BARGE. THE BROW WAS ALSO DOWN AND SEVERAL CREW MEMBERS CAME ASHORE WITHOUT PROPER ACCESS CONTROL.
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2nd Charge	
Law or Regulation Cite	33 CFR 158.133(c)
Description	Failure of a port or terminal to provide a reception facility meeting Subpart D of 33 CFR 158.
Statutory Authority	33 USC 1903(b)
Max Penalty	$32500
Recommended Penalty:	$32500
Date of the Violation	26 Sep 2008
Location	CES ENVIRONMENTAL SERVICES, INC

Details of the Violation

Jurisdictional Elements

1. CES Environmental is charged as the owner of CES ENVIRONMENTAL SERVICES, INC..

2. CES ENVIRONMENTAL SERVICES, INC is located on the Sabine Neches waterway, Texaco Island turning basin, is subject to 33 CFR 158 regulations..

Factual Elements

1. DURING HURRICANE IKE RECOVERY OPERATIONS, CES WAS DISCOVERED TO HAVE A FOREIGN FLAGGED VESSEL MOORED AND CONDUCTING LIGHTERING OPERATIONS TO A BARGE. THE BROW WAS ALSO DOWN AND SEVERAL CREW MEMBERS CAME ASHORE WITHOUT PROPER ACCESS CONTROL.
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Evidence Desc: Witness statement provided by PSC Atkins

Aggravating/Mitigating Factors

1. DURING HURRICANE IKE RECOVERY OPERATIONS, CES WAS DISCOVERED TO HAVE A FOREIGN FLAGGED VESSEL MOORED AND CONDUCTING LIGHTERING OPERATIONS TO A BARGE. THE BROW WAS ALSO DOWN AND SEVERAL CREW MEMBERS CAME ASHORE WITHOUT PROPER ACCESS CONTROL.
THE FSP WAS NOT APPROVED WHICH WAS RECEIVED LESS THAN 60 DAYS OF SUBMITTAL.
CES IS NOT APPROVED TO REMOVE SPENT CAUSTIC FROM THE BARGE TILL THE FSP AND MOBILE OPERATIONS MANUAL HAVE BEEN PROPERLY APPROVED.

The Coast Guard has introduced the following exhibits:

1. Exhibit Label: 3334664-1410313
   Evidence Desc: Witness statement provided by LTJG Turner
   Exhibit Desc: Witness statement provided by LTJG Turner

2. Exhibit Label: 3334664-1410314
   Evidence Desc: Witness statement provided by PSC Atkins
   Exhibit Desc: Witness statement provided by PSC Atkins

3. Exhibit Label: 3334664-1410307
   Evidence Desc: Witness statement provided by MST1 Salmeron
   Exhibit Desc: Witness statement submitted by MST1 Salmeron

4. Exhibit Label: 3334664-1410309
   Evidence Desc: Witness statement provided by BM1 Greg Feister
   Exhibit Desc: Witness statement submitted by BM1 Feister

5. Exhibit Label: 3334664-1410312
   Evidence Desc: Pictures taken by MK2 Studstill
   Exhibit Desc: Pictures taken by MK2 Studstill

6. Exhibit Label: 3334664-1410310
   Evidence Desc: Witness statement provided by BM3 Tucker
   Exhibit Desc: Witness statement submitted by BM3 Tucker

7. Exhibit Label: 3334664-1410311
   Evidence Desc: Statement provided by CES Environmental
   Exhibit Desc: Statement submitted from Matt Bowman, president CES Environmental Services

8. Exhibit Label: 3334664-1410304
   Evidence Desc: Captain of the port order issued to CES Environmental
   Exhibit Desc: Captqin of the port order 2008-257

9. Exhibit Label: 3334664-1410305
   Evidence Desc: Witness statement provided by LCDR Keith Donohue
   Exhibit Desc: Witness statement submitted by LCDR Donohue

10. Exhibit Label: 3334664-1410315
    Evidence Desc: Vessel Critical profile of the M/V Golden Charlotte
    Exhibit Desc: Vessel Critical Profile for the M/V Golden Charlotte, foreign-flagged vessel

C

U.S. Department of Homeland Security

United States Coast Guard

Captain of the Port
United States Coast Guard
Marine Safety Unit Port Arthur

2901 Turtle Creek Dr.
Port Arthur, TX 77642-8056
Phone: (409) 723-6500
Fax: (409) 723-6534

16600
September 25, 2008

CES Environmental Services, Inc.
Attn: Matt Bowman
2420 South Gulfway Drive
Port Arthur, TX 77640

CAPTAIN OF THE PORT ORDER 2008-257

Dear Mr. Bowman:

CES Environmental Services, Inc located at 2420 South Gulfway Drive, Port Arthur, TX has been found to be in violation of 33 Code of Federal Regulations (CFR) Parts 105.200(b)(3) and (5) in that the facility has not had a Facility Security Assessment conducted and does not possess an approved Facility Security Plan necessary to conduct applicable operations as set forth in 33 CFR part 105.

As Captain of the Port under Title 50 United States Code (USC) Section 191, Title 33 USC Section 1226, Title 46 USC Section 70103(c)(5), and under 33 CFR Parts 6 and 101.410(c)(2), I find it necessary to suspend maritime transportation related operations at your facility until such time as the facility comes into compliance with 33 CFR part 105 and any other applicable facility security regulation issued under Chapter 701 of Title 46 USC or other statute.

Upon my satisfaction that your facility is in compliance with the applicable security laws and regulations, your facility will be released from this Captain of the Port Order and will be allowed to resume operations.

The enforcement provisions of Title 33 USC Section 1232 provides that a violation of this order is punishable by a civil penalty of not more than $32,500, with each day of continuing violation constituting a separate violation. A willful and knowing violation is potentially punishable as a felony criminal offense.

Enclosure (1)

DATMS 3350134 ECN:3334664-1410304

EPAHO120000555

CAPTAIN OF THE PORT ORDER 2008-257

16000
September 25, 2008

Any person directly affected by this order may request reconsideration orally or in writing. You also have the right to appeal this order to the Commander, Eighth Coast Guard District. Appeals must be submitted to the Captain of the Port in writing. The appeals process contained in 33 CFR Part 160.7 has been adopted for purposes of this Order. If you have any questions or would like additional information, please contact my office at (409) 723-6500.

Sincerely

J. J. PLUNKETT
Captain, U. S. Coast Guard
Captain of the Port

Acknowledgement of delivery:

Signature: _____ Title: President

Date: 9-26-07 Time: 12:45 p.m.

Enclosure (1)

2

pg 2 of 2

On 22 Sep 2008, I was notified about concerns at the CES facility in Port Arthur. Arriving at the facility, we were greeted by a gate guard who asked us to sign in, however, the gate guard did not check our IDs. Once proceeding onto the facility, I observed the foreign flagged tank vessel, GOLDEN CHARLETE, docked at the pier on CES's property with the brow over. There was no security or any means of preventing access to or from the facility or the vessel. There was also an extremely pungent and irritating gaseous odor in the air, coming from storage tanks nearby the wharf area. The ship agent, a vessel representative, and the President of CES were all on scene, as well as two mobile facility vacuum trucks. Coast Guard personnel informed the facility President that since the facility did not have a valid Certificate of Adequacy for Oil and Garbage, nor an approved Facility Security Plan and Facility Operations Manual, that they were not approved to conduct vessel transfer operations nor allow any foreign flagged vessels to disembark or conduct any operation at this facility. As this facility had already been notified by the Coast Guard of the requirements that must be met prior to operating, a Captain of the Port Order was subsequently issued that prohibits marine transfer related operations at this facility until all applicable Coast Guard requirements were met to the satisfaction of the Captain of the Port, Marine Safety Unit Port Arthur, TX. This statement is true and to the best of my knowledge.

LCDR Keith M. Donohue
Chief, Response Department

LCDR USCG

Enclosure (2)

DATMS 3350154 ICN:3334664-1410005

USCG MSU PORT ARTHUR
WITHNESS STATEMENT

Name:	James C Salmeron, MST1	Address:	2901 Turtle Creek Dr.
MMD/Lic No.	1092493	Phone:	409-719-5052
Employer:	U.S. Coast guard	Address:	
Position:	Facility Inspector	Phone:	

Date/Time of Incident: 22 Sept. 08 Location: 2420 South Gulfway Dr LAT/LONG:

Vessel or Facility Name: CES Environmental Official Number: PATMS135

Source of Discharge: (i.e. Tank Number) MTSA and MARPOL Violations

Product Discharged: None | Amount discharged into waterway: None 0 | Waterway: Sabine Neches Waterway

Cause of Discharge: None

Statement: During a facility visit for post Hurricane Ike on 22 Sept. 08 I received a call from P.O. Studstill about a situation at CES Environmental. CES had a foreign flagged vessel, M/V Golden Charlotte, moored at their site with the brow down conducting lightering operations of spent caustic acid to a barge.
This facility had approached Marine Safety Unit Port Arthur months prior to discuss what they need to do to be in compliance for transferring spent caustic acid from a barge to tanks on the facility. We had asked them if they would receive any foreign flagged vessels and CES responded, no they would not, only barges would be used to transfer product. This unit expressed to CES that if any foreign flagged vessels would to be received they would have to apply for a COA submit operations and facility security plan manuals.
Prior to this incident CES contracted Texas Water Management to come to this COTP and conduct mobile facility transfers. Texas Water Management was and still has never submitted any of the proper documentation to function within this COTP zone. The transfer was shutdown and a penalty was assessed to Texas Water Management.

The above information is true and correct to the best of my knowledge.

Signature:	James C Salmeron	Date:	15 OCT 08
Investigating Officer:		Date:	
Witness:	James Carr, MST1	Date:	22 OCT 08

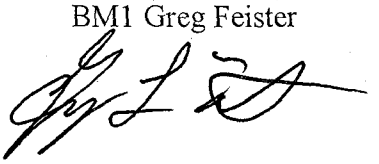
Enclosure (3)

PATMS 3350134 ECN:3334664-1310307

EPAHO120000558

While underway on the 255046 the crew noticed the vessel Golden Charlotte moored in the vicinity of Texaco island between KMTEX and Talen fuel on 22 Sep 08. The vessel was port side to the dock, lines made off, and there was no doubt that the vessel was moored. This statement is true and to the best of my knowledge.

