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LAB MEMOS 2008
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LAB
T-48
8/4/09
CE

CES Environmental Services, Inc.

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To: Shannon Ward
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/24/08

From: Miles Root

Lab Memo: 08-227

Subject: **Tornado Evaluation 1208-57**

A sample of waste water from Tornado, Alleyton, TX, has been evaluated for potential processing at CES. This sample is evaluation 1208-57. It is waste water generated from the cleaning of both newly fabricated and used flares. Overall, this water treats well and is low in our standard impurities testing. It is recommended for potential acquisition.

This water treats easily and forms a floc which readily separates out of solution. There are no phenols; the metals are low along with the TOC. The flash point of this water is greater than 140 deg F.

The table below summarizes the analytical test data.

Tornado	
Evaluation 1208-57	
Solids, vol%	2
pH	7
Phenols, ppm	0
TOC, mg/L	2,258
Oil, vol%	0
Flash Point, deg F	>140
Treatability	OK
Metals, ppm	
Ni	0.141
Zn	0.112
Cu	0.071
Cd	0.062

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/24/08

From: Miles Root

Lab Memo: 08-226

Subject: **Delta Chemical – Working Solutions Evaluation 1208-55**

A sample of solvent/water from Delta Chemical via Working Solutions has been evaluated for potential use at CES. This sample is evaluation 1208-55. It is essentially mineral spirits (paint thinner) and water. Overall, this material blends with light ends and is a good place for it due to the small volume. It is recommended for acquisition.

This material is two phased, with the mineral spirits on top and water on bottom. The solvent is orange/brown in appearance. It has a viscosity of 1.5 cSt @ 40 deg C. The chlor-d-tect is 900 ppm, which really does not apply to this solvent since it is not oil. Its flash point is between 125 and 130 deg F. Its BTU is 14,408 and has a density of 0.789.

The water treats easily and forms a nice floc that quickly separates out. The metals are acceptable. The phenol is 40 ppm, but this is such a small volume so is of no concern. TOC is 21,000 ppm.

This single tote is such a small volume of material that it will not be an issue. If the material is mixed when received, just allow it to phase separate and drain off the bottom water layer. The top goes into our light ends storage.

The table below summarizes the analytical testing.

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Delta Chemical - Working Solutions	
Evaluation 1208-55	
Solvent Layer	
Viscosity @ 40 deg C, cSt	2
Flash Point, deg F	125-130
BTU	14,408
Solvent, vol%	45
Chlor-d-tect, ppm	900
Water Layer	
TOC, mg/L	21,000
Phenols, ppm	40
pH	4
Solids, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.411
Zn	2.190
Cu	1.949
Cd	0.145

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/23/08

From: Miles Root

Lab Memo: 08-225

Subject: **Delta Chemical Evaluation 1208-54**

A sample of hydrocarbon from Delta Chemical has been evaluated for potential use at CES. This sample is evaluation 1208-54 and represents material from 95 contaminated drums. No other information is known about the types of chemicals in these drums. Overall, this material blends with light ends or may be sold "as is" as a fuel, due to its marginal BTU value.

This material is water white in appearance but has an unusual odor, if that is of any concern. Its density is 0.880 and it has a BTU value of 11,456. It blends well with light ends material and is immiscible with water. The drums of material may be marketed "as is"or mixed with light ends and sold. It acquisition is recommended.

Delta Chemical	
Evaluation 1208-54	
Density	0.880
Light Ends Blendability	OK
BTU/lb	11456

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/23/08

From: Miles Root

Lab Memo: 08-224

Subject: **Martin/JTT Evaluation 1208-47**

A sample of oil/diesel mix from Martin/JTT has been evaluated for potential processing/sales at CES. This sample is evaluation 1208-47 and is a sample of oil/diesel mix. The volume of this stream is approximately 20,000 gallons. Overall, this source may be used with light ends or oil, but will need some processing to remove the sludge/water that it may contain.

This material should be brought in as a recyclable product. There are six boxes of this material that will have slightly varying degrees of water, but this sample has 11.7% by Hydro Scout testing. A TOX analysis shows less than 1000 ppm halogens. The sample does have a small amount of sludge type material and some fine particulates. The sludgy portions of these do not totally centrifuge out with a lab centrifuge but rather stick to the sides of the tube.

The flash point of this material is less than 75 deg F, with a specific gravity of 0.854, or an API gravity of 34. The ash content is 0.24 wt%. Gary will need to have the benzene content of this material communicated to operations before we can process it in the back oil area.

The table below summarizes the analytical data.

Martin/JTT Evaluation 1208-47	
Solids, vol%	<0.1
Specific Gravity	0.854
API Gravity	34
Flash Point, deg F	<75
Water, wt%	11.7
TOX, ppm	<1000
Ash, wt%	0.24

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/22/08

From: Miles Root

Lab Memo: 08-223

Subject: **Rineco BJ Services Evaluation 1208-35**

A sample of oily water from Rineco via BJ Services has been evaluated for potential processing at CES. This sample is evaluation 1208-35 and is a sample of oily water from a waste water trap. The volume of this stream is from one to four drums per month. Overall, this oily water is good for recycling to recover the oil, with the resulting water presenting no issues. It is recommended for acquisition and processing.

This particular sample is just over half oil, but future shipments may contain differing amounts of recoverable oil. The oil has a chlor-d-tect of only 200 ppm. The sample that I evaluated has oil that phase separates without any acid or heat addition. The water treats easily and forms a nice floc which quickly phase separates. The resulting water is low in metals, phenols, and has no TOC. The material we received each month in these drums should not cause any processing issues and is recommended for acquisition. The analytical data for this stream is summarized in the table below.

Rineco - BJ Services	
Evaluation 1208-35	
Solids, vol%	trace
pH	7
Phenols, ppm	1
TOC, mg/L	0
Oil, vol%	55
Chlor-d-tect, ppm	200
Treatability	OK
Metals, ppm	
Ni	0.336
Zn	0.179
Cu	0.049
Cd	0.102

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To: Ken Noakes
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/18/08

From: Miles Root

Lab Memo: 08-222

Subject: **Formosa, Pt. Comfort Evaluations 1208-448 & 49**

Two samples of waste water, one of which contains oil, from Formosa, Pt. Comfort, have been evaluated for potential processing at CES. These samples are evaluations 1208-48 and 49. These streams are the results of shutting down a processing unit. There are approximately 20,000 barrels of each of the two streams available. Overall, both of these streams are good for CES processing and their acquisition should be pursued.

Evaluation 1208-48 is waste water with no oil. While there is an odor of organics in this sample, it has a flash point greater than 140 deg F. The treated sample shows no TOC. The phenol is approximately 10 ppm. The metals are all at acceptable levels. This water treats easily with a nice floc and phase separation. It will make for good feed water.

Evaluation 1208-49 has an oil layer of approximately 40%. The water treats okay but takes a bit longer to separate the solids. This water also has phenols of 10 ppm and no TOC. The metals on the treated water are at an acceptable low level as well. The oil phase has a low chlor-d-tect of only 300 ppm. Its API gravity is 11, which is a specific gravity of 0.993. The water in the oil phase is 0.17%. This water will require heat and acid in the back oil facility but the oil will phase separate nicely. 20,000 barrels of this material means that close coordination with operations will be required to process this large volume of water requiring heat and acid treat. Also, the large volume of oil will require quick sales turnover or additional storage tank space.

The analytical test results for the Formosa samples are summarized in the table below.

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Formosa, Pt. Comfort		
Evaluations 1208-48 & 49		
	1208-48	1208-49
pH	8	8
Phenols, ppm	10	10
TOC, mg/L	0	0
Oil, vol%	0	40
Water in oil, wt%	N/A	0.17
API Gravity, oil	N/A	11
Specific Gravity, oil	N/A	0.993
Chlor-d-tect, ppm	N/A	300
Solids in water, vol%	0	0
Treatability	OK	OK
Flash Point, deg F, of water	>140	N/A
Metals, ppm		
Ni	0.148	0.355
Zn	0	0
Cu	0	0
Cd	0.043	0.095

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Keld Anderson, Brian Weathers, Bo Cumberland, Godefroy Gbery

Date: 12/17/08

From: Miles Root

Lab Memo: 08-221

Subject: **Rineco – NuStar Terminals - Evaluation 1208-44**

A sample of acrylic acid from Rineco, via NuStar Terminals, has been evaluated for potential use at PACES. This sample is evaluation 1208-44 and is a mixture of approximately 15% acrylic acid and 85% water. The potential volume of this stream is one load per year. Overall, this material is not a practical acid for caustic neutralization for reasons explained below and is not recommended for that use.

Attempts were made to neutralize an approximate 5% sulfidic caustic with this sample. A known volume of caustic was used for acidification, and the acrylic acid was added and mixed thoroughly to allow for complete reaction. Large volumes of this acid are needed for neutralization of the caustic. A 6:1 ratio of acid to caustic brought the pH down to 4.0. At a ratio of 8:1 acid to caustic, the pH was still only at 3.8 and the neutralization still incomplete. Acid addition ratios of this magnitude are not practical for industrial processes.

If disposal usage of this material is an option it can always be added to the reaction vessel as part of the treat. Its effect to lower the pH will be very minimal at any practical addition volume. The odor of acrylic acid is very strong and this may or may not be an issue. The acrylic acid mixture does not polymerize at a temperature of 190 deg F.

Overall, this acid mixture is not practical for use in acidification of the sulfidic caustic feedstock at PACES. It may be used in the reaction vessel with no other effects other than odor. At a potential of only one load per year this is minimal.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/17/08

From: Miles Root

Lab Memo: 08-220

Subject: **Afton Evaluation 1208-45**

A sample of waste water from Afton has been evaluated for potential processing at CES. This sample is evaluation 1208-45 and is called "Greenburn" product. Overall, this water has a low pH and does not treat well. It is really not suitable for processing at CES.

This sample has a pH of 1.8. Neutralization requires abnormally high amounts of caustic and produces solids. These solids are not typical salts from acid base reactions but look more like small pellets. These solids seemingly are produced immediately upon attempts at neutralization and become increasingly worse as the pH rises.

Attempts to perform a standard water treat produce a sample that is at least 90% sludge. The entire load would then need to be filter pressed.

Previous testing by Joy indicates that this water based material is not miscible with either black oil or light ends.

No further work was requested on this sample at this time.

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To: Keld Anderson
Cc: Matt Bowman, Brian Weathers, Bo Cumberland, Godefroy Gbery, Gary Peterson

Date: 12/15/08

From: Miles Root

Lab Memo: 08-219

Subject: **Solubility Curve for Sodium Sulfate**

I was able to find a solubility curve for sodium sulfate in water at various temperatures on the internet. While it is limited in details, it is enough information to help us set guidelines on initial caustic strength in our reaction vessels at PACES. The actual chart is a separate attachment.

The salts that are formed in the reaction vessel come from the reaction of the sodium sulfide or carbonate with sulfuric acid and result in sodium sulfate formation. Depending upon concentration and temperature, these salts are either soluble or insoluble in aqueous solutions. Using the beginning caustic strength in the reaction vessel it is a simple matter to convert the sodium hydroxide concentration back to sodium sulfate.

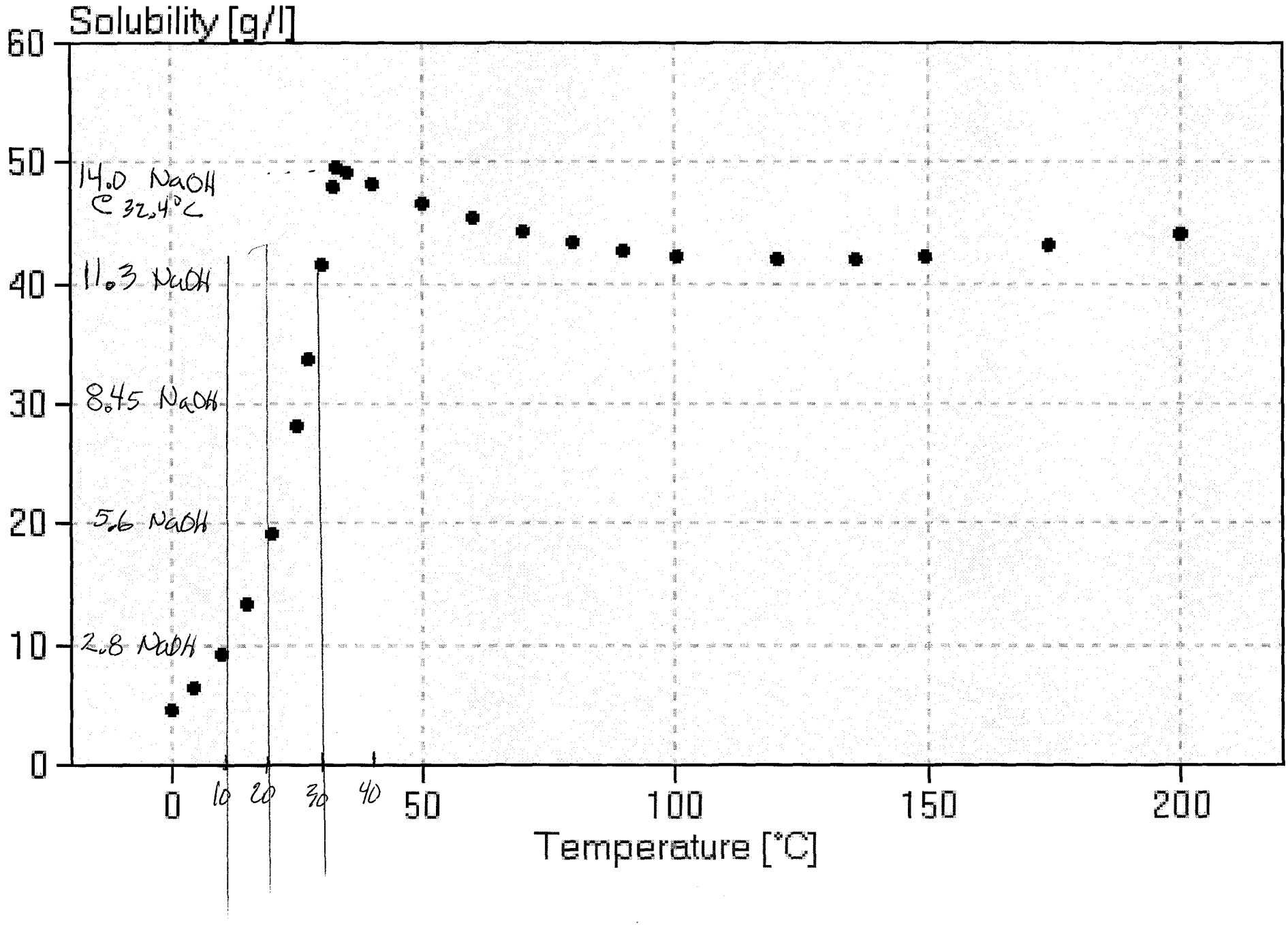
The left side of the chart is in weight percent concentration sodium sulfate. Converting these to wt% NaOH, so that the auto titrator value for caustic can be substituted for the sulfate, use the following simple conversions:

10 = 2.8 wt% as NaOH
20 = 5.6 wt% as NaOH
30 = 8.5 wt% as NaOH
40 = 11.3 wt% as NaOH
49.7 = 14.0 wt% as NaOH @ 32.4 deg C. (maximum solubility of sodium sulfate)

The table shows that the maximum solubility of sodium sulfate is at 32.4 deg C (90 deg F), and is 14.0 wt% as NaOH. It's safe to say that at temperatures above 86 deg F a concentration no greater than around 11% caustic should be trouble free in the reaction vessel. From the chart I estimate a temperature of 50 deg F will allow no more than the 2.8 wt% NaOH to be used. The dramatic change is solubility due to temperature should be kept in mind during our colder winter months. Remember that the temperature to use from the chart is the estimated temperature of the solution when it is discharged from the reaction vessel and not the air temperature.

The limitations on this curve are the assumption that all caustic streams will use sodium and not potassium (which I believe most are), and the presence of calcium salts, whose sulfates are only slightly water soluble. I've attached this chart in a second attachment so that one may print it and subdivide the temperature gradient to get the most accurate values possible.

Na_2SO_4



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To: Joy Baker
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Date: 12/15/08

From: Miles Root

Lab Memo: 08-218

Subject: **Textube Evaluation 1208-41**

A sample of waste water from Textube has been evaluated for potential processing at CES. This evaluation is 1208-41. This sample comes from the cleanout of sumps from a pipe manufacturer. The available quantity is 15 totes. Overall, this material will need to go to System I due to it characteristic to polymerize upon acidification.

This sample has a flash point greater than 140 deg F. It appears to be some type of emulsion. It has a pH of 8. Heat alone will not break this emulsion. Upon acidification when performing the standard water treat a portion of the sample polymerizes into a material with the consistency of rubber, with fairly clear resulting water as well. It's the solids that form that will get us into trouble. I spent a good bit of time just scraping this rubber type material out of my test beaker. It reminds me of the Sherwin Williams paint stream that we have taken, except that this material is very sticky and will coat the inside of a tank. The sample has no free oils so it will pass any System 1 screening. I believe System I is our best option for this material.

Textube	
Evaluation 1208-41	
Solids, vol%	1
pH	8
Flash Point, deg F	>140
Oil, vol%	0
Treatability	Polymerization

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To: Dana Carter
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Date: 12/11/08

From: Miles Root

Lab Memo: 08-217

Subject: **Rineco Evaluation 1208-37**

A sample of waste water from Rineco, via BJ Services, has been evaluated for potential processing at CES. This evaluation is 1208-37. This sample is a mixture of water and solids, said to consist of mud and sand. This is a yearly volume of approximately 3000 gallons. Overall, this material looks good for processing and should present no problems.

This sample contains approximately 2% solids. The water treats easily and forms a nice floc which readily phase separates. The treated water is low in metals and TOC, and has no phenols. A flash point on the neat sample is greater than 140 deg F. We should pursue the acquisition of this material. The table below summarizes the analytical testing.

Rineco	
Evaluation 1108-37	
Flash Point, deg F	>140
Solids, vol%	2
pH	6
Phenols, ppm	0
TOC, mg/L	1,700
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.193
Zn	0.104
Cu	0.042
Cd	0.070

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To: Dana Carter
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Date: 12/10/08

From: Miles Root

Lab Memo: 08-216

Subject: **Rineco Evaluation 1208-28**

A sample of oily water from Rineco, Nustar Terminal, Texas City, has been evaluated for potential processing at CES. This evaluation is 1208-28. This material is a mixture of water and fuel oil from line cleaning of tank 3001 at the terminal. This is a one time load of approximately 5000 gallons from this cleaning operation. Overall, this material looks good for acquisition and should present no problems.

This sample contains approximately 40% oil. The oil has a different odor than typical black oil, but that will not affect its use. The material will need to go to the heat tank in the back and slightly acidified to recover all of the oil. The oil does break out of the water nicely. It readily mixes with our black oil without issues. The chlor-d-tect on the oil is only 200 ppm. A flash point on the oil is 130 deg F, an acceptable value.

The water treats easily and has no TOC, 2 ppm phenols, a pH of 9 and low metals. We should pursue the acquisition of this material. The table below summarizes the analytical data.

Rineco	
Evaluation 1208-28	
pH	9
TOC, mg/L	0
Oil, vol%	40
Flash Point, deg F	130
Chlor-d-tect, ppm	200
Phenols, ppm	2
Treatability	OK
Metals, ppm	
Ni	0.346
Zn	0.000
Cu	0.000
Cd	0.011

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To: Shannon Ward
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Date: 12/10/08

From: Miles Root

Lab Memo: 08-215

Subject: **Kinder Morgan Evaluation 1208-26**

A sample of gassy water from Kinder Morgan, Pasadena, has been evaluated for potential processing by CES. This evaluation is 1208-26. This material is a gasoline tank bottoms and is loaded with silt/solids. There is approximately one box of this material.

The main question is whether or not this material could be brought in under profile 2628. This profile would have us recover any fuels and dispose of the bottoms solids after they are tested for benzene.

This sample is approximately 50% solids/sludge with the remainder water with only a trace of gasoline, which is apparent by its odor. The amount of gasoline is so small that it does not even cover the surface of the water. It is only a partial sheen. My recommendation is that this material does not really fit the spirit to recover a reasonable amount of fuel, even though technically it could be done. There is really not enough fuel to recover here to make it worth our while.

Shannon has indicated that she can find another outlet for this material. I did do a water treat on this sample so have included that information in the summary table below, just in case CES treatment under profile 2628 becomes our only option.

Kinder Morgan	
Evaluation 1208-26	
pH	6
TOC, mg/L	0
Oil, vol%	Trace
Phenols, ppm	0
Treatability	OK
Metals, ppm	
Ni	0.417
Zn	0.000
Cu	0.028
Cd	0.089

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/10/08

From: Miles Root

Lab Memo: 08-214

Subject: **Extel Precision Evaluation 1208-14**

A sample of oily water from Extel Precision, Houston, has been evaluated for potential processing by CES. This evaluation is 1208-14. This material comes from equipment fluid change outs and has a potential of around 1200 gallons to be delivered in totes. This material looks like okay oil if it passes the testing for halogenated solvents.

The oil layer on this sample does not pass the chlor-d-tect, with a value of over 40oo ppm. Gary has sent a sample to an outside testing lab to determine halogens by GC. This material will need to go to heat treat in the back. The resulting water from treatment has higher than typical phenols at 10 ppm, but is still acceptable. TOC is very reasonable at 2150 ppm and metals are low. The water does treat without issues so should not present any problems. Assuming the halogens testing comes back acceptable, we should move forward with acquisition of this material. The table below summarizes the analytical testing.

Extel Precision	
Evaluation 1208-14	
Oil Testing	
Chlor-d-tect, ppm	>4000
Water Testing	
pH	8
TOC, mg/L	2,150
Oil, vol%	40
Phenols, ppm	10
Treatability	OK
Metals, ppm	
Ni	0.450
Zn	0.000
Cu	0.019
Cd	0.078

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To: Gary Brauckman, Kim Harmon
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins
From: Miles Root

Date: 12/08/08

Lab Memo: 08-213

Subject: **Complex Chemical Evaluation 1208-23**

A sample of oil from Complex Chemical, via Lubrizol, has been evaluated for potential sales by CES. This evaluation is 1208-23. There is no other information provided on the evaluation form. This material looks like very good oil.

This sample is murky pale brown in appearance and is single phased. Testing shows it to have no water, which means it's too low to detect with our method. This sample has a BTU value of 16,210 and a specific gravity of 0.860 or API gravity of 33. Chlor-d-tect of this oil is 400 ppm. This material blends well with black oil, but I believe we should try to market this material "as is".

A summary of the analytical testing is found in the table below.

Complex Chemical	
Evaluation 1208-23	
Specific Gravity	0.86
API Gravity	33
Water, wt%	0.00
Oil, vol%	100
Chlor-d-tetc, ppm	400
BTU/lb	16,210
Black Oil Suitability	OK

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To: Matt Bowman, Marlin Moser, Matt Moser, Joe Camp, Gary Peterson, Greg Bowman

Date: 11/13/08

From: Miles Root

Lab Memo: 08-199

Subject: **The Use of Sulfidic Caustic in Waste Water Metals Reduction**

This report summarizes the effective use of sulfidic caustic (NaHS, Na2S) in the removal of heavy metals from industrial waste water. This technology is well documented in literature as to its applications. Issues with its applicability at this time at CES include cost, trained personnel and potential odors.

Overview of Sulfides in Metals Removal

Metal sulfide precipitation works using the same principle currently used with lime addition. A precipitation process converts soluble metal compounds into relatively insoluble sulfides through the addition of sodium sulfide and/or sodium hydrosulfide. Over a very broad range of pH (2-12), sulfides are very reactive with heavy metals and will effectively remove metals such as lead, copper, chromium (+6), silver, cadmium, zinc, nickel, thallium, antimony and vanadium from waste waters. Metal sulfide precipitants are then physically removed from solution, leaving metal-sulfide sludge.

A slight excess of sulfides are added to the waste water in order to effectively react with the metals. Literature shows a typical reaction time of 30 minutes for effective and complete reaction. A feedback control loop using an ion selective electrode typically controls this process. A variety of thickeners, clarifiers, or both are then used to help separate out the metal sulfides. Finally, the water is treated to remove excess sulfide, typically by aeration or the use of hydrogen peroxide, before it is discharged.

Advantages of Sulfide Precipitation

A search of the literature shows several advantages for using sulfides over convention hydroxide treatment. A few that apply to CES are summarized as follows:

1. Attainment of a high degree of metal removal.
2. Quick reaction rates of metal sulfide formation.
3. Metal-sulfide sludges generally have smaller volumes than corresponding metal-hydroxide sludge.
4. Metal-sulfide sludge is reportedly three times less subject to leaching at pH 5 than is metal-hydroxide sludge.

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Disadvantages of Sulfide Precipitation

A few of the disadvantages commonly listed in literature are summarized as follows:

1. Potential for toxic hydrogen sulfide gas emissions.
2. Potential for residual sulfide in treatment effluent.
3. Sulfide process may result in serious odor problem.
4. Typically, sulfide precipitation results in higher capital and operating costs than hydroxide precipitation.
5. Chromium (+3) and iron (+3) are not effectively treated by the addition of sulfidic caustic.
6. The actual processing of waste waters can be relatively complex.

Applications/Issues at CES

The metering of sulfides into our waste water is challenging. One cannot simply add sulfidic caustic in a random fashion and hope for the best. Literature is very explicit on the fact that a slight excess of sulfide is used, and that it is most easily monitored by use of a specific ion reference electrode.

For continuous operations, where metals concentrations are fairly constant, electrode set points are adjusted at the potential which corresponds to the maximum electrical potential sulfide concentration gradient. In our situation, using a batch process with constantly changing totals metals concentrations, this potential set point would be constantly changing. Since we do not monitor for all metals in our streams, and most all heavy metals will react with sulfides, we will be constantly running in the blind for electrode potential values. We will have to run at a maximum scenario set potential and make sure we treat for excess sulfides. For those familiar with the potentiometric titration for sulfides, it will sort of be like running this in reverse. Remember, we will run on a potential value, not a set point. The technology is available to do this.

The rate of evolution of hydrogen sulfide from solution will depend upon its temperature, concentration and pH. Since all instruments typically have a lag time in their response and because the sulfidic caustic will be added incrementally, fine tuning and rigorous maintenance will be required to control the concentration of sulfidic caustic and its pH. This issue can be minimized by enclosing and vacuum evacuating the process tanks.

Our effluent specification for sulfides is 5 ppm. A monitoring system will need to be installed to monitor sulfides on our effluent. An automated system for peroxide addition/mixing is also needed. Any deviation from this most likely will result in excessive odors of hydrogen sulfide and potential health issues. We cannot afford to have odor issues with the city of Houston over this processing, nor violate our permitted discharge level of sulfides.

The filter cake from the press will have a strong odor of sulfidic caustic. We must make sure that this filter cake does not have the potential to become acidic, due to the release of hydrogen sulfide gas. Hydrogen sulfide is not only odorous, but can be deadly. Technology

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is available to form metal sulfide floc instead of using a filter press. Through the effective use of coagulants and coagulant aids, separately or combined, the filter press odor issues may be resolved by forming large, fast settling floc, but would require a separate processing tank.

Laboratory Experimentation

The laboratory experiment for the removal of metals from our waste water is straight forward. A weighed sample of water from frac tank 1004 was pH adjusted to 8.5. My previous testing through trial and error showed that a 0.3% level of sulfides was sufficient to precipitate out the metal sulfides in this particular sample. The sulfide was added, thoroughly mixed and allowed to set for 20 minutes.

Next, a filter cake was prepared on a filter paper, in preparation to mimic the use of the filter press. A sample of diatomaceous earth was mixed with water and deposited on the filter paper by use of a water aspirator vacuum system. Finally, the metal sulfides sample was filtered through the prepared paper, resulting in a clear green liquid without solids or particulates.

The treated sample was run on the flame AA to determine zinc and nickel. The nickel was reduced from 3.5 to 0.6 ppm. The zinc was reduced from 9.3 to 1.7 ppm. The treated liquid has a strong sulfidic odor but was easily treated with hydrogen peroxide and neutralized.

Conclusion

The use of sulfidic caustic is a viable option if the proper treatment system is set in place. The technology is well known and tested. It works in the laboratory. Its major drawbacks are money for implementation and trained personnel to insure its efficient operation. Its benefits are effluent water with low levels of all metals, especially nickel and zinc.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/21/08

From: Miles Root

Lab Memo: 08-147

Subject: **Methanol Color Removal**

The green color may be removed from today's methanol trailer receipts with the use of activated carbon. A 5% by weight to volume of methanol will effectively remove all of the color in the green methanol. Running the material through a sock type filter afterwards to remove the carbon fines will be necessary for water white and particle free product.

A series of extractions using the activated carbon stored on site was performed in a mixing cylinder. This carbon is found in 1000 lb. bags in the Field Services building. The activated carbon was weighed into the cylinder and then a known volume of methanol was poured into the cylinder and then shaken. At the 5% level, the color removal occurred within two mixes of the cylinder. A 4% level also worked but not quite as quickly. A 10% mix occurred in one mixing pass.

To put this into practical terms this mixing will need to be done in either a bed application or mixed in a tank. A fairly simple bed application for CES would be to use two over pack drums, approximately 80 gallons each, in a series application. The drums would be modified to have fittings on top and bottom and would be filled with activated carbon. On top of the carbon would be placed screen mesh similar to that for a screen door, to catch the carbon. The methanol feed would be pumped into the bottom of one drum and exit the top. It would then enter the bottom of the second drum and exit the top.

Feeding from the bottom will prevent channeling. The material would then pass through a filter sock to catch the carbon fines that would be produced. The product would be checked occasionally for color and the drum carbon emptied when color is seen, or at the end of a trailer run. Two over packs should easily hold approximately 800 lbs, which would easily accommodate one trailer. (I measured the density of the carbon to be 60% that of water). Be sure to run the material at a low initial rate through the drums until we get a feel for how fast it can actually be run.

The above is just a suggestion, but I think at least worth a try. It is an overkill on the use of carbon, but will insure that a water white product is produced.

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To: Matt Bowman
Cc: Keld Anderson, Brian Weathers,
Bo Cumberland, Godefroy
From: Miles Root

Date: 12/08/08

Lab Memo: 08-212

Subject: **Sodium Carbonate Bicarbonate Solubility Study**

Experimentation has been completed to determine the solubility of sodium carbonate and sodium bicarbonate in water at 130 deg F. This testing was performed to set limits on the sodium values for carbonate that are recorded in the calculation spreadsheet currently used at PACES for % spentness.

Solubility's, expressed as percent sodium, are 17.1 wt% for sodium carbonate and 3.3 wt% for sodium bicarbonate at 130 deg F. These values are not valid for other temperatures. For cooler temperatures, the solubility will be lower.

The testing was performed by mixing into vials known weights of sodium carbonate and then again sodium bicarbonate, into known volumes of waters. The samples were well mixed and then placed into a hot water bath at 130 deg F. Samples were repeatedly mixed at the 130 deg F temperature to insure their solubility or insolubility. The solubility range was narrowed down by changing the percentage of carbonate/bicarbonate used until a value that was just soluble was determined. The weights of the sodium carbonate and bicarbonate were then gravimetrically converted to "Na, wt".

Even though chemically the sodium carbonate is forming first in the reaction in the NaSH tank, bicarbonate must also be forming. This data shows that we should have no issues if no sodium bicarbonate is forming, as the beginning caustic strength that we are using is too low to form insoluble carbonates. Since there are solids issues, it must be with the bicarbonate, or the temperature of the tank is just being allowed to cool off.

For immediate use, closely monitor the "Na, wt% from carbonate" value, which is determined from laboratory method, CES-LM-11 "Sodium Carbonate by ABC Titration". We are going to assume for now, that all of the carbonate from the NaSH is in the form of bicarbonate; otherwise we would not have solids issues. A couple of other issues that may be at work are inefficient mixing of the NaSH during the reaction and inappropriate cooling of the NaSH tank.

For now, let's concentrate on careful monitoring of the "Na, wt% from carbonate" value and stopping the reaction once this value reaches 3.3 wt%, regardless of the "Total % Spent" value. Pumping out the tank with a temperature of 130 deg F or greater will insure that no solids will be present in the bottoms of the NaSH tank. Otherwise, continue to stop the reaction once the "Total % Spent" value is in the 80-90% range.

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To: Ken Noakes
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins, Jennifer Rust

Date: 12/04/08

From: Miles Root

Lab Memo: 08-211

Subject: **PPG Methylene Chloride/Heptane Stream**

A sample stated to be methylene chloride/heptane from PPG has been evaluated to look for any abnormalities and special handling needed to process this material.

This material contains two phases with a resin type material intermixed between the two in solution. The bottom phase contains methylene with resin; the top is water and resin. There is no heptane.

A distillation of the bottom phase shows a recovery of approximately 75% methylene chloride with the pot bottoms containing the soft resin. The overhead product is water white in appearance and has a density of 1.292. I do not have a density chart for methylene chloride at this level, but this is fairly close to pure methylene chloride that has a density of 1.33.

The water layer without treatment has no TOC. The water can be treated by our process. The settling time on the floc is slightly higher than typical, but still okay.

I don't know how representative this sample is to what we will actually receive. It is possible that PPG has changed their solvent to heptane due to the fact that there will be no azeotrope issues and therefore solvent losses, as with methanol. If that is the case, then I would not expect to see any heptane from this source and this sample is probably representative of future receipts.

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/04/08

From: Miles Root

Lab Memo: 08-210

Subject: **Ethyl Corp Evaluation 1208-08**

A sample of off spec fuel additive from Ethyl Corporation has been evaluated for potential processing at CES. This sample is evaluation 1208-08. This material represents off spec product and the majority of this material is stated to be mineral oil. Potential volume of this stream is 15,000 gallons. We can use this material for blending with our oils or light ends.

This material is very viscous, and shows a viscosity of 650 cSt @ 100 deg C. As a reference point, a sample of base oil recently tested at 9 cSt @ 100 deg C. This material blends well with both light ends and black oil. I tested 1:1 blend ratio of light ends: sample, a 2:1 ratio of black oil: sample and a 2:1 ratio of base oil: sample with no issues. Jay has suggested blending only with base oil, as we will get the most dollars for our efforts in that market. We will need to blend based upon what type of viscosity our market demands.

This material will need to be heated to approximately 160 deg F in order to easily pump it. Once it is mixed with light ends, black oil or base oil it remains pumpable but is still viscous. As stated above, viscosity of the final blends will need to be considered in our use of this material or at least the pumpability of the final mixture.

Operations wise, it would be best to receive the 15,000 gallons of this material in 5,000 gallon batches, several days apart. This issue will need to be worked through the Operations group.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/01/08

From: Miles Root

Lab Memo: 08-209

Subject: **Green Earth Evaluations 1108-58 thru 60**

Three samples of waste water from biodiesel production, via Green Earth, have been evaluated for potential processing at CES. These samples are evaluations 1108-58 thru 60. They are all typical biodiesel production waste. This material is similar in nature to material we have taken in the past. Work done on these samples indicates that filtration and possibly distillation to recover the methanol may be another disposal option.

One of the three samples, evaluation 1108-59, is free of fats. A sample was distilled with a recovery of 34% wet methanol, which tests at approximately 90% by density. This type of processing is just like we do for any methanol stream and is another possible disposal option.

Sample 1108-58 contained fats throughout the sample. I tested its filterability and found that a 100 micron filter sock would filter out the fats without any issues in the lab. The filtered liquor was then distilled with a recovery of 36% wet methanol. Its density approximates a 90% methanol product.

The third sample, evaluation 1108-60, was not distilled but was also filtered through a 100 micron filter sock. The floating type of fats filtered without issue. The filtered fats retain their low flash point so will still need to be mixed with fly ash or comparable material before disposal.

Filtration may be an option we want to pursue in our disposal of these biodiesel streams. Filtration will concentrate the fats so that less fly ash will be used for disposal. Distillation will depend upon its economics vs. System 1 disposal coupled with our disposal charges to Green Earth.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Joe Camp, Clint Hopkins

Date: 12/01/08

From: Miles Root

Lab Memo: 08-208

Subject: **Goodrich Evaluation 1108-63**

A sample of waste water from Goodrich has been evaluated for potential processing at CES. This sample is evaluation 1108-63. The evaluation form indicates that this water is the result of cleaning turbine parts for reconditioning. Its potential volume is one load per week. Overall, this water looks acceptable for processing at CES.

This sample has approximately 12% solids with a pH of 6. The water treats easily and produces a nice floc but also produces approximately 12% solids, compared to our "typical" water of 4%. This water has no phenols or TOC and has acceptable metal levels. A summary of the analytical test data is summarized in the table below.

Goodrich Evaluation 1108-63	
Solids, vol%	0
Solids from treat, vol%	12
pH	6
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	1.567
Zn	1.160
Cu	0.294
Cd	0.320

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/26/08

From: Miles Root

Lab Memo: 08-207

Subject: **BASF Evaluation 1108-62**

A sample of spent caustic from BASF, Port Arthur, has been evaluated for potential processing at CES. This sample is evaluation 1108-62. The evaluation form indicates that this is a very weak spent naphthenic caustic, but I don't believe that to be the case, based upon odor. Overall, this stream has cadmium issues and needs pH adjusting for simple disposal without treatment. The large volume of material will also require a basic change is the manpower usage on some days as well.

This sample is a weak caustic, with a specific gravity of 1.036, approximately 3.5 wt% as NaOH. It is too weak to be used as a caustic in any of our processing. The metals were tested on both the neat and treated sample. Cadmium is an issue as it really does not treat out. Our discharge limit is an average of 0.2 and grab limit of 0.4. This material has cadmium values of 0.395 neat and 0.258 treated. Treating this caustic does not really do anything for us except to lower the pH. TOC on the neat sample is 2650 ppm, so there's really not much in the way of organics in this material.

Potential volume of this material is nine loads per day, seven days a week. This is a very large volume of water. This is an operations issue that will need to be worked out if we are going to be serious about taking this stream.

The table below summarizes the analytical testing.

BASF		
Evaluation 1108-62		
Solids, vol%	0	
pH	14	
Phenols, ppm	0	
TOC, mg/L, neat sx	2,650	
Oil, vol%	0	
Treatability	OK	
Metals, ppm	Neat	Treated
Ni	1.306	1.117
Zn	0.929	0.305
Cu	0.434	0.292
Cd	0.395	0.258

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/20/08

From: Miles Root

Lab Memo: 08-206

Subject: **Select Environmental Evaluation 1108-55**

A sample of oily water from Select Environmental, generated by Boyd's, has been evaluated for potential processing at CES. This sample is evaluation 1108-55 and is waste water from the cleaning of oilfield equipment. Overall, this water is acceptable for processing at CES and should present no issues. The potential volume is one to three loads per week.

This water is pink/red in appearance and contains a trace of soap by its foaming action when shaken. It has a pH of 6. The water treats easily and without issues. The treated water losses its pink color. The TOC on the treated water is 0, there are no phenols and the metals are low. This particular sample did not contain any oils. A summary of these test results is summarized in the table below.

Select Environmental	
Evaluation 1108-55	
Solids, vol%	0
pH	6
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.313
Zn	0.146
Cu	0.040
Cd	0.096

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/20/08

From: Miles Root

Lab Memo: 08-205

Subject: **Vennie Wolf Evaluation 1108-54**

Samples of oil and oily water from Vennie Wolf have been evaluated for process at CES. These samples are evaluation 1108-54 and represent material from numerous storage tanks that have been sitting abandoned for some time. Overall, CES should be able to recover and process most of the oils in these tanks and treat and discharge the waters. Some grease present may need to go to a landfill.

Chlor-d-tect testing was performed on the oil samples along with API gravities. Any water in samples was composited into a single sample and tested per our standard water treat. Three of the tanks, 20, 21 and 22 contain what appears to be asphalt type oil and this can be cut with our light ends.

I have summarized my testing and comments in the table below, along with the volumes as provided by Gary Brauckman.

		Chlor-d-tect	Volume		
Tank	API Gravity	ppm	Gallons	Material	Comments
1+2 comp	26	500	3000	Black oil with sludge	Will need centrifuge
6	28	900	3600	Black oil with sludge	Will need centrifuge
9	38	300	600	Base oil with water layer	Base oil processing
12			unknown	Sludge with water	Sludge Box
14	26	300	unknown	Black oil	Will need centrifuge
18	24	1500	unknown	Oil and water	Phase separate out the water
20			30,000	Thick asphalt lube oil	Use cutter oil to process
21			20,000	Thick asphalt lube oil	Use cutter oil to process
22			3750	Thick asphalt lube oil	Use cutter oil to process
22A			3000	Oily water	Heat tank
36			4000	Grease	Sludge Box
45A			4000	Oily water	Heat tank
49B	29	300	500	Possibly base oil	Base oil processing
49C	27	500	500	Possibly base oil	Base oil processing
49D			500	Oily water	Heat tank

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The water portion of the samples was composited, heated and acidified to remove oils. The standard water treat was performed and testing completed. The table below summarizes the analytical results.

Treated Water Composite	
Phenols, ppm	3
TOC, mg/L	0
Treatability	OK
Metals, ppm	
Ni	0.351
Zn	0.189
Cu	0.052
Cd	0.111

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/20/08

From: Miles Root

Lab Memo: 08-204

Subject: **Baker Petrolite Evaluation 1108-53**

A sample of oil from Baker Petrolite has been evaluated for use at CES. This sample is evaluation 1108-53. Overall, this oil looks good for blending with black oil. The potential volume of this stream is 5000 gallons every two weeks.

This oil comes from line flushes and is said to contain xylenes, ethyl benzene and other non halogenated organics. It has an API of 31 and chlor-d-tect of only 200. It blends well with black oil and may even be used to cut asphalt sludge, which was tested with a sample provided by Gary. Gary would like this material to come in as cutter stock "restricted light ends" and this material should be just fine for that purpose. This particular sample has a "stickiness" feel to it that disappears when diluted with oil. Most likely due to whatever was in the latest line flush. This is not an issue with any of our applications. The table below summarizes the analytical testing.

Baker Petrolite	
Evaluation 1108-53	
API Gravity	31
Black Oil Blendability	OK
Chlor-d-tect, ppm	200
Water, vol%	0.0

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/19/08

From: Miles Root

Lab Memo: 08-203

Subject: **EMA Evaluation 1108-25**

A sample of caustic from EMA and generated by Plymouth has been evaluated as a source of caustic for Port Arthur. This sample is evaluation 1108-25. Overall, this caustic looks acceptable for use in the production of our NaSH product.

This caustic comes from the cleaning of elevator shafts and is dark brown in appearance. It appears to contain a trace of oil. This makes sense when one understands its source. By titration, this material is 19.2 wt%. Specific gravity shows this material to be slightly higher at 23%, but this extra weight is most likely due to the extra "stuff" that it has picked up in its cleaning use. I ran metals, which show high chromium of 3 ppm, but I do not know of any metal specs on our NaSH product. Since this material is less than 22 wt% NaOH, it will need to be blended with 50% caustic when used in our NaSH production. The available quantity of this material is approximately one trailer load every six months. The table below summarizes the analytical data.