BM1 Greg Feister



Enclosure (4)

PATMS 3350134 ECN:3334664--1410309

While conducting a harbor patrol on board vessel 255046 the crew was tasked to go to Texaco Island to see if the M/V Golden Charlotte was moored. The crew on board vessel 255046 did see M/V Golden Charlotte moored between KTMX and Talon Marine on 22 Sept. 2008. This statement is true to the best of my knowledge.

BM3 Dustin Tucker

Dustin Tucker

Enclosure (5)

PATMS 3350134 ECN:3334664-1410310

CES Environmental Services, Inc.

September 25, 2008

Matt Bowman
CES Environmental Services
4904 Griggs Road
Houston, TX 77021

Commanding Officer - Sector Port Arthur
U.S. Coast Guard
Marine Safety Unit
2901 Turtle Creek Drive, Suite 200
Port Arthur, TX 77642-8056

Dear Sir:

As President of CES Environmental Services, I extend the deepest amount of gratitude for allowing my company to conduct transfer operations with the Golden Charlotte on September 22, 2008. I apologize for the confusion with our security plan. I assure you that we were in no way trying to be deceptive, as can be evidenced with our communication with various personnel at your organization about the details of the transfer. We appreciate your grace in this matter.

CES Environmental Services appreciates the commitment of the U.S. Coast Guard to keeping our waterways safe. We will assist with our compliance to MTSA regulations at our facility and in other ways as you may recommend.

Sincerely,

Matt Bowman
President
CES Environmental Services

Enclosure (6)

DATMS 3350134 ECN:3334664-1410311

On 22 September 2008 our Law Enforcement Patrol was dispatched to CES Environmental Services located adjacent to Talon Marine fueling in Port Arthur. We were directed to the facility to perform a boarding on the M/V GOLDEN CHARLOTTE that was docked at the facility. Upon our arrival to the facility we were met buy the security guard located just inside the gate. The security guard approached our vehicle and asked me to sign all members in the vehicle in. I asked him if he needed to see our ID's and he hesitated as if he were unsure. I then explained that he needed ID from each member in the vehicle. It is of my opinion he was not award of his responsibilities. I instructed CPO Atkins to speak with the FSO about our arrival and the incident at the gate, which he did immediately.

The boarding of M/V GOLDEN CHARLOTTE was completed without incident, with no security violations noted on the ship. We then left the facility without further incident.

This statement is true and accurate to the best of my knowledge.

LTJG PAUL E. TURNER

LTJG P T

ORIGINAL

Enclosure (B)

PATMS 3350134 ECN:3334664-1410313

On 22 September 2008 our Law Enforcement Patrol was dispatched to CES Environmental Services located adjacent to Talon Marine fueling in Port Arthur. We were directed to the facility to perform a boarding on the M/V GOLDEN CHARLOTTE that was docked at the facility. Upon our arrival to the facility we were met buy the security guard located just inside the gate. The security guard approached our vehicle and asked me to sign all members in the vehicle in. I asked him if he needed to see our ID's and he hesitated as if he were unsure. I then explained that he needed ID from each member in the vehicle. It is of my opinion he was not award of his responsibilities. I instructed CPO Atkins to speak with the FSO about our arrival and the incident at the gate, which he did immediately.

The boarding of M/V GOLDEN CHARLOTTE was completed without incident, with no security violations noted on the ship. We then left the facility without further incident.

This statement is true and accurate to the best of my knowledge.

LTJG PAUL E. TURNER

LTJG P T

Enclosure (B)

DATMS 3350134 ECN:3334664-1410313

On 22 September 2008 our Law Enforcement Patrol was dispatched to CES Environmental Services located adjacent to Talon Marine fueling in Port Arthur. We were directed to the facility to perform a boarding on the M/V GOLDEN CHARLOTTE that was docked at the facility. Upon our arrival to the facility we were met buy the security guard located just inside the gate. The security guard approached our vehicle and attempted to check Identification of people in the vehicle. He didn't look at everyone I.D. and didn't even know that someone was in the back seat. He did not know his job and we proceeded to the boat. Prior to boarding the M/V GOLDEN CHARLOTTE I spoke with the FSO and explained to him that the guard at the gate was not doing his job properly in checking identification. I explained to the FSO that it was his job to educate the guard on his responsibilities and duties to insure adequate security for the facility. He stated that he would take care of it as soon as he could.
The boarding of M/V GOLDEN CHARLOTTE was completed without incident, with no security violations noted on the ship. The facility CES Marine Services was informed by the Coast Guard inspectors that they were in violation of the Captain of the Port Order. We then left the facility without further incident. This statement is true and accurate to the best of my knowledge.

Kenneth Atkins
Law Enforcement Branch

Enclosure (9)

PATMS 3350134 ECN:3334664-1410314

Vessel Critical Profile

Name/ GOLDEN CHARLOTTE Primary VIN/ 9345908 Call/ 3EGM4 Flag/ PA

Alt VIN's	Type
9345908	IMO Number
371779000	MMSI Number
371779000	GMDSS
437177910	INMARSAT

---Involved Parties---

Role	Name	Party Id
Flag State	PANAMA	832979
Owner	DESPINA SHIPPING S.A.	1120356
Operator (managing)	DORVAL KAIUN K.K.	1363296
Classification Society	NIPPON KAIJI KYOKAI	562214
Company Security Officer	TSUTOMU IDEGUCHI	1090050
Recognized Security Organization	PANAMA MARITIME AUTHORITY	1100126

---Vessel Specifics---

Service/ Tank Ship	Gross Tons(GT ITC)/ 11641	Hailing Port/ Panama, PANAMA
Propulsion/ Diesel Direct	Gross Tons(GRT)/ 11641	Date Keel Laid/ 28Mar2006
Route/ OO: Oceans	Deadweight Ton/ 19717	Date Delivered/ 25Sep2006
Ahead HorsePower/ 8400	Length/ 447.5 (ITC)/ 472.4	Hull Material/ Steel
Astern HorsePower/ 7140	Super Structure Color/	Hull Color/ Blue
Class/ Tank Ship	Type/ Chemical Tank Ship	SubType/ Chemical Tank Ship

---Certificate/Document Status---

Document	Activity #	Agency	Port	Issued	Expires	Status
Classification Document		NKK	Tokyo	28Nov2006	24Sep2011	VALID
ISM - Document Of Compliance		NKK	CHIBA	24Apr2007	16Feb2012	VALID
International Certificate of Fitness - Chemical		NKK	Tokyo	14Dec2006	24Sep2011	VALID
International Oil Pollution Prevention Certificate		NKK	Tokyo	30Jan2008	24Sep2011	VALID

Enclosure (10)

PATMS 3350134 ECN:3334664-1410315

EPAHO120000567

Document	Activity #	Agency	Port	Issued	Expires	Status
Tonnage Certificate, International		NKK	TOKYO	25Sep2006		VALID
SOLAS Cargo Ship Safety Construction Certificate		NKK	Tokyo	06Dec2006	24Sep2011	VALID
SOLAS Cargo Ship Safety Equipment Certificate		NKK	Tokyo	27Nov2008	24Sep2011	VALID
ISM - Safety Management Certificate		NKK	CHIBA	24Apr2007	24Feb2012	VALID
SOLAS Cargo Ship Safety Radio Certificate		NKK	.Panama	07Oct2008	06Mar2009	VALID
Minimum Safe Manning Document		PA	PANAMA CITY	10Aug2006		VALID
International Load Line Certificate		NKK	Tokyo	06Dec2006	24Sep2011	VALID
COC-Chem. Carrier Renewal		USCG	Sector New York	08Jan2009	08Jan2011	VALID
COC-Chem-Carrier Annual			Sector New York	08Jan2009	08Jan2011	VALID
Certificate of Registry		PA	PANAMA CITY	07Nov2006	06Nov2010	VALID
International Ship Security Certificate		PANAMA MARITIME AUTH	Panama	11May2007	25Feb2012	VALID
Continuous Synopsis Record		PANAMA MARITIME AUTH	Panama City, Panama	16May2007		VALID
International Air Pollution Prevention Certificate		NKK	TOKYO	06Dec2006	24Sep2011	VALID

---Hull and Re-inspections---

Internal Structural Next Due Date/
DryDock Next Due Date/
Wood Keel Bolt Next Due Date/

---PS Information---

EPAHO120000568

Total/ 5

1. Port/ Newark EDA/ 07Jan2009 EDD/ 09Jan2009 Status/ Not Arrived
   Priority #/ 2 LPC/ CASTELLON DE LA PLANA - SPAIN NPC/
   Cargo/
   Location/
   Comments/
2. Port/ Savannah EDA/ 12Jan2009 EDD/ 13Jan2009 Status/ Departed
   Priority #/ 2 LPC/ Newark - HUDSON TANKER TERMINAL - UNITED STATES NPC/
   Cargo/
   Location/
   Comments/
3. Port/ Tampa EDA/ 16Jan2009 EDD/ 16Jan2009 Status/ Departed
   Priority #/ 3 LPC/ Savannah - Colonial Oil Industris Wharves - UNITED STATES NPC/
   Cargo/
   Location/
   Comments/
4. Port/ New Orleans EDA/ 24Jan2009 EDD/ 24Jan2009 Status/ Departed
   Priority #/ 3 LPC/ Tampa - TPA BERTH 223 - UNITED STATES NPC/
   Cargo/
   Location/
   Comments/
5. Port/ St. Croix EDA/ 25Feb2009 EDD/ 28Feb2009 Status/ In Port
   Priority #/ 3 LPC/ MANAUS - BRAZIL NPC/
   Cargo/
   Location/
   Comments/

---Open Cases---

Total Cases/ 1

1. Case #/ 439673 Orig Port/ SEC NOLA Open Dt/ 23Jan2009
   Title/ Security Security Plan Review/GOLDEN CHARLOTTE//232119ZJAN09
   Activities involved/ 3399123 and 3399127
   Status/ Open - In Progress
   Case Description/ Sector New Orleans received a fax request from Customs and Border Protection requesting a Crew Control Security Plan for the M/V Golden Charlotte. Vessel will be restricted to Southwest Pass until a Crew Control Sec (See Notification Incident Description)

---All Open Activities---

Total Open Activities/ 2

1. Activity #/ 3395264 Orig Port/ SEC StPete Owner Port/ SEC StPete Start Dt/ 16Jan2009
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control
   Status/ Open - In Progress Date Status Last Changed/ 16Jan2009
   Notes (Truncated)/ 16JAN09: Issued COTP ORDER 09-006 Directing Vessel To Remain 3NM offshore until Vessel submits a sastisfactory Crew Security plan. Once approved by CBP and COTP SEC STPETE Vessel must adhere to the plan while in Port. 16JAN09: Recieved Crew Security Plan. Vessel May enter the POrt of tampa. Crew Plan will be in effect unitl Departure. J Rincon
2. Activity #/ 2832956 Orig Port/ SEC LA/LB Owner Port/ SEC LA/LB Start Dt/ 02Dec2006
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control

EPAHO120000569

Status/ Open - In Progress Date Status Last Changed/ 02Dec2006
Notes (Truncated)/ 02Dec2006: The M/T GOLDEN CHARLOTTE was scored using the High Interest Vessel Matrix and designated as an HIV Boarding. Vessel must undergo a pre entry / at sea boarding before it will be allowed to enter port. Issued COTP Order 2006-581.

---All Closed Activities (W/in 18 months)---

Total Closed Activities/ 13

1. Activity #/ 3399127 Orig Port/ SEC NOLA Owner Port/ SEC NOLA Start Dt/ 23Jan2009
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 02Feb2009
   Notes (Truncated)/ 232131Z JAN 09 - COTP NO. M0072-09 - Due to US Customs and Border Protection crew concerns, vessel is restricted to Southwest Pass Anchorage until a Crew Control security plan is submitted and approved. 240005Z JAN 09 - AMEND ONE - Crew Control security plan received and approved. Vessel is allowed to transit the Lower Mississippi River with three armed guards on board at all times. 011425Z FEB
2. Activity #/ 3399123 Orig Port/ SEC NOLA Owner Port/ SEC NOLA Start Dt/ 23Jan2009
   Role Type/ Subject to Coast Guard Operational Control Activity Type/ Incident Management
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 02Feb2009
   Notes (Truncated)/ Sector New Orleans received a fax request from Customs and Border Protection requesting a Crew Control Security Plan for the M/V Golden Charlotte. Vessel will be restricted to Southwest Pass until a Crew Control Security Plan is received and approved by the Command Duty Officer.
3. Activity #/ 3391688 Orig Port/ SEC StPete Owner Port/ SEC StPete Start Dt/ 10Jan2009
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Inspection/PSC
   Status/ Deleted - Inspection Cancelled Date Status Last Changed/ 15Jan2009
   Notes (Truncated)/
4. Activity #/ 3390597 Orig Port/ SEC NYCty Owner Port/ SEC NYCty Start Dt/ 08Jan2009
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Inspection/PSC
   Activity Subtypes/ MARPOL and MARPOL V and MARPOL II and BWE and COC-CHEM RENEW and ISPS I and PII
   Status/ Closed - Approved Inspection Date Status Last Changed/ 09Jan2009
   Notes (Truncated)/ Conducted a Renewal COC-Chem Vessel Exam and ISPS I exam. Witnessed satisfactory fire and abandon ship drills. Completed exam, no (0) deficiencies issued, no (0) deficiencies cleared, and no (0) deficiencies remain outstanding. Issued COC # 09SECNY005, to expire on 08JAN2011. LT Paul Mangini
5. Activity #/ 3387690 Orig Port/ SEC NYCty Owner Port/ SEC NYCty Start Dt/ 08Jan2009
   Role Type/ Subject to Marine Inspection Activity Type/ Boarding
   Activity Subtypes/ HI
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 15Jan2009
   Notes (Truncated)/ On 08 JAN 09, vessel was boarded and found to be satisfactory for security purposes. Vessel is cleared by CG Sector NY boarding team to enter and exit the Port as per COTP# PS09-02H, this COTP is now rescinded. For further info refer to FIR DTG 091329Z JAN 09.
6. Activity #/ 3368574 Orig Port/ MSU PrtArthur Owner Port/ MSU PrtArthur Start Dt/ 22Sep2008
   Role Type/ Subject to Marine Inspection Activity Type/ Boarding
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 22Sep2008
   Notes (Truncated)/ Targeted vessel for a Dockside Security boarding conducted on 22SEP08. The boarding team conducted a crew check and basic ISI. 04 boarding officers participated in boarding and inspection for 1 hours, no security issues noted.
7. Activity #/ 3324767 Orig Port/ SEC NOLA Owner Port/ SEC NOLA Start Dt/ 14Sep2008
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 22Sep2008
   Notes (Truncated)/ 141941Z SEP 08 - COTP NO. M0977-08 - Due to US Customs and Border Protection crew concerns, vessel is restricted to Southwest Pass Anchorage until a Crew Control security plan is submitted and approved.

EPAHO120000570

171313Z SEP 08 - AMEND ONE - Crew Control security plan received and approved. Vessel is restricted to KINDER MORGAN, mm 138.6, pending CBP Boarding results 180549Z SEP 08 - AMEND TWO - Customs

8. Activity #/ 3324766 Orig Port/ SEC NOLA Owner Port/ SEC NOLA Start Dt/ 14Sep2008
   Role Type/ Subject to Coast Guard Operational Control Activity Type/ Incident Management
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 14Sep2008
   Notes (Truncated)/ Received Crew Control Security Plan Request from Customs & Border Protection VIA fax.
9. Activity #/ 3208389 Orig Port/ MSU WilmngtnNC Owner Port/ MSU WilmngtnNC Start Dt/ 21May2008
   Role Type/ Subject to Marine Inspection Activity Type/ Boarding
   Activity Subtypes/
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 22May2008
   Notes (Truncated)/ 21 May 08 - MSU Wilmington boarding team and Customs and Border Protection (CBP) conducted a joint an at sea security boarding of M/V GOLDEN CHARLOTTE. Issued COTP Order #3208389. Boarding team checked all man sized compartments, verified all crewmember passports with crew list, and verified the cargo manifest. No discrepancies noted. COTP Order #3208389 was rescinded.
10. Activity #/ 3121256 Orig Port/ SEC NYCty Owner Port/ SEC NYCty Start Dt/ 27Dec2007
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Inspection/PSC
   Activity Subtypes/ MARPOL and MARPOL V and MARPOL II and BWE and COC-CHEM ANNUAL and ISPS II and PII
   Status/ Closed - Approved Inspection Date Status Last Changed/ 28Dec2007
   Notes (Truncated)/ Conducted COC Annual Inspection and ISPS II Compliance Verification Examination. No deficiencies were issued, none cleared and none remain outstanding. Witnessed satisfactory fire drill in the galley and boat drill. Lowered the port side lifeboat to the embarkation deck. Endorsed COC to reflect the inspection and to expire on December 5, 2008. Vessel scored an 18 on the GAR Risk Assessment M
11. Activity #/ 3121284 Orig Port/ SEC NYCty Owner Port/ SEC NYCty Start Dt/ 26Dec2007
   Role Type/ Subject to Marine Inspection Activity Type/ Boarding
   Activity Subtypes/ HI
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 18Jan2008
   Notes (Truncated)/ ON 26DEC07, VESSEL BOARDED AND FOUND TO BE SATISFACTORY FOR SECURITY PURPOSES. VESSEL IS CLEARED BY CG SECTOR NY BOARDING TEAM TO ENTER AND EXIT PORT AS PER COTP# PS08-062H IS NOW RESCINDED. FOR FURTHER INFO REFER TO FIR DTG271237ZDEC07.
12. Activity #/ 3045703 Orig Port/ MSU PrtArthur Owner Port/ MSU PrtArthur Start Dt/ 02Sep2007
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 03Sep2007
   Notes (Truncated)/ Due to US Customs and Border Protection crew concerns, vessel is restricted Sabine Fairway Anchorage, until a Master provided security plan is submitted and approved. AMEND ONE - Master provided security plan received and approved. Vessel allowed to transit the Sabine-Neches River. RESCINDED restriction dated (03sept07).
13. Activity #/ 3034645 Orig Port/ SEC DelwrBy Owner Port/ SEC DelwrBy Start Dt/ 21Aug2007
   Role Type/ Subject to Marine Inspection Activity Type/ Vessel Operational Control
   Status/ Closed - Agency Action Complete Date Status Last Changed/ 30Aug2007
   Notes (Truncated)/ Subj: M/V GOLDEN CHARLOTTE, CAPTAIN OF THE PORT ORDER 87-07 As Captain of the Port (COTP), under Title 33 United States Code Section 1226 and Title 33 Code of Federal Regulations Part 6, I hereby direct you to submit a crewmember security plan that documents the procedures that will be used to ensure any crewmember(s) and/or supernumeraries remain on board during the vessel's port call. Furth

---Hazardous Cargo Authority---

Vessel is Authorized to carry Hazardous Cargo

---Special Notes---

EPAHO120000571

1. Activity #/ Last Revised/ 08Jan2009 Unit/ SEC NYCty
Description/ Vessel is constructed with Ballast Pump room and is equipped with a Nitrogen Generator Inerting System.
2. Activity #/ 3121256 Last Revised/ 27Dec2007 Unit/ SEC NYCty
Description/ This vessel was provided the International Ice Patrol Vessel of Opportunity Observation Program (VOOP) form, guidance on the mandatory BWM practices, and the Right Whales Guidelines for Mariners information.