EMA	
Evaluation 1108-25	
Density	1.25
NaOH, wt%	19.2
Appearance	Brown
Oil, vol%	Trace
Metals, ppm	
Ni	0.915
Zn	0.403
Cu	0.159
Cd	0.180
Cr	3.349

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/19/08

From: Miles Root

Lab Memo: 08-202

Subject: **Hydrochem Evaluation 1108-52**

A sample of water and diesel from Hydrochem, LaPorte has been evaluated for potential receipt and processing at CES. This sample is evaluation 1108-52 and is water with a very small sheen of diesel. Overall, this sample can be treated like water, as there is not enough diesel to recover. If the material comes in with a nice diesel layer, then we can easily decant the water from the bottom. This sample was treated neat with no issues.

This water has a flash point greater than 140 deg F. It is good looking water with a pH of 6 and treats easily with no issues. The treated water has low metals, TOC of 650 ppm and 2 ppm phenols. This water is entirely suitable for our processing and should not present any issues. This is a onetime load of approximately 1500 gallons. The table below summarizes the analytical testing.

Hydrochem	
Evaluation 1108-52	
Solids, vol%	0
pH	6
Phenols, ppm	2
TOC, mg/L	650
Oil, vol%	trace
Treatability	OK
Metals, ppm	
Ni	0.122
Zn	0.089
Cu	0.028
Cd	0.043

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To: Shannon Ward
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Clint Hopkins

Date: 11/17/08

From: Miles Root

Lab Memo: 08-201

Subject: **Conoco/Phillips Evaluations 1108-33 & 37**

Two samples of oil from Conoco/Phillips have been evaluated for potential receipt and marketing by CES. These two oil samples are evaluation 1108-33 and 37. Overall, both of these streams look good for our market. The potential volume for these streams is 8000 barrels for 1108-33 and another 3500 barrels for 1108-37. Remember that a barrel is 42 gallons, so we are looking at a approximately 483,000 total gallons of oil.

Both of these samples represent material in storage tanks as a result of processing water/oil mixtures from a crude oil tank. They both blend well with our black oil, but with these large volumes there is no need for any mixing.

Evaluation 1108-33 is material from T-131, an effluent tank from centrifuge. It has a specific gravity of 0.838, or an API gravity of 37. The chlor-d-tect is 300 ppm, a very good value. There is no ash. Flash point is between 130 and 135 deg F. Water is less than 0.01 wt%.

Evaluation 1108-37 is material from T-4006, an effluent tank from centrifuge. It has a specific gravity of 0.892, or an API gravity of 27. The chlor-d-tect is 800 ppm, an acceptable value. The ash is 0.04 wt%. Flash point is between 130 and 135 deg F. Water is 0.1 wt%.

Both of these streams look good and we need to be able to market them quickly due to the large volumes that will require storage otherwise. The table below summarizes the analytical testing for these two samples.

Conoco-Phillips		
Evaluations 1108-33 & 37		
	1108-33	1108-37
Specific Gravity	0.838	0.892
API Gravity	37	27
chlor-d-tect	300	800
Water, wt%	0.00	0.10
Ash, wt%	0.00	0.04
Flash Point, deg F	130-135	130-135

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To: Matt Bowman
Cc: Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/17/08

From: Miles Root

Lab Memo: 08-200

Subject: **US Oil Recovery Evaluation 1108-49**

A sample of waste water from US Oil Recovery has been evaluated for potential processing at CES. This sample is evaluation 1108-49. I have no other information concerning this stream.

This water has a pH of 9. The water treatment produces above average solids which are slow to phase separate. The TOC on the treated water is 2400 ppm. The phenols are 5 ppm. The metals analysis shows high nickel at 5 ppm. There are no recoverable oils and the water is free of solids. Dilution of this high nickel water with low metals water is our option on treating this stream.

The table below summarizes the analytical testing.

US Oil Recovery	
Evaluation 1108-49	
Solids, vol%	0
pH	9
Phenols, ppm	5
TOC, mg/L	2,400
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	4.983
Zn	0.260
Cu	0.170
Cd	0.191

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/12/08

From: Miles Root

Lab Memo: 08-198

Subject: **EMA Evaluation 1108-23**

A sample of organic waste water from EMA, generated by Optima Chemical, has been evaluated for potential processing at CES. This sample is evaluation 1108-23 and is organic waste water from the chemical manufacturing of pharmaceuticals. Overall, we have no means of treating or using this stream for profit.

This material has waste codes F003, F005 and D001. It may contain mineral oil, THF, toluene, hexane, IPA, methanol and MEK. I believe this particular sample to contain only water, MEK and IPA, based upon a distillation performed.

This material shows approximately 10% of what I believe to be an azeotrope of MEK and IPA in this sample. We could in theory recover this material, but cannot separate these two compounds by distillation. The pot bottoms from distillation will be high in TOC and have a flash point, due to the fact that we cannot distill all of the components away from the water economically.

Treatment of this water as a waste water through our process will not totally remove the organics, which will also produce solids that must be segregated due to its F005 classification. Also, this sample is not really representative of what this stream may actually be, since it definitely does not have any toluene, hexane or THF. A mix of any other components that this stream may contain will nullify any treatment scheme that is currently formulated.

We really do not have a use for this material, nor can we process it economically. Boiling water to recover only 10% of the product is not economical unless the components that are recovered are very valuable. This azeotrope of MEK and IPA will have very limited marketability.

I recommend that we pass on this stream.

TOC- NET = 43,300

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/12/08

From: Miles Root

Lab Memo: 08-197

Subject: **Cetco Oilfield Evaluation 1108-21**

A sample of sea water from Cetco Oilfield has been evaluated for potential processing at CES. This sample is evaluation 1108-21 and is sea water. Overall, this water does not need chemical processing if it can be used to dilute other high zinc or nickel waters and is desirable for this purpose.

This water has a pH of 7, no phenols and no TOC. The metals are okay except for chromium, which is unusually high at 1.887 ppm, almost double the allowed daily composite value of 2.0. When used to dilute other high nickel and zinc metals water the chromium should not be an issue. The table below summarizes the analytical data.

Cetco Oilfield	
Evaluation 1108-21	
Sample is "water white"	
pH	7
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	0
Metals are run on	
Untreated sample	
Metals, ppm	
Ni	0.358
Zn	0.517
Cu	0.080
Cd	0.183
Cr	1.887

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/11/08

From: Miles Root

Lab Memo: 08-196

Subject: **Phoenix Pollution Control Evaluations 1108-27(a-c)**

Three samples from Phoenix Pollution Control have been evaluated for processing at CES. They are evaluations 1108-27(a-c) and are the top, middle and bottom samples of an off spec biodiesel tank. While good biodiesel may be recovered from this tank the processing needed is beyond what is currently available at CES, but would be good to keep in mind for future expansion.

The top and middle layer samples from this tank look similar and produce similar results. The bottom sample contains the salts from biodiesel production and has no value. Approximately 30% of the biodiesel may be recovered from the top and middle layers through a processing of caustic addition/ mixing and centrifuging. The addition of caustic produces soap with any fatty acids or glycerin in the sample, leaving the biodiesel untouched. The mix that results from the caustic addition with this sample produces a sludge that is too excessive to phase separate within any amount of reasonable time on its own. Use of a centrifuge shows a 30% recovery of biodiesel that is miscible with black oil.

Alternate disposal options are limited. This material is oil, so it will not go to System 1. Its oil nature will also not allow it to be treated as waste water at CES.

Dedicated tank space along with appropriate mixing/centrifuge equipment at some future date will allow CES to take on these types of streams.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/11/08

From: Miles Root

Lab Memo: 08-195

Subject: **Rada Technologies Evaluations 1108-22(a-e) and 24(a-c)**

Eight samples representing frac tank storage from a biodiesel production, coming thru Rada Technologies, have been evaluated for potential processing at CES. These samples are evaluations 1108-22, samples a thru e, and 1108-24, samples a thru c. Overall, these samples are very similar to samples we have evaluated in the past with regards to biodiesel production. Methanol can be recovered by distillation on five of the streams. From the second set, two of the steams we cannot process and a third we may use for blending with black oil.

Those samples from the evaluation set 1108022(a-e) were distilled individually to determine the percentage of methanol that could be recovered. This information is summarized in the table below. Foaming was an issue with three of these streams due to soaps in the sample. Foaming will be an issue with plant production as well and can be eliminated with the use of a de-foaming agent added to the distillation.

These distillations produced wet methanol in the overhead, averaging around 45% for all five frac tanks. The resulting pot bottoms all have TOC values well into the 100,000's, as would be expected from biodiesel production. This resulting water will need to be processed to System 1. Using Joy's figures for total volumes of 103,100 gallons, this processing would produce approximately 46,000 gallons of wet methanol and 57,000 gallons of water to System 1. The exact values will depend upon how the distillation unit is run and the exact cut off point. It is also assumed that the frac tanks are of the approximate same size.

The next sets of samples are mixtures of water, glycerin, soaps, etc. from biodiesel production. Two of the evaluation samples from frac tanks 239644 and 239604 have no recoverable chemicals to blend with black oil. Their TOC values will also make them prohibitively high for any type of water treatment at CES. Frac tank 239604 is a good candidate for System 1. Frac tank 239644 is an emulsion and I don't believe that System 1 would accept this material. An alternative disposal would be needed.

Frac tank 259742 contains oil that blends with our black oil. A 1:1 mix that has sat for a day does not form a gel with black oil. Caustic addition to this sample does not form soaps. This is another indicator that this material will not gel when mixed with our oil. The sample looks clean and appears to be without issues. The total of the above three streams is 25,300 gallons.

The table below summarizes the analytical work done on the Rada Technologies sample evaluations.

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Rada Technologies								
Evaluations 1108-22(a-e) and 1108-24(a-c)18								
Evaluation No.	1108-22a	1108-22b	1108-22c	1108-22d	1108-22e	1108-24a	1108-24b	1108-24c
Frac Tank	259808	259845	239751	256127	239307	259742	239604	239644
MeOH Recovery, %	48	50	45	43	41			
MeOH Density, mg/L	0.827	0.838	0.829	0.842	0.836			
MeOH Concentration, %	87	84	87	82	84			
Pot Btms TOC, mg/L	126,400	104,000	158,800	146,400	166,200			
Distillation Foaming	Yes	Yes	Yes	No	No			
Blends with Black Oil						Yes	No	No
Offsite Disposal						NO	Yes	Yes
Waste Water Treat						No	No	No

Rada Fracs in Port Arthur

Frac Tank	Generator frac #	CES Sample ID	Generator composition	Sample appearance	Estimated volume
259808	6	1108-22a	methanol (approx 42%), water, glycerin, soap, biodiesel/feed oil (<1%)	golden low vis liquid, with oil layer on top (~3%)	
259845	7	1108-22b	methanol (approx 42%), water, glycerin, soap, biodiesel/feed oil (<1%)	golden low vis liquid, with "turds" floating on top, some solids	
239751	8	1108-22c	methanol (approx 42%), water, glycerin, soap, biodiesel/feed oil (<1%)	golden low vis liq with some solids on bottom (~1%)	103,100 gal
256127	9	1108-22d	methanol (approx 42%), water, glycerin, soap, biodiesel/feed oil (<1%)	golden low vis liq with trace oils on top	
239307	10	1108-22e	methanol (approx 42%), water, glycerin, soap, biodiesel/feed oil (<1%)	golden low vis liq with trace oils on top	
239644	2	1108-24c	water, methanol (<10%), glycerin, biodiesel/vegetable oil, soap. Fp <100 deg F	white, milky soaps	
239604	3	1108-24b	water, methanol (<10%), glycerin, biodiesel/vegetable oil, soap. Fp <100 deg F	golden low vis liq with trace oils on top	25,300 gal
259742	1	1108-24a	water, methanol (<10%), glycerin, biodiesel/vegetable oil, soap. Fp <100 deg F	nice orange, appears to be biodiesel	

EPAHO113002059

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 11/10/08

From: Miles Root

Lab Memo: 08-194

Subject: **Texmark Evaluation 1108-18**

A sample of oily water from Texmark on Clinton Drive has been evaluated for potential processing at CES. This sample is evaluation 1108-18 and it is a mix of oil, water and antifreeze. Overall, the oil from this source blends well with our black oil but needs rebuttal for processing with the aqueous portion producing high TOC and zinc discharge water.

This sample is approximately 45% wet oil. The oil has a chlor-d-tect value of 1900 ppm so it must have rebuttal testing to show it does not contain chlorinated solvents. This oil blends well with our black oil.

The aqueous phase is 11% ethylene glycol, or antifreeze, by refractive index testing. Ethylene glycol does not treat well in our process, so the treated water from this sample looks like antifreeze (with the green fluorescent die) and has a high TOC of 34,000 ppm. There is a considerable amount of solids formed during the water treat. The zinc is at the high end of our composite discharge limit at 2.8 ppm. Other metals are not an issue. The aqueous portion has no phenols and is neutral with a pH of 7.

Assuming the oil rebuttal testing is good, we can process this material in our heat tank. There is some sludge present and Gary Brauckman has indicated that this material will be sucked out of various drums and totes. I would expect a thick sludge in the bottoms from the receipt of this material. The exact quantity of this material is unknown at this time. The final disposition of the aqueous portion must be determined by operations. This water, even when treated, will be high in TOC and tolerable in zinc. The table below summarizes the analytical testing.

Texmark	
Evaluation 1108-18	
Sludge, vol%	2
pH	7
Phenols, ppm	0
TOC, mg/L	34,000
Oil, vol%	45
Chlor-d-tect, ppm	1900
Treatability	OK
Metals, ppm	
Ni	0.557
Zn	2.818
Cu	0.104
Cd	0.091
Cr	0.166

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp, Bo Cumberland, Chris Saylor Brian Weathers

Date: 11/05/08

From: Miles Root

Lab Memo: 08-193

Subject: **Arkema, Crosby Evaluation 1108-13**

A sample of sulfuric acid from Arkema, Crosby has been evaluated for use at CES Port Arthur. This sample is evaluation 1108-13. Overall, this acid looks okay for use in our acidification process.

The density of this sample is 1.357, which equates to an approximate concentration of 46% sulfuric acid. This sulfuric acid may contain a few alcohols and peroxides, as it comes from an organic peroxide production operation. This only adds to the TOC value and will not affect its usefulness to CES.

This sample is medium amber in appearance and contains no layers, solids or sludge. The TOC on this sample is 67,350. Metals are acceptable. A reaction with caustic shows a typical acid base reaction with no abnormalities.

Remember that this acid will be used in a reaction vessel that typically uses around 91% acid strength. Doubling the amount typically used will be needed to produce the same results. Operations wise, a little less feed to accommodate the extra space will be needed. The high TOC, if it is an issue, will be diluted down by at least a factor of 10 in a typical acidification process at CES Port Arthur. I don't see anything chemically wise that would prevent us from using this source.

The table below summarizes the analytical testing.

Arkema Crosby	
Evaluation 1108-13	
Density	1.357
%Sulfuric Acid, by density	46
Solids, vol%	0
TOC, mg/L	67,350
Oil, vol%	0
Caustic Reaction	OK
Metals, ppm	
Ni	1.062
Zn	1.047
Cu	0.157
Cd	0.000
Cr	0.000

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To: Gary Brauckman
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Date: 11/05/08

From: Miles Root

Lab Memo: 08-192

Subject: **Hilcorp Energy Evaluation 1108-01**

Three samples, mixtures of MDEA, water and oil from Hilcorp Energy, have been evaluated for processing at CES. These samples are evaluation 1108-01 and are from a process used to scrub natural gas of carbon dioxide and hydrogen sulfide. All of the samples come from the same process but are different stages in that process.

MDEA is methyldiethanolamine, a nitrogen containing compound with two ethanol groups. It is routinely used in the natural gas industry to remove carbon dioxide and hydrogen sulfide from gas streams. MDEA will not treat in our process without considerable expenditure of acid for neutralization. It may also foam violently when acidified. There is no potential for treating this type of material at CES as water and discharging it to the city. There are three distinct samples that were evaluated.

Frac tank 112 contains an oil layer of approximately 8%. This material may be brought into CES and the oil layer simply decanted from the MDEA. The oil mixes well with black oil and has a low chlor-d-tect of 100 ppm. The MDEA/water mixture below the oil has a flash point greater than 140 deg F and will need to come to CES and then be redirected to System 1, per operations approval.

A Rain-for-Rent tank#244508 has no oil. It has a flash point greater than 140 deg F and will also need to be received at CES and then redirected to System 1, per operations approval.

Frac tank 106 has no oil layer and a flash point less than 95 deg F. Since the MDEA concentration of this material is stated to be between 30-40%, System 1 is not an option on this material as received. It may be heat treated to remove the flash component and then sent to System 1. Another option is to send it to a fuels recovery site. Economics between these two options should determine the best fit.

The latest information from Gary Brauckman indicates that the Rain-for-Rent tank and frac tank 106 have now been combined into an approximately 20,000 gallon mixture that will have a flash point less than 95 deg F. This single mixture will need to be heat treated, per operations approval, to remove the flash component of this mixture. This was done in the lab by boiling the sample on a hot plate. The hydrocarbon odor of the frac tank 106 is very distinct so the end of the heat treat should be easy to detect. A flash point on the heat treated mixture as performed in the lab is greater than 140 deg F.

The table below summarizes the analytical data.

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Hilcorp Energy			
Evaluation 1108-01			
	Frac tk 106	Frac tank 112	Rain for Rent
pH	10	10	10
Flash Point, deg F	<95	>140	>140
Oil, vol%	0	8	0
Treatability	Very Poor	Very Poor	Very Poor
chlor-d-tect, ppm	N/A	100	N/A

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Date: 11/03/08

From: Miles Root

Lab Memo: 08-191

Subject: **Crown Cork and Seal Evaluation 1008-66**

A sample of oily water from Crown Cork & Seal has been evaluated for processing at CES. This sample is evaluation 1008-66 and is a sample of oily water from process sumps. The water is said to contain 300-500 ppm aluminum, hydraulic oil and dirt. Overall, this sample can be processed at CES to recover its oil. The water treats easily and should not be an issue. The total volume of this stream is approximately 4000 gallons.

The recovered wet oil from this sample is approximately 8%. Centrifuge of the neat sample shows approximately 2% solids. Heating and then acid treating this sample readily breaks out the oil. The chlor-d-tect shows it to have a value of 700 ppm, a very acceptable value. The recovered oil blends with our black oil.

The aqueous phase water treats easily and forms a nice floc with clear water phase. The treated water has no phenols, TOC of 2750 ppm and low metals. While we do not check for aluminum, any aluminum present should readily form aluminum hydroxide when lime is added for treatment, which is a very stable compound form for aluminum.

This stream should be relatively easy to handle and treat, and is recommended for acquisition. Gary Brauckman has indicated a charge of $.20/gallon, which should cover all of our costs and allow us to make money on this stream as well. The table below summarizes the analytical results.

Crown Cork & Seal	
Evaluation 1008-66	
Solids, vol%	2
pH	9
Phenols, ppm	0
TOC, mg/L	2,750
Oil, vol%	8
Treatability	OK
Metals, ppm	
Ni	0.266
Zn	0.144
Cu	0.000
Cd	0.048
Cr	0.095

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To: Dana Carter
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Date: 10/28/08

From: Miles Root

Lab Memo: 08-190

Subject: **SMI Manufacturing Evaluation 1008-61**

A sample of waste water from SMI Manufacturing on Hardy Road has been evaluated for processing at CES. This sample is evaluation 1008-61 and is a sample of water, coolant and oil from the draining and flushing of equipment used to make stainless flanges. Overall, this sample's oil is not compatible with black oil, even though the coolant/water mix can be treated at CES with amine issues.

This sample contains approximately 5% oil by volume, but any actual receipts would not have this volume of oil. This particular oil is not compatible with black oil. It appears to not be petroleum based, does not smell like oil, and is not soluble in toluene, like petroleum based oil should. A chlor-d-tect on this oil also shows 2000 ppm, which is only acceptable through the rebuttal process.

The water uses an amine based mixture containing both ethanolamine and triethanolamine in the range of 5-12%. Past conversations concerning amines is that they are not good for the Houston waste water treatment plant due to the formation of ammonia as a byproduct from its treatment. This water does treat easily but has a fairly high TOC of 6300 ppm. Metals are acceptable.

We really don't want the oil from this stream, as it is not petroleum based and does not blend with our black oil. The water, while it treats easily, contains a very high concentration of amines, which could give us issues with the city of Houston. The potential volume of this material is given as 2000 gallons per quarter or year, as the timing is yet to be determined. I don't feel the issues we are going to have with this material is worth its pursuit. The table below summarizes the analytical results.

SMI Manufacturing	
Evaluation 1008-61	
Flash Point, deg F	>140
Solids, vol%	Trace
pH	9
Phenols, ppm	0
TOC, mg/L	6,300
Oil, vol%	5
Treatability	OK
Metals, ppm	
Ni	0.396
Zn	0.187
Cu	0.383
Cd	0.056
Cr	0.000

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Date: 10/28/08

From: Miles Root

Lab Memo: 08-189

Subject: **Amtex Machine Products Evaluation 1008-58**

A sample of waste water from Amtex Machine Products in Houston has been evaluated for processing at CES. This sample is evaluation 1008-58 and is a sample of rain water mixed with small amounts of coolant from machines. Overall, this sample looks good for processing at CES and should present no problems.