---Operational Controls---

1. Initiated Date/ 23Jan2009 Activity #/ 3399127 Port/ SEC NOLA
Removed Date/ Activity #/ Port/
Control Category/ Vessel Movement Prohibition
Control Authorization/ COTP Order (Crew Security Plan)
Description/ 232131Z JAN 09 - COTP NO. M0072-09 - Due to US Customs and Border Protection crew concerns, vessel is restricted to Southwest Pass Anchorage until a Crew Control security plan is submitted and approved. 011425Z FEB 09 - CLEARED restriction as per the Command Duty Officer, LTJG Dimitroff
2. Initiated Date/ 16Jan2009 Activity #/ 3395264 Port/ SEC StPete
Removed Date/ Activity #/ Port/
Control Category/ Personnel Access Prohibition
Control Authorization/ COTP Order (Crew Security Plan)
Description/ WHile in port the vessel must adhere to the Approved Crew security Plan
3. Initiated Date/ 16Jan2009 Activity #/ 3395264 Port/ SEC StPete
Removed Date/ Activity #/ Port/
Control Category/ Vessel Movement Limitation
Control Authorization/ COTP Order (Crew Security Plan)
Description/ Vessel May not enter Port until a Satisfactory Crew Security PLan is submitted and approved by USCG and CBP
4. Initiated Date/ 02Jan2009 Activity #/ 3387690 Port/ SEC NYCty
Removed Date/ 08Jan2009 Activity #/ 3387690 Port/ SEC NYCty
Control Category/ Vessel Movement Prohibition
Control Authorization/ COTP Order (Delayed Entry/Awaiting Exam)
Description/ COTP Order #09-002. Vessel is scheduled to have a high interest vessel security boarding due to last port of call prior to entering the Port of NY/NJ.
5. Initiated Date/ 14Sep2008 Activity #/ 3324767 Port/ SEC NOLA
Removed Date/ 22Sep2008 Activity #/ 3324767 Port/ SEC NOLA
Control Category/ Vessel Movement Prohibition
Control Authorization/ COTP Order (Crew Security Plan)
Description/ 141941Z SEP 08 - COTP NO. M0977-08 - Due to US Customs and Border Protection crew concerns, vessel is restricted to Southwest Pass Anchorage until a Crew Control security plan is submitted and approved. 211802Z SEP 08 - CLEARED restriction as per the Command Duty Officer, LT Powers.
6. Initiated Date/ 18Jan2008 Activity #/ 3121284 Port/ SEC NYCty
Removed Date/ 18Jan2008 Activity #/ 3121284 Port/ SEC NYCty
Control Category/ Vessel Movement Requirement
Control Authorization/ COTP Order (Restriction of Operations)
Description/ Vessel must receive a satisfactory Port Security Boarding prior to proceeding North of Ambrose Tower. If weather prevents boarding team from embarking north of Ambrose Tower the vessel will be allowed to proceed to Gravesend Bay where the boarding will be conducted.
7. Initiated Date/ 02Sep2007 Activity #/ 3045703 Port/ MSU PrtArthur
Removed Date/ 04Sep2007 Activity #/ 3045703 Port/ MSU PrtArthur
Control Category/
Control Authorization/ COTP Order (Crew Security Plan)
Description/
8. Initiated Date/ 21Aug2007 Activity #/ 3034645 Port/ SEC DelwrBy

EPAHO120000572

Removed Date/ 26Aug2007 Activity #/ 3034645 Port/ SEC DelwrBy
Control Category/ Vessel Movement Requirement
Control Authorization/ COTP Order (Crew Security Plan)
Description/ VESSEL MUST SUBMIT CREW SECURITY PLAN TO CBP PRIOR TO ARRIVAL.

9. Initiated Date/ 03Dec2006 Activity #/ 2832956 Port/ SEC LA/LB
Removed Date/ Activity #/ Port/
Control Category/ Vessel Movement Prohibition
Control Authorization/ COTP Order (Delayed Entry/Awaiting Exam)
Description/ Pre entry boarding required due to HIV status.

END

EPAHO120000573

AIG Environmental®
A Division of American International Companies®

COMMERCIAL AUTOMOBILE TERRORISM RISK EXTENSION ACT OF 2005 NOTIFICATION

You are hereby notified that under the Terrorism Risk Insurance Extension Act of 2005 (which amends the Terrorism Risk Insurance Act of 2002), Commercial Automobile is excluded from the covered lines of the Act. While no federal backstop currently exists for Commercial Automobile, we are willing to provide you with Terrorism coverage subject to the limitations and exclusions of each automobile insurance contract for the additional premium indicated below.

For your convenience, our standard terrorism definition follows, however, the definition may vary based on modifications required by individual state regulatory offices.

DEFINITIONS - The following definitions shall apply:

"Terrorism" means the use or threatened use of force or violence against person or property, or commission of an act dangerous to human life or property, or commission of an act that interferes with or disrupts an electronic or communication system, undertaken by any person or group, whether or not acting on behalf of or in any connection with any organization, government, power, authority or military force, when the effect is to intimidate, coerce or harm.

a. A government
b. The civilian population of a country, state or community; or
c. To disrupt the economy of a country, state or community.

Your quotation for Commercial Automobile Coverage does not include a premium charge for Terrorism coverage. If Terrorism coverage is accepted, an additional premium of 2,187.00 will be charged.

If Terrorism coverage is desired, please sign this form and return it to us accepting Terrorism Coverage and the additional premium charge stated above for that coverage.

Signature of Insured

GREG BOOMAN / CFO
Print Name and Title

1/22/09
Date

Return to:
Mary McKinney
8144 WALNUT HILL LANE
WALNUT GLEN TOWER
DALLAS, TEXAS 75231

COMMERCE AND INDUSTRY INSURANCE COMPANY
NAMED INSURED: CES ENVIRONMENTAL SERVICES INC

POLICY#/SUBMISSION #: 9426320 03 / 647650170

POLICYHOLDER DISCLOSURE STATEMENT
UNDER
TERRORISM RISK INSURANCE ACT OF 2002

You are hereby notified that under the federal Terrorism Risk Insurance Act of 2002 (the "Act") effective November 26, 2002, you now have a right to purchase insurance coverage for losses arising out of an Act of Terrorism, which is defined in the Act as an act certified by the Secretary of the Treasury (i) to be an act of terrorism, (ii) to be a violent act or an act that is dangerous to (A) human life; (B) property or (C) infrastructure, (iii) to have resulted in damage within the United States, or outside of the United States in case of an air carrier or vessel or the premises of a U.S. mission and (iv) to have been committed by an individual or individuals acting on behalf of any foreign person or foreign interest, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. You should read the Act for a complete description of its coverage. The Secretary's decision to certify or not to certify an event as an Act of Terrorism and thus covered by this law is final and not subject to review. There is a $100 billion dollar annual cap on all losses resulting from Acts of Terrorism above which no coverage will be provided under this policy and under the Act unless Congress makes some other determination.

For your information, coverage provided by this policy for losses caused by an Act of Terrorism may be partially reimbursed by the United States under a formula established by the Act. Under this formula the United States pays 90% of terrorism losses covered by this law exceeding a statutorily established deductible that must be met by the insurer, and which deductible is based on a percentage of the insurer's direct earned premiums for the year preceeding the Act of Terrorism.

Unless you sign this form and return it to us rejecting Terrorism Coverage under the Federal Act, you will be covered for Terrorism as defined in the Act and your premium for that coverage is based upon which coverage option you choose (Coverage options setting forth limits, policy term, etc. are set forth in the attached letter of indication). The premium stated herein does not include any surplus lines taxes or fees that may be applicable, which are the responsibility of the insured. It is the broker's responsibility to follow applicable state surplus lines laws and, in particular, to see that the appropriate premium tax (and stamping office fee, if applicable) is collected from you and paid.

Option 1 Terrorism Act Premium:	$5,202.00	Option 6 Terrorism Act Premium:	$5,118.00
Option 2 Terrorism Act Premium:	$4,356.00	Option 7 Terrorism Act Premium:	
Option 3 Terrorism Act Premium:	$3,780.00	Option 8 Terrorism Act Premium:	
Option 4 Terrorism Act Premium:	$7,043.00	Option 9 Terrorism Act Premium:	
Option 5 Terrorism Act Premium:	$5,898.00	Option 10 Terrorism Act Premium:	

By signing below, I hereby acknowledge that TRIA coverage is rejected.

AMERICAN INTERNATIONAL SPECIALTY LINES INS. CO.
NAMED INSURED: CES ENVIRONMENTAL SERVICES, INC.
RENEWAL OF POLICY #/SUBMISSION #: 5635029 / 00932256800

Return to: LEAH FLANAGAN
2929 ALLEN PARKWAY
SUITE 1300
HOUSTON, TEXAS 77019-2128

Signature of Insured

GREG BOWMAN / CFO
Print Name/Title

1/22/09
Date

QUOTE - SURPLUS LINES - MULTIPLE OPTIONS
81310 (6/06)
CI2823

POLICYHOLDER DISCLOSURE STATEMENT
UNDER
TERRORISM RISK INSURANCE ACT OF 2002

You are hereby notified that under the federal Terrorism Risk Insurance Act of 2002 (the "Act") effective November 26, 2002, you now have a right to purchase insurance coverage for losses arising out of an Act of Terrorism, which is defined in the Act as an act certified by the Secretary of the Treasury (i) to be an act of terrorism, (ii) to be a violent act or an act that is dangerous to (A) human life; (B) property or (C) infrastructure, (iii) to have resulted in damage within the United States, or outside of the United States in case of an air carrier or vessel or the premises of a U.S. mission and (iv) to have been committed by an individual or individuals acting on behalf of any foreign person or foreign interest, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. You should read the Act for a complete description of its coverage. The Secretary's decision to certify or not to certify an event as an Act of Terrorism and thus covered by this law is final and not subject to review. There is a $100 billion dollar annual cap on all losses resulting from Acts of Terrorism above which no coverage will be provided under this policy and under the Act unless Congress makes some other determination.

For your information, coverage provided by this policy for losses caused by an Act of Terrorism may be partially reimbursed by the United States under a formula established by the Act. Under this formula the United States pays 90% of terrorism losses covered by this law exceeding a statutorily established deductible that must be met by the insurer, and which deductible is based on a percentage of the insurer's direct earned premiums for the year preceeding the Act of Terrorism.

Unless you sign this form and return it to us rejecting Terrorism Coverage under the Federal Act, you will be covered for Terrorism as defined in the Act and your premium for that coverage is:

Terrorism Act Premium: $646.00

The premium stated herein does not include any surplus lines taxes or fees that may be applicable, which are the responsibility of the insured. It is the broker's responsibility to follow applicable state surplus lines laws and, in particular, to see that the appropriate premium tax (and stamping office fee, if applicable) is collected from you and paid.

By signing below, I hereby acknowledge that TRIA coverage is rejected.

AMERICAN INTERNATIONAL SPECIALTY LINES INS. CO.
NAMED INSURED: CES ENVIRONMENTAL SERVICES, INC.
RENEWAL OF POLICY #/SUBMISSION #: 1065907 / 00647650170

Return to: MARY MCKINNEY
8144 WALNUT HILL LAND
WALNUT GLEN TOWER
DALLAS, TX 75231

Signature of Insured

GREG BOWMAN / CFO
Print Name/Title

1/22/09
Date

QUOTE - ONE OPTION - SURPLUS LINES
81307 (6/06)
CI2822

POLICYHOLDER DISCLOSURE STATEMENT
UNDER
TERRORISM RISK INSURANCE ACT OF 2002

You are hereby notified that under the federal Terrorism Risk Insurance Act of 2002 (the "Act") effective November 26, 2002, you now have a right to purchase insurance coverage for losses arising out of an Act of Terrorism, which is defined in the Act as an act certified by the Secretary of the Treasury (i) to be an act of terrorism, (ii) to be a violent act or an act that is dangerous to (A) human life; (B) property or (C) infrastructure, (iii) to have resulted in damage within the United States, or outside of the United States in case of an air carrier or vessel or the premises of a U.S. mission and (iv) to have been committed by an individual or individuals acting on behalf of any foreign person or foreign interest, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. You should read the Act for a complete description of its coverage. The Secretary's decision to certify or not to certify an event as an Act of Terrorism and thus covered by this law is final and not subject to review. There is a $100 billion dollar annual cap on all losses resulting from Acts of Terrorism above which no coverage will be provided under this policy and under the Act unless Congress makes some other determination.