This sample is turquoise in appearance from the coolant that is in the water. The pH is 9 and no solids. The sample treats easily and shows no phenols, TOC of only 1550 ppm and has low metals. The treated water will still retain its turquoise appearance. Pricing for this water should be no less than $.12/gal. The table below summarizes the analytical testing.

Amtex Machine Products	
Evaluation 1008-58	
pH	9
Solids, vol%	0
Phenols, ppm	0
TOC, mg/L	1,550
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.25
Zn	0.085
Cu	0.436
Cd	0.077
Cr	0.044

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Date: 10/27/08

From: Miles Root

Lab Memo: 08-188

Subject: **Texas Sterling Construction Evaluation 1008-52**

A sample of an unknown cure leftover from a construction from Texas Sterling Construction was tested for flash point. This sample is evaluation 1008-52. The flash point on this material is greater than 140 deg F. No further testing was requested at this time.

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To: Dan Bowman
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Date: 10/27/08

From: Miles Root

Lab Memo: 08-187

Subject: **Vanco Ring Gasket Evaluation 1008-53**

A sample of coolant and oil from Vanco Ring Gasket has been evaluated for potential processing at CES. This sample is evaluation1008-53 and is a mixture of coolant and oil from a machine shop. Overall, the aqueous phase of this sample looks good, but the very small oil phase does not pass the chlor-d-tect test.

This material has a pH of 7, 5 ppm phenols, TOC of 500 ppm and low metals. This material has an oil layer of less than 2% which tests to be over 4000 mg/L on the chlor-d-tect. At this level there is no rebuttal allowed. The table below summarizes the analytical results.

Vanco Ring Gasket	
Evaluation 1008-53	
pH	7
Phenols, ppm	5
TOC, mg/L	500
Solids, vol%	0
chlor-d-tect, ppm	>4000
Oil, vol%	<2
Treatability	OK
Metals, ppm	
Ni	0.197
Zn	0.147
Cu	0.459
Cd	0.037
Cr	0.010

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To: Gary Brauckman
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Date: 10/27/08

From: Miles Root

Lab Memo: 08-186

Subject: **Hexion, Hope, Arkansas Evaluation 1008-47**

A sample of waste water from Hexion, Hope, Arkansas, has been evaluated for potential processing at CES. This sample is evaluation1008-47 and is water with a small amount of wax. Overall, this material looks good for processing at CES.

This material has a pH of 8, no phenols, TOC of 1200 ppm and low metals. This material has a milky appearance as though it is an emulsion. When allowed to stand it eventually does form a white layer on top, but this is not an issue. This material treats well with our standard water treat and does not need heat or acid to break any emulsions. Overall, this will be good water for CES to process.

The potential volume of this material is approximately one load per week. The table below summarizes the analytical testing.

Hexion, Hope AR	
Evaluation 1008-47	
pH	8
Phenols, ppm	0
TOC, mg/L	1,200
Solids, vol%	Trace
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.040
Zn	0.048
Cu	0.100
Cd	0.006
Cr	0.037

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To: Dan Bowman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/27/08

From: Miles Root

Lab Memo: 08-185

Subject: **ESS Evaluation 1008-51**

A sample of waste water from ESS, Corsicana, has been evaluated for potential processing at CES. This sample is evaluation1008-51 and is soapy water from the rinsing of totes. Overall, this material looks good for processing at CES.

This material does have a low pH of 1.9 so will need the proper hazardous waste water designation. This material appears to be an emulsion due to its milky appearance, but heating and acidification does nothing to help recover any oil and is not necessary. It treats without issues with our standard water treat. The TOC is reasonable at 3523 ppm, there are no phenols and this material does not flash below 140 deg F. The metals are acceptable and there is only a trace of solids. Overall, this will be good water for CES to process.

The potential volume of this material is two to three loads per week. The table below summarizes the analytical testing.

ESS Corsicana	
Evaluation 1008-51	
Flash Point, deg F	>140
pH	1.9
Phenols, ppm	0
TOC, mg/L	3,523
Solids, vol%	Trace
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	0.218
Zn	0.192
Cu	0.049
Cd	0.023
Cr	0.05

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To: Dan Bowman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/23/08

From: Miles Root

Lab Memo: 08-184

Subject: **Speed Industrial Evaluation 1008-48**

A sample of sludge/slop oil from Speed Industrial has been evaluated for potential process/disposal by CES. This sample is evaluation1008-48.

This material is essentially a solid at room temperature. It consists of small chunks and grit embedded in a solid tar like material. This sample must be heated to the range of 210-220 deg F before it becomes what I would consider even marginally pumpable. During this heating process the sample releases some hydrogen sulfide gas. When allowed to cool the material solidifies to a more dense material that resembles roofing tar, except that it is thicker.

This sample is partially soluble in toluene, but contains a good amount of material that does not go into solution. Ash content of this material is 34.7 wt% and looks like rust. This probably is rust as this material most likely comes from a tank bottoms.

Material of this nature is best handled in a coking unit to recover whatever chemicals of value it may have. Delayed, Fluid and Flexicoking are all processes that chemical plants use to recover "bottom of the barrel" materials. Coking units convert heavy feedstocks into a solid coke and lower boiling point hydrocarbon products. I personally know of no other technology that is applicable for recovering any chemical value from this material.

Outside lab testing needs to be done to check this material's hazardous characteristics if we are serious about disposing of this material as a waste. The standard TCLP testing for volatiles, semi volatiles and metals along with TPH and RCI will be required.

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To: Kim Harmon
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Date: 10/23/08

From: Miles Root

Lab Memo: 08-183

Subject: **Specialty Chemicals Evaluations 1008-49-50**

Two samples from biodiesel production have been evaluated for potential processing at CES. These samples are evaluation 1008-49 and 50. These samples are supposed to contain biodiesel and canola oil. In both samples, the biodiesel portion we can use to blend into black oil. The remainder of the material will need disposal.

Evaluation 1008-49, Tank A, contains 70% biodiesel. This material blends well with our black oil and has a BTU value of 11,387. While this is an exceptional value for biodiesel BTU, it is really not an exceptional value. The bottom phase of this material mixes with caustic to form soap, so it is possibly canola oil. We have no use for it and costs for its disposal must be weighed against any price we might pay for the biodiesel.

Evaluation 1008-50, Tank B, contains 28% biodiesel. This material blends well with our black oil, as it should. The bottom of this sample container has two other layers, neither of which we have any use for. One should be canola oil, the other looks like sludge.

As a caution, receipts of any loads of these materials must account for at least a day for settling. The entrained canola oil in the biodiesel will cause any black oil blends to turn to a gel. The particular two samples settled out over a single day in a lab environment. We would want to test the top phases of these materials before actually blending them into black oil to insure that proper phase separation has occurred.

The bottom layers of both of these streams can go into a sludge box. Pricing should include disposal costs for the bottoms. We should pay no more for the biodiesel that we would pay for cheaper quality black oil, as its BTU value is on the low side. Ash value, while not determined on this particular biodiesel, is typically less than 1% on any legitimate product.

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To: Gary Brauckman
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Date: 10/22/08

From: Miles Root

Lab Memo: 08-182

Subject: **Southwest Shipyard Evaluation 1008-46**

A sample of sulfuric acid from Southwest Shipyard has been evaluated for potential use at CES, Port Arthur. This sample is evaluation 1008-46. This sample has a density of 1.011 which corresponds to an approximate sulfuric acid concentration of 2%. It is pale amber in appearance. This acid is too weak to effectively use at our Port Arthur facility.

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To: Dana Carter
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Date: 10/22/08

From: Miles Root

Lab Memo: 08-181

Subject: **Champion Odessa Evaluation 1008-45**

A sample of waste water from Champion, Odessa, has been evaluated for potential processing at CES. This sample is evaluation 1008-45 and is wash water from the cleaning of tanks at a chemical blending plant. The potential volume of this stream is one to two trucks per month. We should be able to handle this stream at CES even though it is high in zinc and TOC.

This material has the odor of pyridine or amines. In the past there have been issues with treating water with amines due to the release of ammonia at the city's water treatment plant. There is no issue with treatment at CES on this parameter. This sample has a flash point between 115 – 120 deg F. It treats easily without issues. The treated water is high in zinc and moderately high in nickel. The TOC is 40,650 on the treated water. The treated water continues to have a pyridine type odor, not ammonia.

I would try to charge a little extra to help us out with the high zinc and TOC. We should be able to treat this water with extra care taken to make sure we dilute these parameters down before discharge. The table below summarizes the analytical testing.

Champion Odessa	
Evaluation 1008-45	
Flash Point, deg F	115-120
pH	8
Phenols, ppm	0
TOC, mg/L	40,650
Oil, vol%	0
Treatability	OK
Metals, ppm	
Ni	1.116
Zn	8.11
Cu	0.562
Cd	0.174
Cr	0.199

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/20/08

From: Miles Root

Lab Memo: 08-180

Subject: **Arkema Evaluation 1008-17**

A sample of octane thiol from Arkema, Houston, has been evaluated as a potential acquisition product. This sample is evaluation 1008-17 and is a product quality material of 1-octanethiol, a straight chain mercaptan.

This material may be sold into a fuels market. It is highly odorous and we do not want to unload or blend any of this type of material at this site do to its strong objectionable odor. Its BTU value is 15,566 with a specific gravity of 0.834 and a flash point between 130 – 135 deg F. The material is water white with no solids or other impurities that would impede its marketability. The total volume of this stream is yet to be determined.

n-OCTYL MERCAPTAN

Material Safety Data Sheet

Arkema Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Thio and Fine Chemicals
Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name	n-OCTYL MERCAPTAN
Product Synonym(s)	
Chemical Family	Alkyl Mercaptan
Chemical Formula	C8H18S
Chemical Name	1-Octanethiol
EPA Reg Num	
Product Use	

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
n-Octanethiol	111-88-6	98%	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview
Colorless liquid, mercaptan odor.
WARNING!
CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE NAUSEA, HEADACHE OR DIZZINESS.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed, no more than slightly toxic if absorbed through skin, no more than moderately toxic if inhaled, moderately irritating to eyes, and slightly irritating to skin. This material has a strong objectionable odor that may cause nausea, headache, or dizziness. Repeated contact may cause an allergic skin reaction.

4 FIRST AID MEASURES

EPAHO113002076

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately wash with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean shoes before reuse.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. Call a Poison Control Center. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	237 C		
Flash Point	70 C (158 F)	Flash Point Method	Seta CC
Flammable Limits- Upper	NE		
Lower	NE		

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Do NOT permit water to enter containers. Material may spatter or foam if contacted with water. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur:
Hydrogen sulfide
Sulfur oxides
Oxides of carbon

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Ventilate the area. Contain spill by building a dike using absorbent material. Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Do not use solid bleach for neutralization, as fire or violent reaction can occur. Collect the liquid and solid absorbent into a drum approved for waste disposal. Flush area with water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

EPAHO113002077

7 HANDLING AND STORAGE

Handling

Do not get in eyes, on skin or on clothing.
Wash thoroughly after handling.
Keep away from heat, sparks and flames.
Keep container closed.
Use only with adequate ventilation.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage

Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create a fire hazard. All storage containers, including containers such as drums, cylinders and IBC's, must be bonded and grounded during filling and emptying operations. Store away from oxidizers and reactive materials. Keep container tightly closed. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

EPAHO113002078

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Airborne Exposure Guidelines for Ingredients

The components of this product have no established Airborne Exposure Guidelines

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Colorless liquid, mercaptan odor.
pH	NE
Specific Gravity	0.847 @ 15.5 C
Vapor Pressure	0.03 psia @ 100 F
Vapor Density	5
Melting Point	-49 C
Freezing Point	NA
Boiling Point	199 C
Solubility In Water	4 mg/l @ 20 C
Solubility in Other Materials	Alcohols, ethyl ether
Percent Volatile	100
Viscosity	1.33 cP
Molecular Weight	146.3
Other Physical Data	Refractive index: 1.454 @ 20 C Critical temperature: Tc = 391 C Critical pressure: Pc = 2.48 MPa (24.8 bar)

10 STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Avoid contact with strong oxidizing agents and strong bases.

Hazardous Decomposition Products

None known.

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:
Oral - Slightly Toxic to Rats (LD50 2,000 mg/kg)
Dermal - No More than Slightly Toxic to Rats (LD0 2,000 mg/kg)
Inhalation - No More than Moderately Toxic to Rats (4-hr LC0 0.24 mg/l)

EPAHO113002079

11 TOXICOLOGICAL INFORMATION

Eye Irritation - Moderately Irritating to Rabbits
Skin Irritation - Slightly Irritating to Rabbits

Skin allergy was observed in guinea pigs following repeated skin exposure. No genetic changes were noted in tests using bacteria or human cells.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

This material is highly toxic to Daphnia magna (48-hr EC50 <0.42 mg/l).

Chemical Fate Information

This material is not readily biodegradable (10% after 28-days; OECD 301D).

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations. Take appropriate measures to prevent release to the environment.

14 TRANSPORT INFORMATION

DOT Name	Non-bulk Domestic: Not regulated
DOT Technical Name	
DOT Hazard Class	
UN Number	
DOT Packing Group	PG
RQ	
Marine Pollutant	Yes
DOT Special Information	Bulk and non-bulk Internarional: Environmentally hazardous substance, liquid, n.o.s. (n-Octanethiol), 9; UN3082; PGIII; MP Domestic Bulk: Combustible liquid, n.o.s. (n-Octanethiol), 3; NA1993; PGIII; MP

15 REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

EPAHO113002080

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
n-Octanethiol	NE	

Massachusetts Right to Know
This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.
n-Octanethiol

New Jersey Right to Know
This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.
n-Octanethiol

Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.
n-Octanethiol

16 OTHER INFORMATION

Revision Information

Revision Date	02 MAR 2007	Revision Number 13
Supercedes Revision Dated	30-DEC-2005	

Revision Summary
Revised HEIS, revised sections 3,11,12.

Key
NE= Not Established NA= Not Applicable (R) = Registered Trademark

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EPAHO113002081

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/20/08

From: Miles Root

Lab Memo: 08-179

Subject: **Southwest Shipyard Evaluation 1008-34**

A sample of oil from Southwest Shipyard in Channelview has been evaluated for potential receipt and sales at CES. This sample is evaluation 1008-34 and is oil skimming from wash water and barge heels. The sample has a "T-303" label. Overall, this material looks like fairly good oil and its acquisition should be pursued.

This oil has a flash point greater than 100 deg F, 5.9% water, API gravity of 14, chlor-d-tect of only 400 mg/L, and an ash content of 1.15%. It blends well with our black oil. I don't know the quantity available, but we should acquire all that we can. Pricing should be no more than $0.45/gallon for good oil with deductions for water. The table below summarizes the analytical testing.

Southwest Shipyard Evaluation 1008-34	
Oil, vol%	100
Water, wt%	5.9
Flash Point, deg F	>100
Black Oil Suitability	OK
Ash, wt%	1.15
Chlor-d-tect, mg/L	400
API Gravity	14
Specific Gravity	0.973

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To: Matt Bowman, Marlin Moser, Matt Moser,
Joe Camp, Gary Peterson, Prabhaker, Kim Harmon

Date: 10/15/08

From: Miles Root

Lab Memo: 08-178

Subject: **Lancer Evaluations 0908-62–71 for Flash Points**

Ten tank samples from Lancer and taken by Durim have been analyzed for flash point. One of the samples, ID 294, is a solid and was not included in the testing. As can be seen, two of the tank samples have flash points less than 140 deg F. The test results are summarized in the table below.

Lancer Tank Evaluations		
Evaluation #	Sample ID	Flash Point Deg F
0908-62	74	>140
0908-63	50	>140
0908-64	77	>140
0908-65	123	>140
0908-66	294	N/A
0908-67	340	>140
0908-68	29644	>140
0908-69	29645	90-100
0908-70	29744	<85
0908-71	29213	>140

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/13/08

From: Miles Root

Lab Memo: 08-177

Subject: **Vertex Evaluatioin 1008-23**

A sample of oily water from Vertex at Cedar Marine has been evaluated for potential at CES. This sample is evaluation 1008-23 and is oily water from tank cleaning. The volume of this material is estimated to be around one trailer load per month. With proper treatment, CES can process this material in an acceptable manner.

This sample appears to have numerous fine solids suspended throughout. These solids do not centrifuge out and are part of an oily suspension in the water. This sample has only a trace of oil in it. The neat sample has a pH of 9. Sample treatment by heating along with acidification will release a very small amount of oil, which essentially sticks to the side of a separatory funnel and is difficult to quantitate. I estimate the oil at less than 0.5%.

The water treats easily and forms a greater than typical amount of solids. The water is very high in zinc and on the high side for nickel. Phenols and TOC are at acceptable levels.

Processing for this water will involve heat and acidification to break out the very small amount of oil. The water will then need to go to a frac tank to be blended down with "good" water in order to reduce the zinc level. Basic cost is $0.10/gal so a charge of at least $0.14/gal will give us a return of 40%.

The table below summarizes the analytical data.

Vertex at Cedar Marine	
Evaluation 1008-230908-42	
pH	9
Phenols, ppm	5
TOC, mg/L	14,500
Oil, vol%	<0.5
Chlor-d-tect, mg/L	N/A
Treatability	OK
Metals, ppm	
Cd	0.16
Cr	0.18
Cu	0.31
Ni	1.1
Zn	9.1

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/09/08

From: Miles Root

Lab Memo: 08-176

Subject: **Rada Evaluatioin 1008-07**

A sample of biodiesel soaps from Rada (Green Earth) has been evaluated for potential processing at CES. This sample is evaluation 1008-07. It is a potential mixture of chemicals from biodiesel production, to include glycerin, methanol, fatty acids and biodiesel, in a water matrix. This stream has a total potential of 40,000 gallons.

This material cannot be treated like a waste water or oil "as is", so needs special processing to make it a viable product. The neat sample has a flash point between 100 to 105 deg F. A caustic extraction is a basic chemical operation that involves minimal processing and can be effective in chemical separation. I thought its application to this sample would be viable.

In this particular application, the glycerin and fatty acids can be tied up by an extraction with caustic, freeing up the biodiesel. Caustic and fatty acids make soap, and glycerin and caustic also make a soap type product, which is either solid or a semi solid. The freed up biodiesel can then be mixed with black oil and sold. All of this takes tank space along with mixing action.

A lab experiment was designed to caustic extract the biodiesel away from the sample. A 10% caustic was chosen, as previous experience has shown that this is a strong enough caustic for this type of extraction, but yet not too strong to form any potential emulsions or phase separation issues. It is also readily available to be made up from 50% caustic.

Varying ratios from 1:1 to 1:8 caustic: biodiesel mixture, were used, with the best return for the money a 1:4 ratio. A simple mixing action in a cylinder was all that was required in the lab to extract out the biodiesel oils. This top phase recoverable oil is approximately 37.5% of the original sample, forming at the same time a middle layer containing 12.5% soaps. These soaps are a semi solid and will go to a landfill. The oil has a BTU value of 14,420. The bottom layer caustic phase can be reused and replenished as it is used up in the soap production. Eventually, it may see disposal via our waste water treatment as a pH adjustment chemical.

The extracted oil is pale yellow in appearance. It mixes well with black oil and will not gel up, as the "bad" actors have been tied up in the soap. This process takes tank space and requires simple yet good mixing action. Operations will need to determine whether or not to pursue this type of treatment at this time, but this is a very viable process to keep in mind down the road.

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To: Matt Bowman, Jennifer Rust,
Cc: Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/09/08

From: Miles Root

Lab Memo: 08-175

Subject: **KMTEX Port Arthur Low Flash Wastewater Evaluation**

Two samples of low flash wastewater from KMTEX, Port Arthur, have been evaluated for potential processing at CES. The samples had labels of 165 and 195, which are presumed to be tank numbers. Both tanks can be processed at CES to recover the oil, remove the flash from the water, and discharge reasonable TOC water.

Both samples of water have oil layers on them. This oil passes the chlor-d-tect testing with a 600 ppm. Tank 165 has approximately 20% oil and tank 195 just 2% oil. The water can be decanted away from the oil without heat or acid treat. The water should be treated with sulfuric acid and ferric chloride as normal, but the pH adjustment should be done mostly with caustic and then lime added at the end, along with the polymer. This will prevent the formation of numerous dense solids and result in floc like solids that will readily fall out of solution. These solids are not excessive.

The TOC, metals and phenols are not an issue on the treated waters. If we treat as above with both caustic and then lime, this water should be easy to handle. The treated water does not have a flash point less than 140 deg F. The table below summarizes the analytical test results.

KMTEX Port Arthur Low Flash Water		
	165	195
pH	6	6
Phenols, ppm	5	5
TOC, mg/L	1850	4650
Oil, vol%	20	2
Solids, vol%	0	0
Treatability	OK	OK
Metals, ppm		
Cd	0.118	0.064
Cu	0.06	0.037
Ni	0.234	0.293
Zn	0.11	0.074

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/07/08

From: Miles Root

Lab Memo: 08-174

Subject: **Rada Evaluation 1008-16**

A sample of biodiesel/fatty acids from Rada (Green Earth as the generator) has been evaluated as a potential sales product for CES. This sample is evaluation 1008-16 and is a mixture of biodiesel and fatty acids. The potential here is to market the material "as is" and not blend or mix with any of our current products, and analytical data is needed for sales purposes. The potential volume is 120,000 gallons.

This material is amber/brown in appearance, has 0.1% water and no ash. It has a density of 0.872 and a BTU value of 12,804. The flash point is between 115 – 120. The table below summarizes this analytical data.