For your information, coverage provided by this policy for losses caused by an Act of Terrorism may be partially reimbursed by the United States under a formula established by the Act. Under this formula the United States pays 90% of terrorism losses covered by this law exceeding a statutorily established deductible that must be met by the insurer, and which deductible is based on a percentage of the insurer's direct earned premiums for the year preceeding the Act of Terrorism.

Unless you sign this form and return it to us rejecting Terrorism Coverage under the Federal Act, you will be covered for Terrorism as defined in the Act and your premium for that coverage is:

Terrorism Act Premium: $988.00

The premium stated herein does not include any surplus lines taxes or fees that may be applicable, which are the responsibility of the insured. It is the broker's responsibility to follow applicable state surplus lines laws and, in particular, to see that the appropriate premium tax (and stamping office fee, if applicable) is collected from you and paid.

By signing below, I hereby acknowledge that TRIA coverage is rejected.

AMERICAN INTERNATIONAL SPECIALTY LINES INS. CO.
NAMED INSURED: CES ENVIRONMENTAL SERVICES, INC.
RENEWAL OF POLICY #/SUBMISSION #: 1066007 / 00647650170

Return to: MARY MCKINNEY
8144 WALNUT HILL LAND
WALNUT GLEN TOWER
DALLAS, TX 75231

Signature of Insured

GREG BOWMAN / CFO
Print Name/Title

1/22/09
Date

QUOTE - ONE OPTION - SURPLUS LINES
81307 (6/06)
CI2822

TexasMutual® Insurance Company

TEXAS WORKERS' COMPENSATION AND EMPLOYERS LIABILITY POLICY

DNE-1

DEDUCTIBLE NOTICE OF ELECTION

Texas law permits an employer to obtain workers' compensation insurance with a deductible. The insurance applies only to benefits payable under Texas workers' compensation law. When a deductible is elected, the policyholder is required to reimburse the insurance carrier for benefits payable under the law up to the deductible amount and a credit is applied to the policy. Premium credits are determined based on the deductible selected and the hazard group. The hazard group is determined by the classification that produces the largest amount of estimated Texas standard premium.

You are not required to choose a deductible. If you do choose one, your insurance company will pay the deductible amount for you, but you must reimburse the insurance company within 30 days after they send you notice that payment is due. If you fail to reimburse the insurance company, they may cancel the policy upon ten days written notice, and any resulting premium may be applied to the deductible amount owed.

If a deductible amount is desired, please indicate below.

☐ Yes, I want a deductible of (select only one):

1. $_____ per accident
2. $_____ annual aggregate
3. $_____ /$_____ per accident\annual aggregate

applied to benefits payable under the Texas Workers' Compensation Law. I understand that the company will pay the deductible amount and seek reimbursement **Monthly** (monthly, quarterly or other)

☑ No, I do not want a deductible applied to benefits payable under the Texas Workers' Compensation Law.

☐ Yes, I do want a deductible policy, but am unable to obtain one for the following reason: _____

The deductible plans have been explained to me.

[signature] VP Finance & Admin
Signature and Title

1/22/09
Date

CES ENVIRONMENTAL SERVICES, INC.
Employer Name (print or type)

4904 GRUGGS RD, HOUSTON, TX
Address

Texas Mutual Insurance Company	0000983818	1-25-2009
Insurance Company	Policy No.	Effective Date

Texas Mutual Insurance Company

DEPOSIT PREMIUM TRANSFER AGREEMENT

The Policyholder must submit this form and any additional information to Texas Mutual Insurance Company (the "Company"), prior to the effective date.

Note: Not available to START policyholders.

Agency Name: INSURANCE ALLIANCE

Producer Name: WILL HOUSTOUN

Underwriter Name:

Insured Name: CES ENVIRONMENTAL SERVICES, INC.

Quote Number:

Expiring Policy Number:

Insured FEIN Number:

Today's Date: 1/22/09

Coverage Effective Date: 1/25/09

NETWORK DESIGNATION:

☑ **In-Network**

☐ **Out-of-Network**

The Policyholder requests that the Company transfer its deposit premium for its current policy to its renewal policy with the effective date shown above and accept the transfer deposit premium in lieu of additional deposit premium for this renewal coverage. Policyholder acknowledges that its financial condition will remain acceptable to the Company during the policy term. Policyholder agrees to submit all interim reports timely with appropriate premiums due.

The Policyholder agrees to the following:

I promise to pay any and all additional premium due for the account shown above, whether assessed by premium audit, or otherwise, no later than the due date. I understand that the transfer deposit premium will not apply to any additional premium due.

[signature] **Date** 1/22/09

Policyholder Authorized Signature/Title

CES Environmental Services, Inc.

To:	**Will Houston/Debra Marie**
Fax:	**713-966-1700**
Re:	**Wrap Application**
From:	**Anissa Wright (CES Environmental)**
Phone:	**713-676-1460**
Fax:	**713-676-1676**
Date:	**12/2/2008**

Notes: The last two pages are from our articles of incorporation to provide support for question # 2 on page 5 of the application. Please call me with any questions you may have.

Thanks
Anissa Wright

TRAVELERS

Wrap+ SM
Coverage Application

Travelers Casualty and Surety Company of America
Hartford, Connecticut 06183

A. COMMON SECTION

NOTICE: ALL LIABILITY COVERAGE PARTS FOR WHICH APPLICATION IS MADE APPLY, SUBJECT TO THEIR TERMS, ONLY TO "CLAIMS" FIRST MADE OR DEEMED MADE AGAINST "INSUREDS" DURING THE POLICY PERIOD OR ANY EXTENDED REPORTING PERIOD, IF APPLICABLE. THE LIMIT OF LIABILITY AVAILABLE TO PAY LOSSES WILL BE REDUCED BY THE AMOUNTS INCURRED AS "DEFENSE EXPENSES", AND "DEFENSE EXPENSES" WILL BE APPLIED AGAINST THE RETENTION AMOUNT. THE COMPANY HAS NO DUTY TO DEFEND ANY "CLAIM" UNLESS DUTY-TO-DEFEND COVERAGE HAS BEEN SPECIFICALLY PROVIDED HEREIN.

GENERAL INFORMATION

The term "Applicant" means all corporations, organizations or other entities, including subsidiaries, proposed for this insurance.

Agency	Code	Agent Name/License Number	Policy Number

Applicant Information:

Name of **Applicant**: **CES Environmental Services, Inc**
Street Address: **4904 Griggs Rd**
City, State, Zip: **Houston, TX 77021**
Website Address: **www.cesenvironmental.com**
Description of **Applicant's** Operations: **Environmental Waste Management Services**
Year **Applicant's** Business Was Established: **1998**

Does the **Applicant** now have tax exempt status under the United States Internal Revenue Code? Yes ☐ No ☒
Is the **Applicant** a subsidiary of a foreign parent? Yes ☐ No ☒
Does the **Applicant** currently file, or do they anticipate in the next 6 months filing, any documents with the Securities and Exchange Commission, or similar foreign authority regarding any equity or debt securities? Yes ☐ No ☒

CONTACT INFORMATION FOR RISK MANAGEMENT SERVICES

The policy for which this application is made includes Risk Management Plus+ Online℠, a loss prevention program. Please provide the name and contact information for the individuals responsible for overseeing Financial and Human Resource matters for access to the program. This service is not, and should not be, considered a substitute for competent legal counsel. Any recommendations should be reviewed with appropriate legal counsel before implementation.

HR Contact: **Anissa Wright** HR Contact Email: **awright@cesenvironmental.com**
Title: **HR Manager** HR Contact Phone: **(713) 676-1460**

Chief Financial Officer: **Greg Bowman** CFO Contact Email: **gbowman@cesenvironmental.com**
Preferred Title: **VP Finance & Administration** CFO Contact Phone: **(713) 419-6076**

1. Subsidiary Information and 50% or more owned joint ventures under management control:

Name	% Owned	Year Started	Description of Operations	Entity Type*
n/a	%			
	%			
	%			

***Entity Types: FP = For-Profit (other than Partnership) NP = Non-Profit GP = General Partnership LP = Limited Partnership LLC = Limited Liability Company To enter more information, please attach a separate page or an organization chart**

EPAHO120000582

2. Locations of **Applicants** and number of employees* for each:

		Full Time Employees		Part Time Employees	
State or Foreign Country	**# of Locations**	**As of Date of Application**	**12 Months Ago**	**As of Date of Application**	**12 Months Ago**
Texas	**2**	**125**	**107**	**0**	**0**

***Employees include Leased, Temporary, Seasonal and Volunteer Employees**
To enter more information, please attach a separate page to the application

3. Maximum number of employees at any one point during the previous 12 months for the following classifications (regardless of whether they are full or part time):

Labor Unions	Independent Contractors	Temporary	Leased	Seasonal
0	0	0	0	0

4. In the next 12 months (or during the past 24 months) is the **Applicant** contemplating (or has the **Applicant** completed or been in the process of completing) the following:
   a. Any actual or proposed merger, acquisition, or divestiture? Yes ☐ No ☒
   b. Any creation of a new business, subsidiary or division? Yes ☒ No ☐
   c. Any registration for a public offering or a private placement of securities? Yes ☐ No ☒
   d. Any reorganization or arrangement with creditors under federal or state law? Yes ☐ No ☒
   e. Any branch, location, facility, office, or subsidiary closings, consolidations or layoffs? Yes ☐ No ☒

   If any of the above questions were answered "Yes", please attach an explanation, including the timing, the essential terms of the event, arrangement, and the surrounding circumstances.

FINANCIAL INFORMATION

Note: Omit this section if the Applicant is required to submit a separate financial statement as directed by any Required Attachments section.

Please indicate the following as it relates to the Applicant's fiscal year end (FYE): *(please indicate negative figures with "( )" or "-", as appropriate)*	**Most Recent FYE (Month/Year) 12 / 2007**	**Prior FYE (Month/Year) 12 / 2006**
1. Current Assets	**$5,100,000.00**	**$2,700,000.00**
2. Total Assets	**$14,300,000.00**	**$6,900,000.00**
3. Current Liabilities	**$5,700,000.00**	**$2,300,000.00**
4. Long Term Debt	**$6,000,000.00**	**$3,500,000.00**
5. Retained Earnings/Fund Balance (Accumulated Deficit/Fund Deficit)	**$3,129,234.00**	**$1,627,610.00**
6. Net Equity/Net Assets (Deficit Equity)	**-$554,462.00**	**$279,920.00**
7. Revenues	**$29,223,548.00**	**$16,669,236.00**
8. Net Income (Net Loss)	**$1,510,283.00**	**$182,911.00**
9. Is the **Applicant** currently, or has it been in the past 24 months, in violation or has it amended any debt covenant? **If "Yes", please attach an explanation**		Yes ☐ No ☒

AUDITOR INFORMATION

Scope of CPA Financial Statement preparation: Internal ☐ Compilation ☐ Review ☒ Audit ☐ None ☐

1. Has the **Applicant** changed outside auditors in the last three (3) years? **If "Yes", please attach an explanation** — Yes ☒ No ☐ N/A ☐
2. Have the outside auditors stated there are material weaknesses in the **Applicant's** systems of internal controls? **If "Yes", please attach an explanation and provide the latest CPA letter to management and management's response** — Yes ☐ No ☒ N/A ☐
3. Has the **Applicant** implemented all material recommendations of the auditor? **If "No", please attach an explanation** — Yes ☒ No ☐ N/A ☐
4. Has any auditor issued a "going concern" opinion for the **Applicant** or any of its subsidiaries financial statements during the past three (3) years? **If "Yes", please attach an explanation** — Yes ☐ No ☒ N/A ☐

EPAHO120000583

POLICY OPTIONS

1. What limit options would the **Applicant** like? (please select all that apply)

   Individual Limits ☐ Liability Coverage Shared Limit of Liability ☐ Crime Coverage Aggregate Limit of Insurance ☐ WRAP+ Aggregate Limit of Liability ☒

2. Does the **Applicant's** current D&O coverage include EPL coverage? Yes ☐ No ☒ N/A ☐

3. What is the **Applicant's** preference for defense coverage? Duty to Defend ☐ Reimbursement ☐

CURRENT INSURANCE INFORMATION/REQUESTED INSURANCE TERMS

LIABILITY COVERAGES

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Desired Liability Coverage	**Coverage Requested**	**Requested Limit**	**Requested Retention**	**Coverage Currently Purchased**	**Expiring Limit**	**Expiring Retention**	**Premium**
Directors and Officers (D&O)	Yes ☒ No ☐	**$1,000,000.00**	$	Yes ☐ No ☒	$	$	$
	Requested Effective Date		**Current Insurer**			**Date Coverage First Purchased**	
Employment Practices (EPL)	Yes ☒ No ☐	**$1,000,000.00**	$	Yes ☐ No ☒	$	$	$
	Requested Effective Date		**Current Insurer**			**Date Coverage First Purchased**	
Fiduciary Liability	Yes ☒ No ☐	**$1,000,000.00**	$	Yes ☐ No ☒	$	$	$
	Requested Effective Date		**Current Insurer**			**Date Coverage First Purchased**	
Miscellaneous Professional Liability	Yes ☐ No ☒	$	$	Yes ☐ No ☒	$	$	$
	Requested Effective Date		**Current Insurer**		**Date Coverage First Purchased**		**Retroactive Date:**

1. **With respect to the Liability Coverages currently purchased as indicated in column (d) above, and for which the Applicant is applying with this application, please answer the following question:**

   As of the Date the **Applicant** first purchased this Liability Coverage, were there any facts, circumstances, or situations which might have resulted in a claim being made against any insured? Yes ☐ No ☒

   If "Yes", please attach an explanation

   (Not applicable if coverage first purchased and continuously maintained more than 3 years prior to this application date)

2. **With respect to the Liability Coverages being applied for above, Liability for Coverages answered "No" in column (d) above:**

   Are there any facts, circumstances, or situations which could give rise to a claim under the Liability Coverage(s) for which the **Applicant** is applying? **If "Yes", please attach an explanation** Yes ☐ No ☒

3. **With respect to the Liability Coverages being applied for above, if Requested Limit of Liability in Column (b) exceeds the Expiring Limit of Liability in Column (e):**

   With respect to the higher limits requested, are there any facts, circumstances, or situations which could give rise to a claim under the Liability Coverage(s) for which the **Applicant** is applying? Yes ☐ No ☐

   If "Yes", please attach an explanation

Without prejudice to any other rights and remedies of the Company, any claim arising from any facts or circumstances required to be disclosed is excluded from the proposed insurance.

EPAHO120000584

CRIME COVERAGES

1. Desired Crime Coverage	Expiring Limit	Expiring Retention	Requested Limit	Requested Retention
Fidelity: Employee Theft			**$25,000.00**	
Fidelity: ERISA Fidelity			**$25,000.00**	
Fidelity: Employee Theft of Client Property			**$1,000,000.00**	
Forgery or Alteration			**$25,000.00**	
On Premises (Money, Securities and Other Property)			**$25,000.00**	
In Transit (Money, Securities and Other Property)			**$25,000.00**	
Money Orders and Counterfeit Money			**$25,000.00**	
Computer Crime			**$25,000.00**	
Funds Transfer Fraud			**$50,000.00**	
Personal Accounts Protection			**$1,000,000.00**	
Claim Expense			**$25,000.00**	

Expiring Insurer: _____ Expiring Premium: $ _____

2. Desired Kidnap and Extortion for Ransom Coverage	Expiring Limit	Expiring Retention	Requested Limit	Requested Retention
Yes ☒ No ☐			**$1,000,000.00**	

Expiring Insurer: _____ Expiring Premium: $ _____

OTHER COVERAGES:

Desired Identity Fraud Expense Reimbursement Coverage	**Requested Limit**	$ 1,000 ☐	$ 5,000 ☐	$ 10,000 ☐	$ 25,000 ☒
	Requested Retention	$ 0 ☐	$ 100 ☐	$ 250 ☒	
	Expiring Limit	$			
	Expiring Retention	$			

***Contact information required to verify employment at time of claim.**
Contact Name*: **Greg Bowman** Email: **gbowman@cesenvironmental.com** Phone: **713-676-1460**

LOSS INFORMATION

FOR LIABILITY COVERAGES

Related to the requested Liability Coverage(s), has any person or entity proposed for this insurance been a party to any employment-related claims, ERISA claims, professional liability claims, securities claims, criminal actions, administrative or regulatory proceedings, charges, hearings, demands or lawsuits during the past three years including but not limited to, shareholder, creditor, antitrust, fair trade law, copyright or patent litigation, whether or not insured? **If "Yes", please complete the table below** Yes ☐ No ☒

To the extent that any lawsuit or claim required to be disclosed in response to the question above constitutes a "Claim" as defined by the Policy, such claim was made prior to the policy period requested hereunder and therefore would be excluded from coverage.

Details	Amount Paid for Defense	Amount Paid for Damages	Covered by Insurance?	Corrective Procedures Implemented
	$	$	Yes ☐ No ☐	
	$	$	Yes ☐ No ☐	

FOR CRIME, KIDNAP AND EXTORTION FOR RANSOM AND IDENTITY FRAUD EXPENSE REIMBURSEMENT COVERAGES

EPAHO120000585

Has the **Applicant** incurred any Crime, Kidnap and Extortion for Ransom or Identity Fraud Expense Reimbursement related losses or incidents during the past three years? Yes ☐ No ☒

If "Yes", please complete the table below

To the extent that any loss, incident or expense is required to be disclosed in response to the question above and such loss, incident or expense was "Discovered", as defined by these Coverages, prior to the policy period requested hereunder, such loss, incident or expense is excluded under these Coverages.

Date of Loss	Amount of Loss	Description of Loss	Corrective Procedures Implemented
	$		
	$		
	$		

B. PRIVATE DIRECTORS & OFFICERS COVERAGE PART

NOTICE: **Private Company Directors & Officers Liability policies typically include Employment Practices Liability Coverage. If the Applicant desires Employment Practices Liability Coverage, please complete and attach the Employment Practices Liability Coverage Application with this application. The application below only pertains to the Private Company Directors & Officers Liability Coverage.**

SHAREHOLDER INFORMATION

1. Total Shares	Common	Preferred	Other
Authorized			
Outstanding			
Voting Shares Outstanding			
Voting Shares Owned by Directors & Officers (Direct & Beneficial)			
Number of Voting Shareholders			

If there are multiple classes of stock, please attach a list. The list should include: Number of Shareholders and Number of Shares Held in Each Stock Class

2. Does the Charter or By-laws of the Organization provide indemnification to its Directors and Officers to the fullest extent permitted by law? Yes ☒ No ☐
3. Are there any securities that are convertible to voting stock? **If "Yes", please attach an explanation** Yes ☐ No ☒
4. Please list all shareholders that own greater than 5% of any class of security:

Shareholder	Class of Security	% Owned	Director or Officer?
Matt Bowman		**95.00%**	Yes ☒ No ☐
		%	Yes ☐ No ☐
		%	Yes ☐ No ☐
		%	Yes ☐ No ☐
		%	Yes ☐ No ☐

If there are more shareholders, please attach a list. The list should include: Shareholder Name, Class of Security, % Owned and Indicate if they are a Director or Officer

5. Is any shareholder a trust that qualifies as an Employee Stock Ownership Plan under ERISA or holds securities for the benefit of employees? **If "Yes", please attach most recent stock valuation report** Yes ☐ No ☒
6. Have there been any changes in the Board of Directors or Senior Management of the **Applicant** within the past three (3) years for reasons other than death or retirement? Yes ☒ No ☐
   If "Yes", please attach an explanation
7. Are there currently outstanding loans to any director or officer? Yes ☒ No ☐
   If "Yes", please attach an explanation

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REQUIRED ATTACHMENTS – PRIVATE D&O

As part of this Application, submit the following documents with respect to the **Applicant**:

- Most recent annual financial statement, if limit requested is greater than $1,000,000 or, **Applicant** has been in business less than 3 years.
- List of Directors & Officers, if limit requested is greater than $1,000,000
- Any Private Placement Memorandum(s) or any documents filed with the Securities and Exchange Commission in the past year
- Interim financial statement for Development Stage companies