Rada	
Evaluation 1008-16	
Ash, wt%	0
Water, wt%	0.1
BTU/lb	12,804
Specific Gravity	0.872
API Gravity	30.8
Flash Point, Deg F	115-120

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To: Ken Noakes
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/07/08

From: Miles Root

Lab Memo: 08-173

Subject: **Monumental Pipeline Evaluation 1008-18**

A sample of diesel mixed with solvent has been evaluated for potential use at CES. This sample is evaluation 1008-18 and originates from the pigging operation of a pipeline containing diesel with a solvent.

This material is brown in appearance, has a chlor-d-tect of only 500 mg/L and blends well with our black oil. The solvent used in the cleanout consists of a variety of terpenes along with petroleum distillates, a group of compounds that should have a good BTU value. There is approximately 2000 gallons of this material available. We should pursue its acquisition and eventually blend it off into our black oil when it is received.

Monumental Pipeline	
Evaluation 1008-18	
Hydrocarbon, vol%	100
Chlor-d-tect, mg/L	500

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/06/08

From: Miles Root

Lab Memo: 08-172

Subject: **ProMaxima Evaluations 1008-08 thru 10**

Three unknown samples from ProMaxima have been evaluated for potential processing at CES. These samples are evaluations 1008-08 thru 10. These three samples represent three drums of material from a process that degreases steel in a manufacturing operation.

Evaluation 1008-08 has a pH of less than one and reacts with caustic to forms numerous salts. It foams when shaken and does not have the odor of any familiar mineral acid. It is probably an organic acid containing detergents that was used in the cleaning process. This sample turns into a gel consistency when treated with caustic to raise the pH. The sample reacts violently upon addition of sodium hydroxide but is non-reactive with lime. I do not know of any use we would have for this material and it will not treat in our waste water system.

Evaluation 1008-09 has a pH of less than one and also reacts violently with caustic to form many salts and excess heat. It too foams when shaken and probably contains a detergent as well. The odor is not that of a mineral acid but is rather an organic acid.

Evaluation 1008-10 is a caustic material with a pH of 14. It also contains a detergent as indicated by its excessive foaming when shaken. It also reacts violently when acidified and produces excessive salts and heat. The TOC of this material is 94,000 mg/L.

There is no additional information on the above drum samples. We must presume the worst case scenario if no other information is given. A listed waste would require incineration and pricing to handle these drums must account for this cost. The drum samples will need this type of disposal to an off-site disposal company without any other information.

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 10/03/08

From: Miles Root

Lab Memo: 08-170

Subject: **Champion Technologies Evaluation 1008-06**

A sample of waste water from Champion Technologies has been evaluated for potential processing at CES. This sample is evaluation 1008-06 and is a chemical bi-product from a commercial chemical production. The expected volume of this material is one trailer per quarter. Overall, this is a stream that we can process at CES.

The chemical composition of this water includes polymers, formaldehyde, hydrochloric acid, thiourea and acetophenone. The odor is very noticeable on this particular sample and may be an issue when received and processed. The potential chemical concentration range will force us to look at each load on an individual basis for odors.

The pH of this material is 1.3 so it will be classified as a hazardous waste. It also has a flash point greater than 140 deg F. The sample forms a heavy sludge when treated and will need to go through the filter press if processed as a single batch. Diluting this water with other water does not help much, as a sample was tested by diluting with tap water and still formed a considerable amount of solids. We can process the solids as any others, but it will take a little more effort.

The TOC of the treated water is 21,450 mg/L. The metals are acceptable, with the nickel and cadmium being at the high end range at 2.0 ppm and 0.27 respectively. The table below summarizes the analytical testing.

Champion Technologies	
Evaluation 1008-06	
pH	1.3
Phenols, ppm	0
TOC, mg/L	21450
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	Solids
Metals, ppm	
Cd	0.267
Cu	0.266
Ni	2.031
Zn	0.259

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To: Ken Noakes, Jennifer Rust
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/30/08

From: Miles Root

Lab Memo: 08-169

Subject: **Dana Container Evaluation 0908-61**

A sample of pesticide water from Dana Container has been evaluated for potential processing at CES. This sample is evaluation 0908-61 and is a mixture of a carbamate pesticide and water. Volume of this material is a few drums and the best option is to move to an off-site hazardous disposal company.

The pH of this material is 8 and it has a flash point less than 75 deg F. The extremely low flash point will cause this material to be listed as a hazardous waste, and one that we will not be able to move to System 1.

This sample does not treat well and forms a total sludge that does not phase separate. Attempts were made using more or less sulfuric acid/ferric chloride during the treat without success in a better phase separation. Treatments always ended in a sludge with minimal water separation.

This sample has three distinct layers, all water soluble. A top phase with a density of 1.00, middle pudding type phase, and a bottom liquid with a density of 1.27.

Disposal to an off-site hazardous waste facility is a good option for this material, as it cannot be processed on site.

CES Environmental Services, Inc.

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/30/08

From: Miles Root

Lab Memo: 08-168

Subject: **Buckeye Pipeline Evaluation 0908-58**

A sample of ammonia water from Buckeye Pipeline has been tested for pH and flash point. This sample is evaluation 0908-58 and is a mixture of ammonia and water from the cleaning of pipes. The pH of this material is 11 and it has a flash point between 135 and 138 deg F. No other work was requested on this sample.

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/30/08

From: Miles Root

Lab Memo: 08-167

Subject: **Freeport LNG Evaluation 0908-57**

A sample of glycol from Freeport LNG has been tested to determine percent glycol. This sample is evaluation 0908-57 and is a mix of glycol and water from various spills. The material has the odor of ethylene glycol. This pink colored glycol tests to be approximately 32% ethylene glycol by use of a refractive index technique. The quantity of material is approximately two totes. Other than the pink coloring, this glycol is typical of material we have seen and sold in the past and there should be a market for its use.

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/25/08

From: Miles Root

Lab Memo: 08-166

Subject: **RES Evaluation 0908-56**

A sample of oily water from RES (Age Refining, San Antonio) has been evaluated for potential processing at CES. This sample is evaluation 0908-56. This sample is from an oil/water/sludge separator.

The flash point of the oil portion of this sample is less than 90 deg F. This is a fail on flash point for this material, which must not have a flash point less than 100 deg F. No further work is planned for this sample.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/24/08

From: Miles Root

Lab Memo: 08-165

Subject: **Specialty Chemical Evaluation 0908-54**

A sample of sump water from Specialty Chemical has been evaluated for potential processing at CES. This sample is evaluation 0908-54. This sump water is from biodiesel processing. Overall, this material may be processed without issues and its acquisition pursued.

The oil content of this water is only a trace amount. The water treats easily and without issues. The sample has no solids or phenols and a pH of 5. The treated water has no TOC and acceptable metals. I do not have the potential volume of this source but we can handle any volume. The table below summarizes the analytical testing.

Specialty Chemical	
Evaluation 0908-54	
pH	5
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	trace
Chlor-d-tect, mg/L	N/A
Treatability	OK
Metals, ppm	
Cd	0.057
Cu	0.081
Ni	0.176
Zn	0.153

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/24/08

From: Miles Root

Lab Memo: 08-164

Subject: **Rineco Evaluation 0908-50**

A sample of oily water from Rineco has been evaluated for potential processing at CES. This sample is evaluation 0908-53. This oily water is from a spill cleanup. Overall, the oil portion of this sample has a chlor-d-tect too high to receive. The water treats fine and has no issues.

The chlor-d-tect on the oil phase of this sample is greater than 4000 mg/L, which means it is not open for rebuttal. The oil is approximately 10% of the sample. Since the sample must be heated and acidified to properly separate the oil and water, this material must be rejected as a potential receipt for processing at CES.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/24/08

From: Miles Root

Lab Memo: 08-163

Subject: **Rada Technologies Evaluation 0908-53**

A sample of biodiesel/methanol waste water from Rada Technologies (Green Earth) has been distilled to see if other alternatives to System 1 can be implemented. This sample is evaluation 0908-53.

This sample has the appearance of typical biodiesel waste water and has an emulsion layer on top. This emulsion was not used in the distillation as it would add considerably to the TOC in the pot bottoms. The emulsion on this sample was approximately 15%. A 100 mL sample was distilled with a resulting recovery of 45% wet methanol. The pot bottoms had a TOC of 332,900 mg/L.

The wet methanol from this material can be recovered by distillation similar to what is done with our other methanol supplier streams. The economics of distillation and sale of methanol vs. cost of System 1 disposition would need to be calculated. The distillate bottoms remain very high in TOC and would need to be processed to System 1.

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/24/08

From: Miles Root

Lab Memo: 08-162

Subject: **GATX Galena Park Evaluation 0908-45**

A sample of used cleaner from GATX, Galena Park, has been evaluated for potential processing at CES. This sample is evaluation 0908-45. This sample represents a stream of approximately one drum of citrus cleaner and water used in rail car repair operations.

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The cleaner is an organic solvent that mixes readily with our black oil. It has a chlor-d-tect of 1000 mg/L, which is acceptable. The flash point of this material is 130-135 deg F. The water phase has a pH of 4.3 and is approximately 40% of the sample. This sample readily separates out into the oil and water phases so it does not need heat or acid to break out. We should price to cover our extra labor costs for handling just one drum and process to recover the oil phase.

CES Environmental Services, Inc.

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To: Shannon Ward
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/22/08

From: Miles Root

Lab Memo: 08-161

Subject: **Packless/Texas Cooper Evaluation 0908-42**

A sample of oily waste water from Packless/Texas Cooper has been evaluated for potential processing at CES. This sample is evaluation 0908-42. Texas Cooper is a sister company of Packless, a current supplier to CES. This sample represents a stream of approximately 3000 gallons/month of oily water containing some hydraulic oils produced from a metal forming process for high Cu and Ni alloy tubes. We would expect this water to be higher than typical in these two metals. Overall, this stream looks good for CES.

The water and oil are easily separated with heat and a little acid. The chlor-d-tect on the oil is 400 mg/L, an acceptable value. The metals treat out of the water with our standard treat and are very acceptable. The treated water has no phenols or TOC. We should pursue the acquisition of this stream. The table below summarizes the analytical testing on this sample.

Packless/Texas Cooper Evaluation 0908-42	
pH	6
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	12
Chlor-d-tect, mg/L	400
Treatability	OK
Metals, ppm	
Cd	0.127
Cu	0.440
Ni	0.645
Zn	0.430

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/18/08

From: Miles Root

Lab Memo: 08-160

Subject: **Hydrocarbon Resources Evaluations 0908-34 & 35**

Two samples of waste water from Hydrocarbon Resources – Huish Detergents, LaPorte, have been evaluated for potential receipt and processing at CES. These are sample evaluations 0908-34 and 35. Evaluation 0908-34 is a rinse and process water from the production of soap. Evaluation 0908-35 is a bi-product from the production of soap.

Evaluation 0908-34 has a murky straw appearance but is free of any solids or particulates. The water treats easily and without issues. The pH of this sample is 12 and has no phenols or TOC and has a flash point greater than 140 deg F. The metals are acceptable. The potential receipt volume for this stream is 40,000 gal/day. Pricing for this stream should start at $0.12/gal.

Evaluation 0908-35 has a murky straw appearance with a trace of solids. Initially this sample was thought to be a caustic stream. A titration with HCl shows it to have an alkalinity of 0.9 wt% as NaOH, which is too low for our use as a caustic. This sample has a pH of 12.46 using a standardized meter. The sample treats easily but forms slightly higher solids than typical. A spun out treated sample shows 6% solids. The sample has no TOC or phenols and has acceptable metals, but potentially high nickel. The potential receipt volume for this stream is 8000 gal/day. Pricing for this stream should start at $0.12/gal.

Both streams are close to the 12.5 pH limit for hazardous waste classification. Even though these streams come from soap making processes, the TOC values indicate this water to be free from any soap. TOC should be a consideration for surcharge if it becomes excessive and non- conforming to these samples. The analytical testing summary is found in the table below.

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Hydrocarbon Resources		
Evaluations 0908-34 & 35		
	0908-34	0908-35
pH	12.0	12.46
Phenols, ppm	0	0
TOC, mg/L	0	0
Oil, vol%	0	0
Solids, vol%	0	Trace
Treatability	OK	OK
Alkalinity, as NaOH, wt%	N/A	0.9
Metals, ppm		
Cd	0.084	0.441
Cu	0.124	0.636
Ni	0.419	1.721
Zn	0.062	0.481

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/18/08

From: Miles Root

Lab Memo: 08-159

Subject: **Reslink (Schlumberger) Evaluation 0908-24**

A sample of waste water from Reslink (Schlumberger), Buschona Street, has been evaluated for potential receipt and processing at CES. This sample is evaluation 0908-24 and is coolant waste water from welding machines. Overall, this material looks good for processing and will treat easily and without issues. A charge of at least $0.12/gal should be acceptable for pricing.

This emulsion free waste water is free of solids and has a slight light brown murky appearance. It treats easily and without issues. This water has a pH of 9, TOC of 1500 ppm and phenols of 1 ppm. The lead on the treated water is just a bit high at1.164 ppm, but this will dilute down with our other waters without issue to a 1.0 spec. The other metals on the treated water are at an acceptable range. We should pursue the acquisition of this material. The analytical test summary is found in the table below.

Reslink	
Evaluation 0908-24	
pH	9
Solids, vol%	0
Phenols, ppm	1
TOC, mg/L	1500
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	OK
Metals, ppm	
Cd	.056
Cu	.501
Ni	.596
Zn	.342
Pb	1.164

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/18/08

From: Miles Root

Lab Memo: 08-158

Subject: **Reagens USA Evaluation 0908-14**

A sample of oil from Reagens USA, Bayport Blvd, has been evaluated for receipt and sales potential by CES. This sample is evaluation 0908-14 and is a mix of hydraulic and motor oil from forklifts and machinery. Overall, with the chlor-d-tect resolved, this material looks good for receipt and sales.

This oil sample is approximately 15% by volume in a sample that is aqueous. The oil is a black clean looking material that is free of any solids or particulates. It will easily and readily blend with our "typical" black oil. A chlor-d-tect shows 1500 ppm, meaning that the supplier will need a rebuttal stating that this source will meet specs on chlorinated hydrocarbons. There are no other issues. A summary of the oil testing is found in the summary below.

Reagens USA	
Evaluation 0908-14	
pH	N/A
Solids, vol%	0
Phenols, ppm	N/A
TOC, mg/L	N/A
Oil, vol%	15
Chlor-d-tect, mg/L	1500
Density	0.851
API Gravity	35
Flash Point, deg F	> 140
Ash, wt%	0.48

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To: Dana Carter
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/18/08

From: Miles Root

Lab Memo: 08-157

Subject: **Slay Transportation Evaluation 0908-37**

A sample of waste water from Slay Transportation, Jacinto Port Blvd, has been evaluated for potential receipt and processing at CES. This sample is evaluation 0908-37. Overall, this material looks good for processing and will treat easily and without issues. A charge of at least $0.12/gal should be acceptable for pricing.

This emulsion free waste water is medium brown in appearance with 2% solids and a pH of 7. It treats easily and without issues, forming a nice floc that readily separates. There are no phenols and the TOC is only 900 ppm. The metals on the treated water are also at an acceptable range. We should pursue the acquisition of this material. The analytical test summary is found in the table below.

Slay Transportation Evaluation 0908-37	
pH	7
Solids, vol%	2
Phenols, ppm	0
TOC, mg/L	900
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	OK
Metals, ppm	
Cd	0.066
Cu	0.344
Ni	1.228
Zn	0.306

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To: Dan Bowman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/03/08

From: Miles Root

Lab Memo: 08-156

Subject: **Grief Brothers Evaluation 0908-07**

An aqueous sample from Grief Brothers, Houston has been evaluated for potential processing at CES. This sample is evaluation 0908-07. It is water containing sodium silicate that has been used to clean threads in a drum operation. The final disposition of this material will depend upon the quantity that is being considered.

This sample has a pH of 11.3 and contains approximately 10% solids, which are metal filings. This material should be classified as non hazardous. The real issue with this material is that it solidifies when acidified as in our typical waste water treatment process. This is to be expected, as sodium silicate, when acidified, forms silicic acid, which turns into a gel when heated. The heat of reaction of sulfuric acid and this sample is enough to cause it to solidify. The silica gel that is created will not be soluble but rather forms a material having the consistency of silicone.

I do not know the volume of this stream. Small drum quantities could either be put into a sludge box or dribbled into our waste water tanks. An entire trailer load of this material must not be treated in one of our tanks, as it will solidify. Sodium silicate in small quantities is also used in water treatment to help remove heavy molecules and precipitate them out of solution. Remember, a full tank of this material will solidify the entire tank when acidified in our treatment process.

Final disposition will depend upon the volume of material from this source.

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/03/08

From: Miles Root

Lab Memo: 08-155

Subject: **Dresser Roots Evaluations 0908-02 thru 06**

Four solvent samples and one oily water sample from Dresser Roots have been evaluated for determination of waste classification. These samples are evaluations 0908-02 thru 0908-06.

The solvent samples all have small aqueous layers from which the pH measurements were taken. The oily water can be taken as a recyclable as the chlor-d-tect is low. All of the results from the analytical testing are summarized in the table below.

Dresser Roots Evaluation Samples Summary					
	Tech-U-Solve	Crystal Clean	Oily Water	Unknown DM #17	Unknown DM # 20
	0908-02	0908-03	0908-04	0908-05	0908-06
pH	3	5	5	4	4
Flash Point, deg F	135-139	>140		110-115	>140
Oil, vol%			1.2		
Chlor-d-tect, mg/L	300	2800	500	200	>4000
Treatability			Lots of Solids		
Phenols, ppm			0		
TOC, ppm			<300		

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To: Ken Noakes
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/03/08

From: Miles Root

Lab Memo: 08-154

Subject: **Sunburst Trucking Evaluation 0808-44**

A sample of oil from Sunburst Trucking has been evaluated for potential receipt at CES. This sample is evaluation 0808-44. This sample is stated to be a mixture of oil, antifreeze and water from truck maintenance operations. The volumes of each are given as 80%, 10% and 10% respectively. Analytical testing shows that these are only gross estimates. This material does have a chlor-d-tect value of 1600, which means that a rebuttal will be needed from this supplier indicating that this material does not contain halogenated hydrocarbons above 1000 ppm. The volume of this stream is 800 to 1000 gallons/year. Overall, this sample is potentially good oil that will blend well with our current black oil at CES, or may be sold "as is". The summary table below shows the analytical test results on this oil sample.

Sunburst Trucking	
Evaluation 0808-44	
API Gravity	28
Water %	1.9
Flash Point, deg F	>140
Oil, vol%	100
Chlor-d-tect, mg/L	1600
BTU/lb	16520
Ash, wt%	1.05

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To: Gary Brauckman
Cc: Matt Bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 09/03/08

From: Miles Root

Lab Memo: 08-153

Subject: **Smith International Evaluation 0808-45**

A sample of oil from Smith International has been evaluated for potential receipt at CES. This sample is evaluation 0808-45. This sample is oil from a hydraulic oil pit. The volume of this stream is around 800 gallons. Overall, this is good oil that will blend well with our current black oil at CES, or may be sold "as is". The summary table below shows the analytical test results on this oil sample.

Smith International	
Evaluation 0808-45	
Specific Gravity	0.866
Water, ppm	1182
Flash Point, deg F	>140
Oil, vol%	100
Chlor-d-tect, mg/L	200
BTU/lb	17306
Ash, wt%	0.28

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To: Gary Brauckman
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/28/08

From: Miles Root

Lab Memo: 08-152

Subject: **Hitemco-Lozano Evaluation 0808-43**

A sample of chiller water from Hitemco-Lozano has been evaluated for potential processing at CES. This sample is evaluation 0808-43. This sample is water used in a chiller system. The volume of this stream is around 5000 gallons. Overall, this is good water that should not require any treatment on the part of CES. The summary table below shows the analytical test results on the neat water sample.

Hitemco-Lozano	
Evaluation 0808-43	
pH	6
Phenols, ppm	0
TOC, mg/L	0
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	N/A
Metals, ppm	
Cd	0.007
Cu	0.071
Ni	0
Zn	0.978

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To: Gary Brauckman
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/27/08

From: Miles Root

Lab Memo: 08-151

Subject: **Ethyl Corporation Evaluation 0808-40**

A sample of oil emulsified water from Ethyl Corporation has been evaluated to see if it conforms to the profile of material currently received from this supplier. This sample is evaluation 0808-40.

This sample represents material received from Ethyl at the volume of approximately 5000 gallons per month. The sample is two phased with emulsified oil water with a bottom water layer. The emulsion does not break out with just heat and sulfuric acid but also requires 2% by volume of an emulsion breaker called Dr. Sam's, which is occasionally used at CES. The recovered oil is approximately 8% of the emulsion. After speaking with Gary Brauckman it was determined that this material fits the current profile for this supplier and that no further testing was needed.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/27/08

From: Miles Root

Lab Memo: 08-150

Subject: **Phoenix Pollution Control Evaluations 0808-15 & 35**

A sample of solidified glycerin and biodiesel from Phoenix Pollution Control has been tested for flash point. This sample is evaluation 0808-35. The flash point is greater than 140 deg F. No other testing was requested on this sample.

Phoenix Pollution Control evaluation 0808-15 is a sample of salts from biodiesel production tank bottoms that may also contain some methanol and biodiesel. At room temperature this material looks like grease with liquid. It is probably the sodium salts of fatty acids, or soap, as it is also water soluble. This sample was tested for black oil compatibility. This sample was mixed with black oil and heated, since does not mix well with our black oil at room temperature. Upon heating to mix and then cooling again, the sample mixture formed a very thick gel. This material is definitely not compatible with our black oil for sales purposes.