C. EMPLOYMENT PRACTICES LIABILITY COVERAGE PART

(Please provide the following turnover figures for each of the last three years)

	2006	2007	2008
Voluntary Terminations	0	4	10
Involuntary Terminations	1	3	5
Layoffs	0	0	0

Number of employees compensated **less than** $50,000 annually: 105

Number of employees compensated **more than** $100,000 annually: 8

HUMAN RESOURCES

1. Does the **Applicant** have a Human Resources (HR) department? Yes ☒ No ☐
   Number of HR employees: 1
2. Are individuals who handle human resources functions, both in HR department and locally, formally trained on HR matters? Yes ☒ No ☐
3. Does the **Applicant** have an employee handbook which has been reviewed by legal counsel? Yes ☒ No ☐
4. Does the **Applicant** utilize an employment application? Yes ☒ No ☐
5. Does the employment application or employee handbook contain "Employment at Will" language? Yes ☒ No ☐
6. Does the employment application contain an "Equal Employment Opportunity" statement? Yes ☒ No ☐
7. Please indicate whether the **Applicant** has formal written policies and procedures related to the following and indicate whether employees sign and acknowledge receipt and understanding:

		Receipt Acknowledged
Zero Tolerance Sexual Harassment	Yes ☒ No ☐	Yes ☒ No ☐
Discrimination	Yes ☒ No ☐	Yes ☒ No ☐
Equal Opportunity	Yes ☒ No ☐	Yes ☒ No ☐
Disabled Employees and Accommodations	Yes ☒ No ☐	Yes ☒ No ☐
Grievance Procedures	Yes ☒ No ☐	Yes ☒ No ☐
Pregnancy Leave/FMLA	Yes ☒ No ☐	Yes ☒ No ☐
Employee Discipline	Yes ☒ No ☐	Yes ☒ No ☐
Annual Written Performance Evaluation	Yes ☒ No ☐	

8. Have the above policies and procedures been reviewed by legal counsel within the past 24 months? Yes ☒ No ☐
9. With respect to employee terminations, does the **Applicant** consult with legal counsel or Human Resources personnel prior to every termination? Yes ☒ No ☐
   If "No", please attach an explanation describing your procedures
10. Please indicate whether the **Applicant** conducts human resources training, including sexual harassment training for managers and supervisors? Yes ☒ No ☐
11. What percent of the **Applicant's** revenue is derived from being a Federal Contractor? 0.00%
12. Is **Applicant** a: General Contractor ☐ Subcontractor ☐
    If General Contractor, what percentage of jobs require Subcontractors? 3.00%

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REQUIRED ATTACHMENTS – EPLI

As part of this Application, submit the following documents with respect to the **Applicant:**

- Employee Handbook, if **Applicant** has 500 or more employees
- Most recent EEO-1 report, if **Applicant** has 1,000 or more employees
- Most recent annual financial statement, if policy limit requested is greater than $2,000,000
- Construction Supplemental Questionnaire, if **Applicant** is a contractor
- Third Party Supplemental Questionnaire, if **Applicant** requests this coverage option

D. FIDUCIARY LIABILITY COVERAGE PART

Premium to be Paid By: Employer or Union ☒ Trust or Plan ☐	
Total Number of Plan Fiduciaries:	**1**

PLAN DATA – (COMPLETE CHART FOR ALL PLANS FOR WHICH COVERAGE IS REQUESTED)

Full Plan Name	*Plan Type	Current Asset Value	Latest FYE Annual Contributions	Current No. of Participants	**Plan Status
CES Environmental Services Inc 401k & Profit Sharing	**E**	**$112,650.00**		**65**	**A**

***Plan Types: Defined Benefit (DB) Defined Contributions (DC) ESOP (E) Self-Funded Welfare Benefit Plan (W) Other (O) – Attach Explanation**

****Plan Status: (A)=Active (F)=Frozen (S)=Sold (T)=Terminated (if any plan has been terminated, indicate date of transaction)**

List additional plans on a separate attachment

PLAN UNDERWRITING QUESTIONS

1. Is each plan reviewed periodically to assure there are no violations of ERISA (e.g., prohibited transactions or party-in-interest rules)? **If "No", please attach an explanation** — Yes ☒ No ☐
2. Does any plan (a) not conform to the standards of eligibility, participation, vesting, blackout notification requirements and other provisions of ERISA or similar foreign law; (b) hold employer securities or employer real property in violation of ERISA or in excess of ERISA limits; or (c) invest in or provide an option to invest in employer securities? **If "Yes", please attach an explanation** — Yes ☐ No ☒
3. Has any plan (a) been the subject of an investigation by the DOL, IRS, or any similar foreign agency; (b) had its tax exempt status withdrawn or threatened to be withdrawn by the IRS; (c) experienced an event reportable to the PBGC; (d) filed for an exemption from a prohibited transaction; (e) received an adverse opinion as to its financial condition by an independent public accountant; or (f) not been certified by an actuary to be adequately funded in accordance with ERISA's minimum funding standard? **If "Yes", please attach an explanation** — Yes ☐ No ☒
4. Does the **Applicant** sponsor any Cash Balance Plans or does the **Applicant** anticipate the conversion to or has it ever converted a pension plan to a Cash Balance Plan? **If "Yes", please attach an explanation** — Yes ☐ No ☒
5. Has any plan (a) been amended within the last 12 months in a way that will result in the reduction of benefits or are any such amendments anticipated within the next 12 months; or (b) been merged with another plan, terminated or sold within the past two years or anticipated in the next 12 months? **If "Yes", please attach an explanation detailing whether a blackout period will result and any associated plans for implementation and disclosure to participants** — Yes ☐ No ☒
6. Are there any outstanding or delinquent plan contributions or plan loans, leases or debt obligations that are in default or classified as uncollectible? **If "Yes", please attach an explanation** — Yes ☐ No ☒
7. Does the employer, committee or employer representatives, or union board of trustees have final say over the determination of whether benefits will be paid under any healthcare plan sponsored by this Insured? **If "Yes", please attach an explanation identifying the names of such plans** — Yes ☐ No ☒

Please provide name of firm(s) providing the following services:

CPA	Attorney	Actuary	Investment Advisor
Weinstein Spyra	**Bill Buck**	**n/a**	**Chad Lacy**

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REQUIRED ATTACHMENTS – FIDUCIARY LIABILITY

- Sponsor financial statement if the **Applicant** maintains a defined benefit, self-funded welfare plan, an Employee Stock Ownership Plan or if the **Applicant** is a Church or Government or Quasi-Governmental entity
- Sponsor and plan financial statement for each defined contribution plan, if limit requested is greater than $5,000,000
- Plan financial statements for defined benefit plans and self insured welfare plans, if limit requested is greater than $1,000,000
- ESOP Questionnaire, if any plan is an ESOP or if any plan has 10% or more of plan assets invested in employer securities
- Most recent Form 5500 for each Union plan or Self Insured Welfare plan
- Schedule of plan trustees for each Union plan and any Church, Government or Quasi-Government plan

E. MISCELLANEOUS PROFESSIONAL LIABILITY COVERAGE PART

1. Describe, in detail, all professional services offered by the **Applicant**:

Professional Services	Coverage Desired?	% of Total Revenue	% of Revenue Sub-Contracted
n/a	☐ Yes ☐ No	%	%
	☐ Yes ☐ No	%	%
	☐ Yes ☐ No	%	%
To enter more information, please attach a separate page to the application			

2. Is a written contract or agreement required for each client? ☐ Yes ☐ No
   If Yes, attach sample
   If "No", please attach an explanation detailing how responsibilities are defined between the Applicant and their Client
3. Projected Revenue for the next 12 months: $_____
4. Does the **Applicant** provide any services over the Internet? **If "Yes", Please Attach an Explanation** ☐ Yes ☐ No
5. a. Number of Professionals/Principals/Officers_____ All other employees _____
   b. List the following information for all Principals/Partners, Officers, Professional Employees:

Name	Title	Professional Designation	Numbers of Years Experience in Practice	Number of Years with the Applicant
To enter more information, please attach a separate page to the application				

6. List all professional associations to which the **Applicant** belongs:

_____

_____

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7. Describe the **Applicant's** five largest projects or jobs during the past three years:

Client Name	Services Rendered	Annual Revenue Derived from the Project or Job

8. If subcontractors are used, does the **Applicant** require evidence of professional liability insurance? ☐Yes ☐No ☐N/A

REQUIRED ATTACHMENTS – MPL

As part of this Application, submit the following documents with respect to the **Applicant**:

- Copies of standard contracts and engagement/proposal letter used with clients if policy limit requested is greater than $1,000,000
- Biographical sketches/resumes of all Principals, Partners, and key employees if in business less than three years
- Brochures, advertisements, or other descriptive literature about the **Applicant** firm, its operations, and activities (if not available on website)
- Most recent annual financial statement, if revenues exceed $7,000,000 or policy limit requested is greater than $3,000,000

F. CRIME COVERAGE PART

1. Are owners active in the day to day oversight of business operations? Yes ☒ No ☐
2. Does someone other than the person responsible for reconciling bank accounts:
   Make Deposits? Yes ☒ No ☐ Make Withdrawals? Yes ☒ No ☐ Sign Checks? Yes ☒ No ☐
3. Is countersignature of checks required? Yes ☐ No ☒ If Yes, what is the dual signing limit? $ _____
4. Is segregation of duties practiced in the following areas:
   Inventory management? Yes ☒ No ☐ Cash receipts? Yes ☒ No ☐
   Vendor approval? Yes ☒ No ☐ Oversight of blank check stock? Yes ☒ No ☐
   Purchase order approval and payment? Yes ☒ No ☐ Retail checks and credit card receipts? Yes ☒ No ☐
   Wire transfer receipts and payments Yes ☒ No ☐
5. Are all incoming checks stamped "for deposit only" immediately upon receipt? Yes ☒ No ☐
6. Is a physical count of inventory conducted at least annually? Yes ☐ No ☐
7. Are inventory records computerized? Yes ☒ No ☐
8. Are the duties of computer programmers and operators separated? Yes ☒ No ☐
9. Is dual authorization required for all wire transfers? Yes ☐ No ☐ N/A ☐
10. Do you perform any of the following on candidates for new employment:
    Verification of Prior Employment? Yes ☒ No ☐ Credit History? Yes ☐ No ☒
    Drug Testing? Yes ☒ No ☐ Criminal History? Yes ☒ No ☐
    Education Verification? Yes ☐ No ☒
11. Please indicate if you have or perform any of the following:

Business Practices/Policies:

Formal written business plan?	☒	Code of Ethics?	☒
Fraud Policy?	☐	Conflict of Interest Policy?	☒
Confidential hotline or procedure for employees to report violations in your policies?	☐		

Physical Controls:

Guards/Watchmen	☒	Premises Alarm Systems	☐
Messengers	☐	Controlled Premises Access	☐
Other protection	☐		

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UNIQUE/SIGNIFICANT EXPOSURES

Please indicate any of the following characteristics or exposures that apply to your business operations:

Precious Metals or Gemstones	☐	Proprietary credit cards	☐	Care, custody and control of clients' property	☐
High Unit, Portable Inventory	☒	Employee credit cards	☒	Active participation in more than one industry	☐
Managed Assets of Others	☐	Computer chips	☐	Art collection or other valuable collectibles	☐
Proprietary Trading Activity	☒	Warehousing operations	☐	None Applicable	☐
Joint Ventures	☐	Narcotics	☐		

If you checked any of the characteristics or exposures above, please provide details that quantify the exposure and briefly describe the controls in place to protect you from loss in a separate attachment

REQUIRED ATTACHMENTS – CRIME

As part of this Application, submit the following documents with respect to the **Applicant**:

- Most recent annual financial statement, for limit requests of $5,000,000 or greater
- CPA Management Letter, if prepared, for limit requests of $5,000,000 or greater
- If coverage for Employee Theft of Client Property (Third Party Crime) is requested, submit Third Party Crime Supplemental Questionnaire.

G. KIDNAP & EXTORTION COVERAGE PART

1. Are any operations to be insured involved in the production of foodstuffs, beverages or pharmaceuticals (including toothpaste, mouthwash, etc.)? **If "Yes", please attach an explanation** Yes ☐ No ☒

FOREIGN EXPOSURE

**Please complete the following questions regarding foreign locations and travel.*

1. Do directors, officers or other employees of the **Applicant** take trips outside the United States and Canada? Yes ☒ No ☐
   If "Yes", please provide travel information for the previous 12 months and upcoming 12 months

Country	Number of Trips	Number of Individuals	Average Length of Trips
Kosovo, Katar, Greece, Germany, Albania	3-5	1-3	7/10 days
To enter more information, please attach a separate page to the application			

2. Are there any permanent foreign locations of the **Applicant?** Yes ☐ No ☒
   If "Yes", please provide both the existing and anticipated foreign locations:

Country	Type of Operation (i.e. Sales, Mfg.)	Number of Employees
To enter more information, please attach a separate page to the application		

3. Are any steps taken to ensure an Insured Person's safety when traveling outside the United States? Yes ☐ No ☒
   If "Yes", please attach an explanation
4. Are any steps taken to ensure the safety of Insured Person(s) and Premises permanently located outside of the United States? **If "Yes", please attach an explanation** Yes ☐ No ☒
5. Does the **Applicant** or any person(s) to be covered under this policy have knowledge or information of any specific fact which may reasonably give rise to a claim? Yes ☐ No ☒
   If "Yes", please attach an explanation

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H. SIGNATURE SECTION

THE UNDERSIGNED AUTHORIZED REPRESENTATIVE OF THE APPLICANT DECLARES THAT TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF, AFTER REASONABLE INQUIRY, THE STATEMENTS SET FORTH IN THE ATTACHED ST. PAUL TRAVELERS NEW BUSINESS OR RENEWAL APPLICATION FOR INSURANCE ARE TRUE AND COMPLETE AND MAY BE RELIED UPON BY ST. PAUL TRAVELERS. IF THE INFORMATION IN ANY APPLICATION CHANGES PRIOR TO THE INCEPTION DATE OF THE POLICY, THE APPLICANT WILL NOTIFY THE COMPANY OF SUCH CHANGES, AND THE COMPANY MAY MODIFY OR WITHDRAW ANY OUTSTANDING QUOTATION. THE COMPANY IS AUTHORIZED TO MAKE INQUIRY IN CONNECTION WITH THIS APPLICATION.

THE SIGNING OF THIS APPLICATION DOES NOT BIND THE COMPANY TO OFFER, NOR THE APPLICANT TO PURCHASE, THE INSURANCE. IT IS AGREED THAT THIS APPLICATION, INCLUDING ANY MATERIAL SUBMITTED THEREWITH, SHALL BE THE BASIS OF THE INSURANCE AND SHALL BE: (1) IN VA AND UT, PHYSCIALLY ATTACHED TO AND PART OF THE POLICY, IF ISSUED; AND (2) IN ALL STATES OTHER THAN VA AND UT, CONSIDERED PHYSICALLY ATTACHED TO AND PART OF THE POLICY, IF ISSUED. THE COMPANY WILL HAVE RELIED UPON THIS APPLICATION, INCLUDING ANY MATERIAL SUBMITTED IN CONNECTION WITH THE APPLICATION PROCESS, IN ISSUING THE POLICY.

ELECTRONICALLY REPRODUCED SIGNATURES WILL BE TREATED AS ORIGINAL.

Attention: Insureds in AR, CO, DC, FL, KY, LA, ME, NJ, NM, NY, OH, OK, PA, TN, and VA
Any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance or statement of claim containing any materially false information, or conceals for the purpose of misleading, information concerning any fact material thereto, commits a fraudulent insurance act, which is a crime, and may also be subject to a civil penalty.

(In New York, the civil penalty is not to exceed five thousand dollars and the stated value of the claim for each such violation.)

(In Colorado, any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado Division of Insurance within the Department of Regulatory Agencies.)

(In Pennsylvania, any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance or statement of claim containing any materially false information or conceals for the purpose of misleading, information or concerning any fact material thereto commits a fraudulent insurance act, which is a crime and subjects such person to criminal and civil penalties.)

(In Washington, it is a crime to knowingly provide false, incomplete, or misleading information to an insurance company for the purpose of defrauding the company. Penalties include imprisonment, fines, and denial of insurance benefits.)

Signature of **Applicant's** Authorized Representative (President or CEO) _____ Title: VP Finance + Admin

Name (Printed): Grey Bowman Date: 12/2/08

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ADDITIONAL INFORMATION

This page may be used to provide additional information to any question on this application. Please identify the Section and Question Number (e.g., Financial Information, #9).

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ENVIRONMENTAL SERVICES, INC. and affix the seal of CES ENVIRONMENTAL SERVICES, INC. thereto. He may sign with the President all certificates for shares of the capital stock of CES ENVIRONMENTAL SERVICES, INC.; he shall have charge of the certificate books, transfer books and stock ledgers, and such other books and papers as the Board of Directors may direct, all of which shall at all reasonable times be open to inspection of any Director upon application at the office of CES ENVIRONMENTAL SERVICES, INC. during business hours, and he shall in general perform all duties incident to the office of the Secretary, subject to the control of the Board of Directors.

Section 11 - Sureties and Bonds:

In case the Board of Directors shall so require, any officer, employee or agent of CES ENVIRONMENTAL SERVICES, INC. shall execute to CES ENVIRONMENTAL SERVICES, INC. a bond in such sum, and with such surety or sureties as the Board of Directors may direct, conditioned upon the faithful performance of his duties to CES ENVIRONMENTAL SERVICES, INC., including responsibility for negligence and for the accounting for all property, funds or securities of CES ENVIRONMENTAL SERVICES, INC. which may come into his hands.

ARTICLE IV

INDEMNIFICATION AND INSURANCE OF DIRECTOR AND OFFICERS

Section 1 - Indemnification:

Each Director and each officer or former Director or officer of this Corporation or each person who may have served at request as a Director or officer of another corporation in which it owned shares of capital stock or of which it is a creditor, shall be indemnified by CES ENVIRONMENTAL SERVICES, INC. against liabilities imposed upon him and expenses reasonably incurred by him in connection with any claim made against him, or any action, suit or proceeding to which he may be a party by reason of his being, or having been such Director or officer, and against such sums as independent counsel selected by the Board of Directors shall deem reasonable payment made in settlement of any such claim, action, suit or proceeding primarily with a view of avoiding expenses of litigation; provided, however, that no Director or officer shall be indemnified with respect to matters as to which he shall be adjudged in such action, suit or proceeding to be liable for negligence or misconduct in performance of duty, or with respect to any matters which shall be settled by the payment of sums which counsel selected by the Board of Directors shall not deem reasonable payment made primarily with a view to avoiding expenses of litigation, or with

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respect to matters for which such indemnification would be against public policy. Such right of indemnification shall be in addition to any other rights to which Directors or officers may be entitled.

Section 2 - Insurance:

CES ENVIRONMENTAL SERVICES, INC. may purchase and maintain insurance on behalf of any person who is or was a Director, officer, employee, or agent of CES ENVIRONMENTAL SERVICES, INC., or is or was serving at the request of CES ENVIRONMENTAL SERVICES, INC. as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, against any liability asserted against him and incurred by him in any such capacity or arising out of his status as such, whether or not CES ENVIRONMENTAL SERVICES, INC. would have the power to indemnify him against such liability.

ARTICLE V

CAPITAL STOCK

Section 1 - Certificates of Shares:

The certificates for shares of the capital stock of the Corporation shall be in such form as shall be approved by the Board of Directors. The certificates shall be signed by the Chairman of the Board, if any, or the President, and also by the Secretary or an Assistant Secretary or by the Treasurer or an Assistant Treasurer, and may be sealed with the seal of this Corporation or a facsimile thereof. Where any such certificate is countersigned by a transfer agent, or registered by a registrar, either of which is other than CES ENVIRONMENTAL SERVICES, INC. itself or an employee of CES ENVIRONMENTAL SERVICES, INC., the signatures of any such Chairman of the Board, if any, or President and the Secretary of Assistant Secretary or Treasurer or Assistant Treasurer may be facsimiles. They shall be consecutively numbered and shall be entered in the books of CES ENVIRONMENTAL SERVICES, INC. as they are issued and shall exhibit the holder's name and number of shares.

Section 2 - Transfer of Shares:

The shares of stock of CES ENVIRONMENTAL SERVICES, INC. shall be transferable only on the books of CES ENVIRONMENTAL SERVICES, INC. by the holders thereof in person or by their duly authorized attorneys or legal representatives, upon surrender and cancellation of certificates for a like number of shares.

Section 3 - Closing of Transfer Books:

For the purpose of determining shareholders entitled to notice of

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