Laboratory Analysis Report

Total Number of Pages: 15

Job ID : 08080767

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :

Report To :	Client Name:	CES Environmental	P.O.#.:
	Attn:	Miles Root	Sample Collected By: Miles Root
	Client Address:	4904 Griggs Rd	Date Collected: 08/25/08
	City, State, Zip:	Houston, Texas, 77021	

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

Client Sample ID	Matrix	A&B Sample ID
0808-34	Sludge	08080767.01
0808-34 (Additional Sample)	Sludge	08080767.02

Sonia West

Released By: Sonia West

Title: Senior Project Manager

Date: 9/2/2008

This Laboratory is NELAP (T104704213-08-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 : 08/25/2008 15:05

EPAHO113002112

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 08080767

Date: 9/2/2008

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	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	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

S4	Surrogate not available due to dilution of sample extract for quantification.

EPAHO113002113

LABORATORY TEST RESULTS

Job ID : 08080767

Date 9/2/2008

Client Name: CES Environmental

Attn: Miles Root

Project Name:

Client Sample ID: 0808-34

Job Sample ID: 08080767.01

Date Collected: 08/25/08

Sample Matrix Sludge

Time Collected:

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		08/26/08 14:46	SS
	Arsenic	BRL	mg/L	1	0.1	1.8		08/26/08 14:46	SS
	Barium	BRL	mg/L	1	0.1	100.0		08/26/08 14:46	SS
	Beryllium	BRL	mg/L	1	0.08	0.08		08/26/08 14:46	SS
	Cadmium	BRL	mg/L	1	0.1	0.5		08/26/08 14:46	SS
	Chromium	BRL	mg/L	1	0.1	5.0		08/26/08 14:46	SS
	Lead	BRL	mg/L	1	0.1	1.5		08/26/08 14:46	SS
	Nickel	BRL	mg/L	1	0.1	70		08/26/08 14:46	SS
	Selenium	BRL	mg/L	1	0.5	1.0		08/26/08 14:46	SS
	Silver	BRL	mg/L	1	0.1	5.0		08/26/08 14:46	SS
SW-846 7.3	Reactivity								
	Reactive Cyanide	BRL	mg/Kg	1	25			08/25/08 16:05	KS
SW-846 7.3	Reactivity								
	Reactive Sulfide	BRL	mg/Kg	1	25			08/25/08 16:05	KS
SW-846 7470A	TCLP Metals, Mercury								
	Mercury	BRL	mg/L	1	0.0005	0.2		09/01/08 19:54	BS
SW-846 9045D	Corrosivity, pH								
	pH	5.58	s.u.					08/26/08 12:00	SG
TX 1005	Total Petroleum Hydrocarbons								
	C6-C12	BRL	mg/Kg	500	6350			08/28/08 11:00	WS
	>C12-C28	70576	mg/Kg	500	9100			08/28/08 11:00	WS
	>C28-C35	BRL	mg/Kg	500	9800			08/28/08 11:00	WS
	Total C6-C35	71075	mg/Kg	500				08/28/08 11:00	WS
	1-Chlorooctane(surr)	232	%	1	50-149		S4	08/28/08 11:00	WS
	Chlorooctadecane(surr)	198293	%	1	50-149		S4	08/28/08 11:00	WS

EPAHO113002114

LABORATORY TEST RESULTS

Job ID : 08080767

Date 9/2/2008

Client Name: CES Environmental

Attn: Miles Root

Project Name:

Client Sample ID: 0808-34 (Additional Sample)

Job Sample ID: 08080767.02

Date Collected: 08/25/08

Sample Matrix Sludge

Time Collected:

Other Information: Additonal Sample received 8/26/08

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SW-846 1010	Ignitability (Flash Point)								
	Ignitability	103	°F	1				08/28/08 11:00	SG

EPAHO113002115

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

Analysis : Corrosivity, pH **Method : SW-846 9045D** **Reporting Units : s.u.**

QC Batch ID : Qb08082636 **Created Date :** 08/26/08 **Created By :** Sgarcia

Samples in This QC Batch : 08080767.01

QC Type: Duplicate

QC Sample ID: 08080736.05

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
pH	7.20	7.19	s.u.	0.14	5		

QC Type: LCS and LCSD

Parameter	LCS Assigned	LCS Result		LCSD Assigned	LCSD Result		RPD	RPD CtrlLimit	Tolerance	Qual
pH	4.00	4.02							3.95-4.05	

Refer to the Definition page for terms.

EPAHO113002116

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

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

QC Batch ID : Qb08082639 **Created Date :** 08/26/08 **Created By :** Ssrinivasan

Samples in This QC Batch : 08080767.01

Digestion : PB08082620 **Prep Method :** SW-846 3010A **Prep Date :** 08/26/08 10:00 **Prep By :** Ssrinivasan

TCLP Prep : PB08082528 **Prep Method :** SW-846 1311 **Prep Date :** 08/25/08 17:30 **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	0.1	
Barium	7440-39-3	BRL	mg/L	1	0.1	
Beryllium	7440-41-7	BRL	mg/L	1	0.08	
Cadmium	7440-43-9	BRL	mg/L	1	0.1	
Chromium	7440-47-3	BRL	mg/L	1	0.1	
Lead	7439-92-1	BRL	mg/L	1	0.1	
Nickel	7440-02-0	BRL	mg/L	1	0.1	
Selenium	7782-49-2	BRL	mg/L	1	0.5	
Silver	7440-22-4	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
Antimony	2	2.00	100	2	2.04	102	1.98	20	80-120	
Arsenic	2	2.02	101	2	2.07	104	2.44	20	80-120	
Barium	2	1.87	93.5	2	1.88	94	0.53	20	80-120	
Beryllium	2	1.96	98	2	1.97	98.5	0.50	20	80-120	
Cadmium	2	1.96	98	2	1.99	99.5	1.52	20	80-120	
Chromium	2	1.91	95.5	2	1.93	96.5	1.04	20	80-120	
Lead	2	1.96	98	2	1.98	99	1.02	20	80-120	
Nickel	2	1.90	95	2	1.93	96.5	1.57	20	80-120	
Selenium	2	2.06	103	2	2.11	106	2.40	20	80-120	
Silver	2	1.99	99.5	2	2.02	101	1.50	20	80-120	

QC Type: MS and MSD
QC Sample ID: 08080497.01

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	2.05	103						70-130	
Arsenic	BRL	2	2.09	105						45-138	
Barium	0.250	2	2.13	94						39-135	
Beryllium	BRL	2	2.01	101						70-130	
Cadmium	BRL	2	2.01	100						56-125	
Chromium	BRL	2	1.95	97.3						52-125	
Lead	BRL	2	2.03	99.4						55-125	

Refer to the Definition page for terms.

EPAHO113002117

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

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

QC Batch ID : Qb08082639 **Created Date :** 08/26/08 **Created By :** Ssrinivasan

Samples in This QC Batch : 08080767.01

QC Type: MS and MSD
QC Sample ID: 08080497.01

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
Nickel	BRL	2	1.93	96.5						70-130	
Selenium	BRL	2	2.14	107						18-137	
Silver	BRL	2	2.06	103						26-148	

Refer to the Definition page for terms.

EPAHO113002118

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

Analysis : Reactivity **Method : SW-846 7.3** **Reporting Units : mg/Kg**

QC Batch ID : Qb08082650 **Created Date :** 08/25/08 **Created By :** Ksudha

Samples in This QC Batch : 08080767.01

Sample Preparation : PB08082629 **Prep Method :** SW-846 7.3 **Prep Date :** 08/25/08 16:00 **Prep By :** Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Reactive Sulfide		BRL	mg/Kg	1	25		

QC Type: Duplicate

QC Sample ID: 08080600.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
Reactive Sulfide	BRL	BRL	mg/Kg		20		

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
Reactive Sulfide	760	560	73.7	760	560	73.7	0	20	40-120	

Refer to the Definition page for terms.

EPAHO113002119

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

Analysis : Reactivity **Method : SW-846 7.3** **Reporting Units : mg/Kg**

QC Batch ID : Qb08082651 **Created Date :** 08/25/08 **Created By :** Ksudha

Samples in This QC Batch : 08080767.01

Sample Preparation : PB08082631 **Prep Method :** SW-846 7.3 **Prep Date :** 08/25/08 16:00 **Prep By :** Ksudha

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Reactive Cyanide		BRL	mg/Kg	1	25		

QC Type: Duplicate

QC Sample ID: 08080600.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
Reactive Cyanide	BRL	BRL	mg/Kg		20		

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
Reactive Cyanide	5.0	2.11	42.2	5.0	2.16	43.2	2.34	20	40-120	

Refer to the Definition page for terms.

EPAHO113002120

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

Analysis : Total Petroleum Hydrocarbons **Method :** TX 1005 **Reporting Units :** mg/Kg

QC Batch ID : Qb08082805 **Created Date :** 08/29/08 **Created By :** Dshen

Samples in This QC Batch : 08080767.01

Sample Preparation : PB08082806 **Prep Method :** TX 1005 **Prep Date :** 08/27/08 16:00 **Prep By :** Dshen

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
C6-C12		BRL	mg/Kg	1	12.7		
>C12-C28		BRL	mg/Kg	1	18.2		
>C28-C35		BRL	mg/Kg	1	19.6		
Total C6-C35		BRL	mg/Kg	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
C6-C12	500	472	94.4	500	467	93.4	1.06	20	75-125	
>C12-C28	500	476	95.2	500	477	95.4	0.21	20	75-125	
>C28-C35	500	425	85	500	451	90.2	5.94	20	75-125	

QC Type: MS and MSD
QC Sample ID: 08080861.04

Parameter	Sample Result	MS Spk Added	MS Result	MS % Rec	MSD Spk Added	MSD Result	MSD % Rec	RPD	RPD CtrlLimit	%Rec CtrlLimit	Qual
C6-C12		500	446	88.7	500	492	97.9	9.85	20	75-125	
>C12-C28		500	459	91.1	500	503	99.9	9.21	20	75-125	
>C28-C35		500	435	86.1	500	510	101	16.0	20	75-125	

Refer to the Definition page for terms.

EPAHO113002121

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

Analysis : Ignitability (Flash Point) **Method :** SW-846 1010 **Reporting Units :** °F

QC Batch ID : Qb08082829 **Created Date :** 08/28/08 **Created By :** Sgarcia

Samples in This QC Batch : 08080767.02

QC Type: Duplicate

QC Sample ID: 08080753.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
Ignitability	110	107	°F	2.76	20		

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
Ignitability	83	86	104	83	85	102	1.17	20	75-125	

Refer to the Definition page for terms.

EPAHO113002122

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

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

QC Batch ID : Qb08090206 **Created Date :** 09/01/08 **Created By :** Bstone

Samples in This QC Batch : 08080767.01

Digestion :	PB08090206	**Prep Method :**	SW-846 7470A	**Prep Date :**	09/01/08 10:00	**Prep By :**	Bstone
TCLP Prep :	PB08082528	**Prep Method :**	SW-846 1311	**Prep Date :**	08/25/08 17:30	**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	0.0048	95.2	0.005	0.0048	96.6	1.46	35	71-143	

QC Type: MS and MSD
QC Sample ID: 08080893.01

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	0.0050	98.8						61-175	

Refer to the Definition page for terms.

EPAHO113002123

CV. 8125108

CES Environmental Services, Inc.

TESTING LABORATORY IDENTIFICATION & INFORMATION:
A+B LABS PH 713-453-6060
10100 EAST FWY SUITE 100

CHAIN of CUSTODY RECORD

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

Test Results Reporting
CES Environmental Services, Inc.
Main Number: (713) 676-1460
Fax Number: (713) 676-1676

Project Name	Sample Name	Comments/Special Instructions:
08080767		**Turnaround Time Required:**
Contact: MILES ROOT 832-607-6678		DATE and/or Number of Days: 3 DAYS
SAMPLER: PRINT: MILES ROOT SIGN: Miles Root		**OTHER INFORMATION:**
Type and Number of Containers (CIRCLE): Glass (1) 2 3 Grab 4 5 6 Other:		SAMPLE NAME/ID ('s): RADA SOLIDS **CES Sample LOG BK Number ('s):** 0808-34
Requested Analysis: TCLP METALS, RCI, TPH (RCRA 8 + 3)		

1. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
Miles Root	8/25/08	1:22 pm	[signature]	8/25/08	1:23 pm
3. Relinquished By:	Date:	Time:	4. Received By:	Date:	Time:
[signature]	8/25/08	3:05 PM	Carina [signature]	8/25/08	3:05 pm
5. Relinquished By:	Date:	Time:	6. Received By:	Date:	Time:

C of C MASTER CES General 2-28-2008 UN protected A GENERAL 23.0°C Active 2-28-2008 grp

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EPAHO113002124

CES Environmental Services, Inc.

TESTING LABORATORY IDENTIFICATION & INFORMATION:
A+B LABS

CHAIN of CUSTODY RECORD

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

Test Results Reporting

CES Environmental Services, Inc.
Main Number: (713) 676-1460
Fax Number: (713) 676-1676

08080767

Project Name	Sample Name	Comments/Special Instructions:
		Turnaround Time Required:
Contact: MILES ROOT 832-607-6678		DATE and/or Number of Days: 3 DAYS -
SAMPLER: PRINT: MILES ROOT SIGN: Miles Root		**OTHER INFORMATION:** ADDITIONAL SOLIDS NEEDED TO COMPLETE TESTING.
Type and Number of Containers (CIRCLE): Glass 1 2 3 Grab 4 5 6 Other:		SAMPLE NAME/ID ('s): RADA SOLIDS **CES Sample LOG BK Number ('s):** 0808-34

Requested Analysis : TCLP METALS, RCI, TPH (RCRA 8+3)

02A

1. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
Miles Root	8/26/08	2:15	[signature]	8/26/08	2:30
3. Relinquished By:	Date:	Time:	4. Received By:	Date:	Time:
[signature]	8/26/08	2:50P	Mai Pelt	08/26/08	14:50
5. Relinquished By:	Date:	Time:	6. Received By:	Date:	Time:

Sample Condition Checklist

Date : **09/02/08**

A&B JobID : **08080767**	Date Received : **08/25/2008**	Time Received : **3:05PM**
Client Name : **CES Environmental**		
Temperature : **23.0°C**	Sample pH : **N/A**	

	Check Points	Yes	No
1.	**Cooler seal present and signed.**	N/A	
2.	**Sample(s) in a cooler.**		X
3.	**If yes, ice in cooler.**		X
4.	**Sample(s) received with chain-of-custody.**	X	
5.	**C-O-C signed and dated.**	X	
6.	**Sample(s) received with signed sample custody seal.**	N/A	
7.	**Sample containers arrived intact. (If no comment).**	X	
8.	**Matrix :** **Water** ☐ **Soil** ☐ **Liquid** ☐ **Sludge** ☑ **Solid** ☐ **Cassette** ☐ **Tube** ☐ **Bulk** ☐ **Badge** ☐ **Food** ☐ **Other** ☐		
9.	**Sample(s) were received in appropriate container(s).**	X	
10.	**Sample(s) were received with proper preservative**		
11.	**All samples were logged or labeled.**	X	
12.	**Sample ID labels match C-O-C ID's**	X	
13.	**Bottle count on C-O-C matches bottles found.**	X	
14.	**Sample volume is sufficient for analyses requested.**		X
15.	**Samples were received within the hold time.**	X	
16.	**VOA vials completely filled.**	N/A	
17.	**Sample accepted.**	X	

Comments : Include actions taken to resolve discrepancies/problem:

Samples were received without a cooler nor ice. Not enough sample received to run Ignitability analysis, per Miles he will send more sample also collecion date of sample is 8/25/08. Client dropped off additional sample for Ignitability on 8/26/08 sample was labeled as .02. MG

Received by : Cvela

Check in by/date : Mgonzalez / 08/25/2008

EPAHO113002126

QUALITY CONTROL CERTIFICATE

Job ID : 08080767 **Date :** 9/2/2008

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

QC Batch ID : Qb08090206 **Created Date :** 09/01/08 **Created By :** Bstone

Samples in This QC Batch : 08080767.01

Digestion : PB08090206 **Prep Method :** SW-846 7470A **Prep Date :** 09/01/08 10:00 **Prep By :** Bstone
TCLP Prep : PB08082528 **Prep Method :** SW-846 1311 **Prep Date :** 08/25/08 17:30 **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	0.0048	95.2	0.005	0.0048	96.6	1.46	35	71-143	

QC Type: MS and MSD
QC Sample ID: 08080893.01

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	0.0050	98.8						61-175	

Refer to the Definition page for terms.

EPAHO113002127

CV. 8/25/08

CES Environmental Services, Inc.

TESTING LABORATORY IDENTIFICATION & INFORMATION:
A+B LABS PH 713-453-6060
10100 EAST FWY SUITE 100

CHAIN of CUSTODY RECORD

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

Test Results Reporting

CES Environmental Services, Inc.
Main Number: (713) 676-1460
Fax Number: (713) 676-1676

Project Name	Sample Name	Comments/Special Instructions:
08080767		**Turnaround Time Required:**
Contact: MILES ROOT 832-607-6678		DATE and/or Number of Days: 3 DAYS
SAMPLER:		**OTHER INFORMATION:**
PRINT: MILES ROOT		
SIGN: Miles Root		
Type and Number of Containers (CIRCLE):		SAMPLE NAME/ID ('s): RADA SOLIDS
(Glass) (1) 2 3		
Grab 4 5 6 Other:		**CES Sample LOG BK Number ('s):** 0808-34

Requested Analysis : TCLP METALS, RCI, TPH (RCRA 8 + 3)

1. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
Miles Root	8/25/08	1822 pm		8/25/08	1:23 p.m.
3. Relinquished By:	Date:	Time:	4. Received By:	Date:	Time:
	8/25/08	3:05 P.m.	Carina Sotka	8/25/08	3:05 p.m
5. Relinquished By:	Date:	Time:	6. Received By:	Date:	Time:

EPAHO113002128

CES Environmental Services, Inc.

TESTING LABORATORY IDENTIFICATION & INFORMATION:
A+B LABS

CHAIN of CUSTODY RECORD

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

Test Results Reporting
CES Environmental Services, Inc.
Main Number: (713) 676-1460
Fax Number: (713) 676-1676

0808076M

Project Name	Sample Name	Comments/Special Instructions:
		Turnaround Time Required:
Contact: MILES ROOT 832-607-6678		DATE and/or Number of Days: 3 DAYS -
SAMPLER: PRINT: MILES ROOT SIGN:		**OTHER INFORMATION:** ADDITIONAL SOLIDS NEEDED TO COMPLETE TESTING.
Type and Number of Containers (CIRCLE): Glass (1) 2 3 Grab 4 5 6 Other:		SAMPLE NAME/ID ('s): RADA SOLIDS **CES Sample LOG BK Number ('s):** 0808-34
Requested Analysis : TCLP METALS, RCI, TPH (RCRA 8+3) 02A		☐ ☐

1. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
	8/26/08	2:15		8/26/08	2:30
3. Relinquished By:	Date:	Time:	4. Received By:	Date:	Time:
	8/26/08	2:50		08/26/08	14:50
5. Relinquished By:	Date:	Time:	6. Received By:	Date:	Time:

EPAHO113002129

Sample Condition Checklist

Date : **09/02/08**

A&B JobID : **08080767**	Date Received : **08/25/2008**	Time Received : **3:05PM**
Client Name : **CES Environmental**		
Temperature : **23.0°C**	Sample pH : **N/A**	

	Check Points	Yes	No
1.	**Cooler seal present and signed.**	N/A	
2.	**Sample(s) in a cooler.**		X
3.	**If yes, ice in cooler.**		X
4.	**Sample(s) received with chain-of-custody.**	X	
5.	**C-O-C signed and dated.**	X	
6.	**Sample(s) received with signed sample custody seal.**	N/A	
7.	**Sample containers arrived intact. (If no comment).**	X	
8.	**Matrix :** **Water** ☐ **Soil** ☐ **Liquid** ☐ **Sludge** ☑ **Solid** ☐ **Cassette** ☐ **Tube** ☐ **Bulk** ☐ **Badge** ☐ **Food** ☐ **Other** ☐		
9.	**Sample(s) were received in appropriate container(s).**	X	
10.	**Sample(s) were received with proper preservative**		
11.	**All samples were logged or labeled.**	X	
12.	**Sample ID labels match C-O-C ID's**	X	
13.	**Bottle count on C-O-C matches bottles found.**	X	
14.	**Sample volume is sufficient for analyses requested.**		X
15.	**Samples were received within the hold time.**	X	
16.	**VOA vials completely filled.**	N/A	
17.	**Sample accepted.**	X	

Comments : Include actions taken to resolve discrepancies/problem:

Samples were received without a cooler nor ice. Not enough sample received to run Ignitability analysis, per Miles he will send more sample also collecion date of sample is 8/25/08. Client dropped off additional sample for Ignitability on 8/26/08 sample was labeled as .02. MG

Received by : Cvela

Check in by/date : Mgonzalez / 08/25/2008

EPAHO113002130

CES Environmental Services, Inc.

TESTING LABORATORY IDENTIFICATION & INFORMATION:
LGS
281-474-1477

CHAIN of CUSTODY RECORD

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

Test Results Reporting
CES Environmental Services, Inc.
Main Number: (713) 676-1460
Fax Number: (713) 676-1676

Project Name	Sample Name	Comments/Special Instructions:
		Turnaround Time Required:
Contact: MILES ROOT 832-607-6678		DATE and/or Number of Days: 3 DAYS
SAMPLER: PRINT: MILES ROOT SIGN: Miles Root		**OTHER INFORMATION:** SAMPLE IS A SOLVENT/FUEL MATRIX
Type and Number of Containers (CIRCLE): Glass (1) 2 3 Grab 4 5 6 Other:		SAMPLE NAME/ID ('s): CES FUELS; **CES Sample LOG BK Number ('s):** 0908-10.
Requested Analysis : TOTAL Sulfurs.		☐ ☐

1. Relinquished By:	Date:	Time: →	2. Received By:	Date:	Time:
Miles Root	9/5/08				
3. Relinquished By:	Date:	Time: →	4. Received By:	Date:	Time:
5. Relinquished By:	Date:	Time: →	6. Received By:	Date:	Time:

EPAHO113002131

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/25/08

From: Miles Root

Lab Memo: 08-149

Subject: **Rada Technologies Evaluation 0808-26**

A sample of oil from Rada Technologies has been evaluated for marketability by CES. This sample is evaluation 0808-26 and is lube oil from a cooling tower. This sample represents approximately 210 gallons of available material. The material is dark amber brown in appearance. A number of analytical tests were performed on this sample and the results are found in the table below.

Rada Technologies	
Evaluation 0808-26	
Ash, wt%	0.33
BTU	9916
Viscosity, cSt, @ 40 deg C	13
Flash Point, deg F	> 140
Chlor-d-tect, mg/L	200
Specific Gravity	0.852
API Gravity	35

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To: Gary Brauckman
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/25/08

From: Miles Root

Lab Memo: 08-148

Subject: **Texas Petrochemicals Evaluation 0708-54**

A sample of water and solids from Texas Petrochemicals has been evaluated for processing at CES. This sample is evaluation 0708-54 and is a tank bottoms type of material. Overall, the water portion of this sample is acceptable for treating at CES but the solids are of an unknown classification.

This sample is 20% water and 80% solids. The water portion treats easily and contains no recoverable oil. The water does not have a flash point less than 140 deg F. The TOC is low, the metals are acceptable, with nickel being a little high at 2.5 ppm, and there are no phenols. The evaluation form indicates that this stream may contain oil, sludge and water in varying degrees of concentration. It is not known whether or not the solids are hazardous in this particular sample. The total volume of this stream is unknown. The table below summarizes the analytical work.

Texas Petrochemical Evaluation 0708-54	
pH	6
Phenols, ppm	0
TOC, mg/L	3336
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	OK
Metals, ppm	
Cd	0.079
Cr	0.000
Cu	0.000
Ni	2.502
Zn	0,572

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To: Joy Baker, Al Longoria
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/21/08

From: Miles Root

Lab Memo: 08-146

Subject: **Green Earth Frac Tank Testing and Summary**

Ten frac tank samples from Green Earth have been evaluated for processing at CES or to an offsite location. Samples were taken by Durim who indicated that these were well taken samples that are representative of each of the tanks sampled.

Each tank is listed below along with my observations and recommendations. Two summary tables also include a quick overview of the tests and observations. The Frac Tank Summary table is just that. The Aqueous Treatment Summary table summarizes the expected parameters when the aqueous phase of the listed tanks is treated at CES.

F01043 is an aqueous tank with just a trace of oil. It is dark amber in appearance, has a pH of 11 and a flash point of 85 deg F, which is due to the presence of methanol. A titration shows 0.56 wt% NaOH which accounts for the high pH and is also a component of the biodiesel production process. The TOC of this water is 182,000 ppm. This material is recommended to be moved to System 1.

F02132 is very similar in appearance and quality to F01043 above. It has a pH of 11 and a TOC of 271,000 ppm. This material is recommended to be moved to System 1.

F06052 is very similar in appearance and quality to both F01043 and F02132 above. It has a pH of 11 and TOC of 147,100 ppm. This material is recommended to be moved to System 1.

F02058 is an aqueous sample with a trace of oil with a pH of 7, a flash point less than 90 deg F and TOC of 124,800. This material is recommended to be moved to System 1.

F06037 is an aqueous sample with a 0.5% oil layer which is more like fatty acids. The material has a pH of 7, a flash point between 105 and 110 deg F and TOC of 128,300. This material is recommended to be moved to System 1. Drawing off the bottom of this frac tank will produce material with no oil, but the last trailer of material may have much greater oil content. This last trailer will need to be checked for percent oil layer to insure it will pass System 1 checks for oil layers.

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F04024 is a slush consistency sample that contains approximately 10% oil and 90% aqueous material. This slush can be heated to produce a liquid matrix and when allowed to cool will reform into slush. The resulting top oil from heating can be mixed with our black oil but when allowed to cool, the resulting blend has a slight amount of waxy looking oil in the otherwise liquid matrix. The top oil phase when separated out and allowed to cool becomes a solid. The flash point of this slush is less than 95 deg F. I recommend a blend of at least 2:1 black oil: slush oil. For a 20,000 gallon frac tank we will produce no more than 2000 gallons of oil. A heated blend will have no issues. If we can market a fuel product that may contain a small amount of waxy oils, then we should consider this option. If not, then it is not a good candidate for System 1 or for CES.

F06044 is an aqueous sample with a 3% oil layer and 3% emulsion layer. This material has a pH of 7. This oil layer mixes with black oil with no issues. The emulsion can be separated out with careful heating. The resulting water will have high TOC and can be sent to System 1 under the alcohol exemption for the low flash point that it will have.

F06059 is similar to F06044 above. This is an aqueous sample with a 9% oil layer and 12% emulsion. The oil mixes with our black oil without issues. A treated water sample of a 50/50 mix of both F06044 and F06059 shows a very high TOC of 151,050 ppm with low metals. The water resulting from heat treating will need to be sent to System 1.

F06026 is an aqueous sample with an oil layer of less than 0.5%. It appears to be wash water. This material has a pH of 6 and a flash point greater than 140 deg F. This water can be treated at CES with resulting acceptable metals and TOC in the 12,000 range. This material is recommended to be brought to CES for standard water treat and discharge.

F06087 is an aqueous sample very similar to F06026 above. It also appears to be wash water. This material has an oil layer less than 0.5%, a pH of 6 and a flash point greater than 140 deg F. A 50/50 mix of tanks F06026 and F06087 was treated with our standard water treat. The resulting water has a TOC of 12,260 ppm and acceptable metals. This material is recommended to be brought to CES for standard water treat and discharge.

Operations will play a key role in determining when and how the tanks and trailers necessary for this job are available. Material requiring heating and phase separation in our oil facility will total over 40,000 gallons and possibly 60,000 gallons.

The two tables below summarize the observations and data for the above frac tank samples.

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Green Earth Frac Tank Summary							
				Flash Point		Black Oil	System 1
Frac Tank	Aqueous/Organic	Oil, Vol%	pH	Deg F	TOC, ppm	Suitability	Candidate
F01043	Aqueous	Trace	11	85	182,000	No	Yes
F02132	Aqueous	Trace	11	85	271,000	No	Yes
F06052	Aqueous	Trace	11	90	147,100	No	Yes
F02058	Aqueous	Trace	7	90	124,800	No	Yes
F06037	Aqueous	0.5	7	105-110	128,300	No	Yes
F04024	Organic Slush	10	7	95	196900	Possible	No
F06044	Aqueous	3	7	N/A	244700	Yes	No
F06059	Aqueous	9	7	N/A	147500	Yes	No
F06026	Aqueous	<0.5	6	>140	13,870	No	No
F06087	Aqueous	<0.5	6	>140	16,560	No	No

Aqueous Treatment Summary		
	Frac Tank	Frac Tank
Treated Water	F06026 + F06087	F06044 + F06059
TOC, ppm	12,260	151,050
Metals, ppm		
Ni	0.461	0.231
Zn	0.256	0.074
Cu	0.097	0.288
Cd	0.125	0.064
Phenols, ppm	1	0

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To: Joy Baker, Al Longoria
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/19/08

From: Miles Root

Lab Memo: 08-144

Subject: **Green Earth Samples**

A couple of samples were brought in by Al Longoria, stated to be from Green Earth. There is no other information. These samples have no evaluation numbers and no information was provided for these samples. The two samples have identical profile numbers 2924 written on the sample bottles, but they are not similar in appearance.

The two samples are totally different. The good looking one has no detectable water by Dean Stark sidearm method, an ash of 0.18wt% and a BTU of 15469. Depending upon the temperature, it may or may not be a slush or solid. When liquid, it appears to mix with our black oil. If this sample is cool and turns slushy, it causes the black oil mixture to be slushy over time. To be on the safe side I do not recommend mixing this any greater than 1 part sample to 2 parts of our black oil. Our capacity to accept this material will be limited on availability to mix it with our black oil.

If we truly receive a load of material that looks like the above sample, we may market it as a fuel without mixing it with black oil, as it does have a good BTU value with essentially no water. Any emulsions that come in for processing will need to be carefully evaluated on a load by load basis. Emulsified material must be able to be broken out without retaining significant amounts of water; otherwise miscibility with our black oil will be questionable.

The second sample, which has the same profile number, is approximately 10% waxy looking oil, the remainder water. This sample is essentially a solid waxy material in water. The sample has numerous solids. It does not phase separate upon heating. It is not compatible with our black oil in any proportions.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/19/08

From: Miles Root

Lab Memo: 08-143B

Subject: **Preston Environmental Evaluation 0808-08**

A sample called off spec biodiesel with methanol from Preston Environmental has been evaluated for processing at CES. This sample is evaluation 0808-08. The sample is suspected to be methanol with fatty acids. The potential volume is 2000 to 4000 bbl.

A distillation of this material recovers approximately 38% wet methanol. It is assumed to be methanol from the distillation temperatures and the fact that the biodiesel production uses methanol. The recovered methanol is marketable. The distillate bottoms product is not miscible with our black oil.

Addendum
The distillate bottoms product is a pale yellow liquid free of solids or emulsions. It is pourable as water. It does not mix with light ends material but rather forms a cloudy mixture that looks to be part emulsion and part insoluble. It does not combust in a bomb calorimeter and a sample spiked with benzoic acid indicates that this material has no measurable BTU value. The ash is 1.3 wt%. It will not have a flash point less than 140 deg F since it is the bottoms of a distillation cut in which the overhead temperature is almost 194 deg F.

This bottoms material is most likely some type of fatty acid that is actually an impurity in the production of biodiesel. There was no profile provided with this evaluation sample, so its exact characterization is unknown.

Second Addendum
Another distillation was run on evaluation 0808-08 to produce a dry bottoms product. The pot temperature was taken to just over 250 deg C to insure it was water free. The overhead temperature did not exceed 100 deg C, the boiling point of water. The overhead recovery was 70%, leaving 30% in the bottoms. The overhead product is a very wet methanol stream. If desired, I believe the water could be segregated somewhat to produce a wet methanol stream and a water stream with high TOC and low flash point as we currently produce on methanol runs. A BTU of the dried bottoms product shows a value of 6962. This dried bottoms product also mixes with our black oil. Its consistency is that of thick motor oil, above an SAE 30 but below a 90, from my judgment. It should not be an issue for pumping. The bottoms product will vary in appearance from pale yellow to green yellow as the temperature is increased to remove all of the water. An ash has not yet been run on this material but it is estimated to be around 2.6%, as the sample run earlier contained 50% water, as determined by Dean Stark distillation technique. No other factors were noted that would be detrimental to our processing this material to produce this bottoms product material.

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Third Addendum

The table below summarizes the data from the distillation processing steps that must be done to use this material. The methanol must first be cut out overhead, which can be done to produce an approximate 92% wet methanol stream. The water is next cut overhead to produce an approximate 15000 TOC material that has a flash point greater than 140 deg F. The bottoms product is then miscible with our black oil, but has a BTU value of only 6800 from an average of two runs. The mass balance of the three cuts does not total to 100% due to losses in the distillation apparatus column and overhead condenser.

Preston Environmental	
Evaluation 0808-08 Distillation	
Methanol Cut	
Volume %	34
Density/MeOH %	0.812/92
Water Cut	
Volume %	40
TOC, ppm	15200
Flash Point, Deg F	> 140
Bottoms Cut	
Volume %	23
Ash, wt%	1.07
BTU	6800

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/14/08

From: Miles Root

Lab Memo: 08-143B

Subject: **Preston Environmental Evaluation 0808-08**

A sample called off spec biodiesel with methanol from Preston Environmental has been evaluated for processing at CES. This sample is evaluation 0808-08. The sample is suspected to be methanol with fatty acids. The potential volume is 2000 to 4000 bbl.

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Addendum

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This bottoms material is most likely some type of fatty acid that is actually an impurity in the production of biodiesel. There was no profile provided with this evaluation sample, so its exact characterization is unknown.

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Another distillation was run on evaluation 0808-08 to produce a dry bottoms product. The pot temperature was taken to just over 250 deg C to insure it was water free. The overhead temperature did not exceed 100 deg C, the boiling point of water. The overhead recovery was 70%, leaving 30% in the bottoms. The overhead product is a very wet methanol stream. If desired, I believe the water could be segregated somewhat to produce a wet methanol stream and a water stream with high TOC and low flash point as we currently produce on methanol runs. A BTU of the dried bottoms product shows a value of 6962. This dried bottoms product also mixes with our black oil. Its consistency is that of thick motor oil, above an SAE 30 but below a 90, from my judgment. It should not be an issue for pumping. The bottoms product will vary in appearance from pale yellow to green yellow as the temperature is increased to remove all of the water. An ash has not yet been run on this material but it is estimated to be around 2.6%, as the sample run earlier contained 50% water, as determined by Dean Stark distillation technique. No other factors were noted that would be detrimental to our processing this material to produce this bottoms product material.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/12/08

From: Miles Root

Lab Memo: 08-143

Subject: **Preston Environmental Evaluation 0808-08**

A sample called off spec biodiesel with methanol from Preston Environmental has been evaluated for processing at CES. This sample is evaluation 0808-08. The sample is suspected to be methanol with fatty acids. The potential volume is 2000 to 4000 bbl.

A distillation of this material recovers approximately 38% wet methanol. It is assumed to be methanol from the distillation temperatures and the fact that the biodiesel production uses methanol. The recovered methanol is marketable. The distillate bottoms product is not miscible with our black oil.

Addendum

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This bottoms material is most likely some type of fatty acid that is actually an impurity in the production of biodiesel. There was no profile provided with this evaluation sample, so its exact characterization is unknown.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/11/08

From: Miles Root

Lab Memo: 08-143

Subject: **Preston Environmental Evaluation 0808-08**

A sample called off spec biodiesel with methanol from Preston Environmental has been evaluated for processing at CES. This sample is evaluation 0808-08. The sample is suspected to be methanol with fatty acids. The potential volume is 2000 to 4000 bbl.

A distillation of this material recovers approximately 38% wet methanol. It is assumed to be methanol from the distillation temperatures and the fact that the biodiesel production uses methanol. The recovered methanol is marketable. The distillate bottoms product is not miscible with our black oil.

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To: Dana Carter
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/11/08

From: Miles Root

Lab Memo: 08-142

Subject: **Magnaflow Austin Evaluation 0808-09**

A sample of water from Magnaflow Austin, Austin, TX has been evaluated for processing at CES. This sample is evaluation 0808-09. This water is stated to be a leachate condensate from a landfill that may contain a slight amount of motor oil. The volume of this material may be up to three trailer loads.

One of the main issues with this water is the potential FO39 code it may have. This will need to be determined. A FO39 listed waste code will mean disposal at an offsite location, and this will affect the pricing.

This water does not treat well. There are many solids formed during the treatment process. These solids do not fall out of solution as is typical when treated. The solids remain suspended in solution, forming a type of sludge, and many solids are formed. If treated at CES, this material will most likely need to go through our normal water treat and then be filter pressed. The solids can be filtered without issue, but this extra handling solids disposal will need to be included in the costs.

No oil was seen in this water. All other parameters looked acceptable except for the nickel concentration, which was a bit high, at 2.9 ppm vs. 2.0 on our discharge limit. Dilution with other "good" water will be required if we treat this material on site.

The table below summarizes the analytical data.

Magnaflow Austin	
Evaluation 0808-09	
pH	6
Phenols, ppm	5
TOC, mg/L	2260
Oil, vol%	0
Chlor-d-tect, mg/L	N/A
Treatability	Poor
Metals, ppm	
Cd	0.057
Cr	0.123
Cu	0.042
Ni	2.886
Zn	0.121

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To: Ken Noakes
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 08/05/08

From: Miles Root

Lab Memo: 08-141

Subject: **Specialized Decommissioning Louisiana Crane Evaluation 0808-02**

A sample of oily water from Specialized Decommissioning Louisiana Crane, Houston, has been evaluated for potential processing at CES. This sample is evaluation 0808-02 and is the hydraulic oil and water from a transformer that burned up. Overall, this sample appears to be recyclable oil with water that treats easily and presents no problems.

The evaluation form does not state the potential amount of material this evaluation sample represents. The transformer oil is stated to not have any PCB's, and we do not have an in house method for testing PCB's if it is felt to be an issue. The oil is best phase separated if the sample is heated. The oil has a low chlor-d-tect value of 300 ppm. The sample contains approximately 2% oil by volume. The water treats easily without issues. It has low TOC, acceptable metals and no phenols.

The table below summarizes the analytical data.

Specialized Decommissioning Evaluation 0808-02	
pH	8
Phenols, ppm	0
Solids, vol%	0
TOC, mg/L	1318
Oil, vol%	2
Chlor-d-tect, mg/L	300
Treatability	OK
Metals, ppm	
Cd	0.064
Cr	0.104
Cu	0.61
Ni	1.824
Zn	0.216

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/30/08

From: Miles Root

Lab Memo: 08-140

Subject: **Green Hunter 0710-04**

A sample of contaminated/spent sulfuric acid from Green Hunter and offered through Rada Technologies has been evaluated for processing at CES. This sample is evaluation 0710-04. This material is stated to be a sample of 96% sulfuric acid contaminated with toluene.

This material does not treat with our process. It is noted to be a very high concentration of sulfuric acid just from its weight. It is black in appearance, obviously contaminated or spent with something other than just toluene. A TOC on the sample shows 74,950 mg/L. It has a pH of 0. We have no way to handle this material at our facility or use it in our processing. It will need to go to an outside hazardous waste site and disposal needs to be priced accordingly.

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To: Gary Brauckman
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/30/08

From: Miles Root

Lab Memo: 08-139

Subject: **Houston Marine Evaluation 0708-50**

A sample of DAF sludge from Houston Marine has been evaluated for processing at CES. This sample is evaluation 0708-50. This sample also represents a rejected load of material on 07/30/08, document 69302 with profile 1531. While this material appears to contain good recoverable oil, it in fact does not, and cannot be easily filtered.

An attempt was made to filter this material. DE (diatomaceous earth) was used to pre coat the glass fiber filter used for lab filtration and also mixed with the sample in order to get the best possible filtration conditions. Water that does filter through is clear, but the filter begins to plug within seconds of the start of the filtration. This is due to the oily sludge nature of this material. In theory, one could filter very small quantities at a time of this material in order to process it through. Practically speaking, the filter cake would plug very quickly with the oil and the process would need to be repeated numerous times in order to complete one load.

The appearance of the oil is very deceptive. A spun out sample is loaded with solids and the consistency of the "oil" is more like a tar. There is almost no recoverable oil present.

I recommend that we do not try and filter this load or others similar to it. Plugging off a lab filter in a matter of seconds is not a good omen for performing this on a plant scale. Man hours and DE usage would be very high and the oily sludge that remained would need disposal.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp
From: Miles Root

Date: 07/30/08

Lab Memo: 08-139

Subject: **Preston Environmental Evaluation 0708-51**

A sample of biodiesel fatty acids with methanol from Preston Environmental has been evaluated for moving into the oil market for CES. This sample is evaluation 0708-51.

The flash point on this material is less than 90 deg F. It does not mix with our black oil. A sample of our black oil and this material separate almost immediately when mixed together. This material, therefore, cannot be used with our black oil markets. No further work on this sample is planned.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp
From: Miles Root

Date: 07/30/08

Lab Memo: 08-137

Subject: **Green Hunter Evaluation 0708-45**

A sample of biodiesel plant distillate bottoms from Green Hunter has been evaluated for moving into the oil market for CES. This sample is evaluation 0708-45 and is the distillate bottoms from a biodiesel plant operation. Overall, this material can be blended with our black oil and is low in ash.

This sample represents an unknown quantity of material at this time. This material has the odor of vegetable oil and is free of any solids or layers. The flash point is greater than 140 deg F, the API gravity is 21.4 and the ash is 0.37 wt%. The sample blends easily with our black oil without any issues, and a test sample was allowed to sit for approximately 24 hours to check for any abnormalities. No problems were noted. Technically there is no reason not to pursue the acquisition of this material. We have had issues in the past with our test sample not representing the actual material received from this supplier. This is a major concern here, and needs to be addressed with operations before any additional acquisition of material from this supplier is pursued.

Green Hunter	
Evaluation 0708-45	
Ash, wt%	0.37
API Gravity	21.4
Flash point, deg F	>140
Black Oil compatibility	OK

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp
From: Miles Root

Date: 07/28/08

Lab Memo: 08-136

Subject: **Rada Technologies Evaluation 0708-43**

A sample of waste water from Rada Technologies has been evaluated for potential processing at CES. This sample is evaluation 0708-43 and is waste water from a biodiesel plant. Overall, this material is high in TOC, but otherwise can be processed with special handling if the material arrives with an oil layer.

This sample represents approximately 60,000 gallons of material. The material is stated to have less than 24% methanol, which means we can move it to System 1, if needed, using the alcohol exemption. It has a flash point between 90 and 95 deg F. The test sample had a 2% by volume oil layer and smells like vegetable oil. This oil blends with our black oil. If this material arrives with an oil layer the water can be drained from the bottom of the trailer and the oil sent to the back for processing. At 2%, this would only be 100 gallons in a 5000 gallon load.

When the oil layer is removed and the water treated, very fine solids are produced which are slow to settle out. Once settled, the water is high in TOC at 68,350 ppm. Metals are acceptable and there are no phenols. This material can be processed at CES with charges to cover the excessively high TOC. Moving the material to System 1 is also an option, depending upon pricing. Since Operations will be processing this material they need to have input into treating the material at CES or moving to System 1 for final disposition. The table below summarizes the analytical testing.

Rada Technologies	
Evaluation 0708-43	
Neat Sample	
Flash point, deg F	90-95
Treatability	OK
Solids, vol%	0
Oils, vol%	2
pH	6
Treated Sample	
TOC, ppm	68350
Phenols, ppm	0
Metals	
Cd	0.013
Cr	0.408
Cu	0.282
Ni	1.864
Zn	1.774

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/28/08

From: Miles Root

Lab Memo: 08-135

Subject: **Rada Technologies Evaluation 0708-42**

A sample of ammonia water from Rada Technologies has been evaluated for potential processing at CES. This sample is evaluation 0708-42 and is an ammonia water generated from a biodiesel plant. Overall, this material treats easily and will process with only the ammonia odor as an issue.

This sample treats easily with typical solids formation that easily separates out. The treated water has low metals, no phenols, and low TOC. A flash point on the neat sample is over 140 deg F. A quick strip test for ammonia shows less than 100 ppm but the evaluation sheet indicates 2500 ppm ammonia. . The odor from the ammonia is the only issue with this material. The evaluation sample does not have the odor of high ammonia to me. Marlin has suggested that the pricing on this material cover costs to System 1 in case ammonia odor is an issue with this material once it arrives. There are approximately 30,000 gallons available for processing. The analytical test results are found in the table below.

Rada Technologies	
Evaluation 0708-42	
Neat Sample	
Flash point, deg F	>140
Treatability	OK
Solids, vol%	0
Oils, vol%	0
pH	11
Treated Sample	
TOC, ppm	1250
Phenols, ppm	0
Metals	
Cd	0.080
Cr	0.295
Cu	0.115
Ni	0.319
Zn	0.120

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/23/08

From: Miles Root

Lab Memo: 08-134

Subject: **Arkema Beaumont Evaluation 0708-28**

A sample of DMS bi product from Arkema, Beaumont, TX has been evaluated for potential marketing by CES. This sample is evaluation 0708-28 and is a bi product quality DMS (dimethyl sulfide) from chemical processing. This is a potential feedstock to Peak, and the analytical data indicates that is should be a potentially good fit for that application.

DMS is very odorous and this sample is no exception. This sample is murky in its appearance and a trace amount of solids have settled out of the sample. The material has a good BTU value of 9717 and no ash. A sample sent to Metrohm Peak for testing shows an average of 0.415 mg/Kg chlorides, 0.83 mg/Kg potassium and 0.76mg/Kg sodium. This source is a good potential fuel for Peak as indicated from this data, and this should be pursued. No other abnormalities were noted. The table below summarizes the analytical data.

Arkema Beaumont	
Evaluation 0708-28	
BTU	9717
Ash, wt%	0.00
Chlorides, mg/Kg	0.415
Potassium, mg/Kg	0.083
Sodium, mg/Kg	0.076

0708-28 DMS- Bi- PRODUCT

Metrohm-Peak, LLC

ARKEMA, BEAUMONT

CES Environmental Service, Inc - Houston, TX				
Lab Report 2008-3140				
Results Prepared for: Miles Root				
July 23, 2008				
MP ID	**Sample**	**Chloride**	**K**	**Na**
		mg/Kg	**mg/Kg**	**mg/Kg**
3140-1	0708-37 DMS BIPRODUCT	0.417	0.088	0.077
3140-1 Dup	0708-37 DMS BIPRODUCT Dup	0.413	0.077	0.075
	Mean	0.415	0.083	0.076
	QC	0.961	0.201	0.103
	QC Value	0.998	0.200	0.100
	% Recovery	96.293	100.500	103.000

Report by:_____

1 PRODUCT AND COMPANY IDENTIFICATION

Thio and Fine Chemicals
Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name	DIMETHYL SULFIDE
Product Synonym(s)	DMS
Chemical Family	Alkyl Sulfide
Chemical Formula	C2H6S
Chemical Name	Methane, thiobis -
EPA Reg Num	
Product Use	Sulfiding

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Dimethyl sulfide	75-18-3	99%	Y
Methyl mercaptan	74-93-1	<0.2%	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview
Clear liquid, unpleasant odor

DANGER!
EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE.
CAUSES EYE IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF SWALLOWED.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed, practically non-toxic if absorbed through skin or inhaled, severely irritating to eyes and slightly to moderately irritating to skin. This material has a strong garlic-like odor that may cause headache, nausea and irritation to the eyes and respiratory tract. Exposure to very high concentrations in a confined space has caused death, possibly due to lack of oxygen. Workers may become tolerant to the odor in a relatively short period of time. The odor threshold is approximately 1 part per billion (ppb).

EPAHO113002153

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	205 C (401 F)		
Flash Point	<0 F	Flash Point Method	TCC
Flammable Limits- Upper	19.7		
Lower	2.2		

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Use water spray to cool containers exposed to fire. Contain run-off from fire. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur:
Oxides of carbon
Sulfur oxides
Hydrogen sulfide

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Ventilate the area. Contain spill by building a dike using absorbent material. Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Do not use solid bleach for neutralization, as fire or violent reaction can occur. Collect the liquid and solid absorbent into a drum approved for waste disposal. Flush area with water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Keep away from heat, sparks and flame.
Keep container closed.

EPAHO113002154

7 HANDLING AND STORAGE

Use only with adequate ventilation.
Do not get in eyes, on skin or on clothing.
Avoid breathing mist.
Wash thoroughly after handling.
Do not taste or swallow.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage

Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create a fire hazard. All storage containers, including containers such as drums, cylinders and IBC's, must be bonded and grounded during filling and emptying operations. Store away from oxidizers and reactive materials. Keep container tightly closed. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit	Value

EPAHO113002155

Methyl mercaptan

ACGIH TWA	-	0.5 ppm 0.98 mg/m3
OSHA Ceiling PEL	-	10 ppm 20 mg/m3

Dimethyl sulfide

ACGIH TWA	-	10 ppm

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Clear liquid, unpleasant odor
pH	NE
Specific Gravity	0.854 @ 15.5 C
Vapor Pressure	7.5 psia
Vapor Density	2.14
Melting Point	NA
Freezing Point	-98 C (-144.4 F)
Boiling Point	36-39.3 C (97-103 F)
Solubility In Water	Slightly soluble
Solubility in Other Materials	Alcohols, ethyl ether
Evaporation Rate	NE
Percent Volatile	100
Viscosity	0.28 cP @ 20 C
Molecular Weight	62.13
n-Octanol/Water Partition Coefficient	log Pow = 0.87
Other Physical Data	Critical pressure: 53.5 bar Critcal temperature: 229 C Olfactory threshold: 2.5 ppb Refractive index: 1.435 @ 20 C Henry's constant: 170 Pa m3/mole

10 STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Contact with combustible materials may enhance risk of fire. Alkali, Acid, solid bleach (strong oxidizer) may cause violent reaction and fire.

Hazardous Decomposition Products

Thermal decomposition giving toxic and flammable products.

11 TOXICOLOGICAL INFORMATION

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11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:
Oral - Slightly Toxic to Rats and Mice (LD50 535-3,700 mg/kg)
Dermal - Practically Non-toxic to Rabbit (LD50 >5000 mg/kg)
Inhalation - Practically Non-toxic to Rats (4-hr LC50 40,250 ppm)
Eye Irritation - Severely Irritating to Rabbits
Skin Irritation - Slightly to Moderately Irritating to Rabbits (24-hr exposure)

No skin allergy was observed in humans following repeated exposure. Administration in the drinking water of rabbits produced increased lung weights and gross changes suggestive of effects in lungs and kidneys. Repeated oral administration to rats and rabbits resulted in effects on the blood, lungs and kidney and some organ weight changes. No genetic changes were observed in tests using bacteria, animal cells or animals.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

This material is slightly toxic to Daphnia magna (48-hr LC50 29 mg/l). It is practically non-toxic to algae (96-hr EC50 23 mg/l) and rainbow trout (96-hr LC50 213 mg/l).

Chemical Fate Information

No data are available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14 TRANSPORT INFORMATION

DOT Name	Dimethyl Sulfide
DOT Technical Name	
DOT Hazard Class	3
UN Number	UN1164
DOT Packing Group	PG II
RQ	

15 REGULATORY INFORMATION

EPAHO113002157

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Methyl mercaptan	100 LBS	500 LBS
Dimethyl sulfide	NE	NE

SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Methyl mercaptan

Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Dimethyl sulfide
Methyl mercaptan

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Dimethyl sulfide
Methyl mercaptan

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Dimethyl sulfide
Methyl mercaptan

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Dimethyl sulfide
Methyl mercaptan

16 OTHER INFORMATION

Revision Information

Revision Date	11 OCT 2004	Revision Number 7
Supercedes Revision Dated	02-MAR-2004	

Revision Summary

ATOFINA Chemicals, Inc. has changed its name to Arkema Inc.

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

EPAHO113002158

Arkema Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Arkema Inc., Arkema Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

EPAHO113002159

Arkema, Inc. **CERTIFICATE OF ANALYSIS**

Ship From:
ARKEMA, INC

Ship To:
BASF CORP
BC EVANS CITY
1424 MARS-EVANS CITY RD
EVANS CITY, PA 16033

Customer Number: **63585**
Customer PO: **4591277971**
Ship Date: **7/11/08**
Delivery Number: **81334037**
Order Number: **1035887**

Additional Copy/Fax to:

CYLINDER / SEAL'S
1062-ES / 8056
1288-ES / 8117
1237-ES / 8050
1304-ES / 8120
1277-ES / 8063
1078-ES / 8927
1232-ES / 8021
980-ES / 8973

Material: **2201 DIMETHYL SULFIDE (DMS) CYLINDER**
COA WITH SHIPMENT

Characteristic	*Arkema Specification Limits*	*Batch Analysis*
Container Number: **8 CYLINDERS**		
Batch: **3500BDM08** *Quantity:* **4,600.0 LB**		
APPEARANCE	*NO TURB OR SUSP MATL*	*NO TURB OR SUSP MATL*
COLOR, APHA	*<=20*	*<10*
CLOUD POINT (deg C)	*<=-29*	*<-40*
DIMETHYL SULFIDE %	*>=99.3*	*99.8*
METHYL MERCAPTAN, ppm	*<=2000*	*421*
WATER, PPM	*<=1500*	*67*

TECHNICAL INFORMATION AND DATA REGARDING THE COMPOSITION, PROPERTIES OR USE OF THE PRODUCTS DESCRIBED HEREIN IS BELIEVED RELIABLE. HOWEVER NO REPRESENTATION OR WARRANTY IS MADE WITH RESPECT THERETO EXCEPT AS MADE BY ARKEMA, INC IN WRITING AT TIME OF SALE. ARKEMA, INC CANNOT ASSUME RESPONSIBILITY FOR ANY PATENT LIABILITY WHICH MAY ARISE FROM THE USE OF ANY PRODUCT IN A PROCESS, MANNER OR FORMULA NOT DESIGNED BY ARKEMA, INC..

CERITIFIED BY Marjorie K. Gonzalez DATED: 7/11/08

CES Environmental Services, Inc.

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

To: Dana Carter
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/23/08

From: Miles Root

Lab Memo: 08-133

Subject: **Champion Technologies Evaluation 0708-40**

A sample of alcoholic water from Champion Technologies, Odessa, TX has been evaluated for potential processing at CES. This sample is evaluation 0708-40 and comes from the washing of vessels from chemical processing. Overall, there is not enough alcohol that can be recovered by our distillation units to make distillation processing of this material an economic option. System 1 is our best option and a good fit for this material.

The analytical data accompanying this sample shows it to contain approximately 18% methanol and 3% IPA as its major components. There is a slight pyridine type odor as well and this shows up on the total Kjeldahl testing as 828 ppm nitrogen. The sample is medium brown in appearance and is free from any floating oils. It contains no solids. A distillation of this material recovers only 10% wet alcohol before the water concentration becomes too high for its marketability.

The high concentration of methanol will give this material a low flash point and D001 classification. Since the alcohol content is less than 24% we can move this material to System 1 without issues. This supplier will be shipping this material to us in their own trucks, so the material will need to be either trans loaded into one of our own trailers upon arrival to CES, or offloaded into a tank that will be moved to System 1. Operations will need to be kept up to date and be the final decision maker as to exactly how this transitioning should occur. The expected volume of this material is an average of 2.5 trailer loads per month. There are no other chemical concerns that we will have with this material.

Analytical Report 305842

for

Champion Technologies

Project Manager: Norris Berryhill

T-19-6-10-08

19-6-10-08

23-JUN-08

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

EPAHO113002162

XENCO Laboratories

ACCREDITED IN ACCORDANCE WITH

23-JUN-08

Project Manager: **Norris Berryhill**
Champion Technologies
115 Proctor

Odessa, TX 79762

Reference: XENCO Report No: **305842**
T-19-6-10-08
Project Address:

Norris Berryhill:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 305842. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 305842 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America

EPAHO113002163

Sample Cross Reference 305842

Champion Technologies, Odessa, TX

T-19-6-10-08

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Tank 19	W	Jun-13-08 13:45		305842-001

EPAHO113002164

Certificate of Analysis Summary 305842
Champion Technologies, Odessa, TX

Project Name: T-19-6-10-08

Project Id: 19-6-10-08
Contact: Norris Berryhill
Project Location:

Date Received in Lab: Jun-13-08 04:00 pm
Report Date: 23-JUN-08
Project Manager: Brent Barron, II

Analysis Requested					
	Lab Id:	305842-001			
	Field Id:	Tank 19			
	Depth:				
	Matrix:	WATER			
	Sampled:	Jun-13-08 13:45			
Metals per ICP-MS by SW 6020A	***Extracted:***	Jun-17-08 14:22			
	Analyzed:	Jun-18-08 16:36			
	Units/RL:	mg/L	RL		
Aluminum		ND	10.0		
Arsenic		ND	0.150		
Barium		ND	0.500		
Cadmium		ND	0.100		
Chromium		0.695	0.200		
Cobalt		9.83	0.400		
Iron		195	10.0		
Lead		ND	0.250		
Mercury		ND	0.0250		
Selenium		ND	0.250		
Silver		ND	0.250		
Zinc		113 D	2.50		
Methanol by EPA 8015 Modified	***Extracted:***				
	Analyzed:	Jun-20-08 16:34			
	Units/RL:	mg/L	RL		
Isopropanol		32900	2000		
Methanol		176000	1000		
Nitrogen, Kjeldahl, Total by EPA 351.3	***Extracted:***				
	Analyzed:	Jun-19-08 17:07			
	Units/RL:	mg/L	RL		
Nitrogen, Total Kjeldahl		828	90.0		
TOC by SM 5310C	***Extracted:***				
	Analyzed:	Jun-17-08 11:50			
	Units/RL:	mg/L	RL		
Total Organic Carbon		62300	625		
TSS by SM2540D	***Extracted:***				
	Analyzed:	Jun-19-08 08:45			
	Units/RL:	mg/L	RL		
TSS		73.3	5.00		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Brent Barron
Odessa Laboratory Director

EPAHO113002165

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

* Outside XENCO'S scope of NELAC Accreditation

EPAHO113002166

XENCO Laboratories

Blank Spike Recovery

Project Name: T-19-6-10-08

Work Order #: 305842 **Project ID:** 19-6-10-08

Lab Batch #: 725844 **Sample:** 725844-1-BKS **Matrix:** Water

Date Analyzed: 06/17/2008 **Date Prepared:** 06/17/2008 **Analyst:** MIA

Reporting Units: mg/L **Batch #:** 1

TOC by SM 5310C Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Total Organic Carbon	ND	40.0	41.4	104	90-110	

Lab Batch #: 725909 **Sample:** 725909-1-BKS **Matrix:** Water

Date Analyzed: 06/19/2008 **Date Prepared:** 06/19/2008 **Analyst:** JLG

Reporting Units: mg/L **Batch #:** 1

TSS by SM2540D Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
TSS	ND	250	275	110	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

EPAHO113002167

XENCO Laboratories

BS / BSD Recoveries

Project Name: T-19-6-10-08

Work Order #: 305842
Analyst: ARP
Date Prepared: 06/17/2008
Project ID: 19-6-10-08
Date Analyzed: 06/18/2008
Lab Batch ID: 725833
Sample: 510724-1-BKS
Batch #: 1
Matrix: Water
Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Metals per ICP-MS by SW 6020A Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Aluminum	ND	5.00	4.97	99	5	4.78	96	4	75-125	25	
Arsenic	ND	0.100	0.098	98	0.1	0.098	98	0	75-125	25	
Barium	ND	0.100	0.097	97	0.1	0.094	94	3	75-125	25	
Cadmium	ND	0.100	0.099	99	0.1	0.098	98	1	75-125	25	
Chromium	ND	0.100	0.096	96	0.1	0.094	94	2	75-125	25	
Cobalt	ND	0.100	0.097	97	0.1	0.095	95	2	75-125	25	
Iron	ND	5.00	4.83	97	5	4.62	92	4	75-125	25	
Lead	ND	0.100	0.097	97	0.1	0.096	96	1	75-125	25	
Mercury	ND	0.0050	0.0044	88	0.005	0.0042	84	5	75-125	25	
Selenium	ND	0.100	0.095	95	0.1	0.093	93	2	75-125	25	
Silver	ND	0.100	0.099	99	0.1	0.097	97	2	75-125	25	
Zinc	ND	0.100	0.097	97	0.1	0.096	96	1	75-125	25	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

EPAHO113002168

XENCO Laboratories

BS / BSD Recoveries

Project Name: T-19-6-10-08

Work Order #: 305842 **Project ID:** 19-6-10-08

Analyst: JBU **Date Prepared:** 06/20/2008 **Date Analyzed:** 06/20/2008

Lab Batch ID: 726029 **Sample:** 726029-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Methanol by EPA 8015 Modified Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Isopropanol	ND	200	195	98	200	207	104	6	70-130	20	
Methanol	ND	200	189	95	200	199	100	5	70-130	20	

Analyst: AEV **Date Prepared:** 06/19/2008 **Date Analyzed:** 06/19/2008

Lab Batch ID: 725917 **Sample:** 725917-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Nitrogen, Kjeldahl, Total by EPA 351.3 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Nitrogen, Total Kjeldahl	ND	10.0	9.67	97	10	9.71	97	0	80-120	20	

Relative Percent Difference RPD = 200*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

EPAHO113002169

Form 3 - MS Recoveries

Project Name: T-19-6-10-08

Work Order #: 305842

Lab Batch #: 726029 **Project ID:** 19-6-10-08

Date Analyzed: 06/20/2008 **Date Prepared:** 06/20/2008 **Analyst:** JBU

QC- Sample ID: 306069-005 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Methanol by EPA 8015 Modified	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Isopropanol	ND	200	176	88	70-130	
Methanol	ND	200	170	85	70-130	

Lab Batch #: 725844

Date Analyzed: 06/17/2008 **Date Prepared:** 06/17/2008 **Analyst:** MIA

QC- Sample ID: 305511-003 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TOC by SM 5310C	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Total Organic Carbon	2.90	20.0	22.2	97	90-110	

Lab Batch #: 725844

Date Analyzed: 06/17/2008 **Date Prepared:** 06/17/2008 **Analyst:** MIA

QC- Sample ID: 305751-004 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TOC by SM 5310C	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Total Organic Carbon	8.40	20.0	28.0	98	90-110	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

EPAHO113002170

ENVIRONMENTAL LAB OF

Form 3 - MS / MSD Recoveries

Project Name: T-19-6-10-08

ACCREDITED IN ACCORDANCE WITH

Work Order # : 305842 **Project ID:** 19-6-10-08

Lab Batch ID: 725833 **QC- Sample ID:** 305795-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/18/2008 **Date Prepared:** 06/17/2008 **Analyst:** ARP

Reporting Units: mg/L

Metals per ICP-MS by SW 6020A Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Aluminum	ND	5.00	4.89	98	5.00	5.04	101	3	75-125	25	
Arsenic	0.093	0.100	0.184	91	0.100	0.188	95	4	75-125	20	
Barium	0.086	0.100	0.180	94	0.100	0.183	97	3	75-125	25	
Cadmium	ND	0.100	0.093	93	0.100	0.096	96	3	75-125	25	
Chromium	ND	0.100	0.094	94	0.100	0.096	96	2	75-125	25	
Cobalt	ND	0.100	0.093	93	0.100	0.095	95	2	75-125	25	
Iron	ND	5.00	4.81	96	5.00	4.87	97	1	75-125	25	
Lead	ND	0.100	0.100	100	0.100	0.102	102	2	75-125	25	
Mercury	ND	0.0050	0.0043	86	0.0050	0.0044	88	2	75-125	25	
Selenium	ND	0.100	0.089	89	0.100	0.089	89	0	75-125	25	
Silver	ND	0.100	0.092	92	0.100	0.095	95	3	75-125	25	
Zinc	ND	0.100	0.131	131	0.100	0.111	111	17	75-125	25	X

Lab Batch ID: 725917 **QC- Sample ID:** 305581-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/19/2008 **Date Prepared:** 06/19/2008 **Analyst:** AEV

Reporting Units: mg/L

Nitrogen, Kjeldahl, Total by EPA 351.3 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Nitrogen, Total Kjeldahl	ND	10.0	7.41	74	10.0	9.71	97	27	80-120	20	XF

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*(D-G)/(D+G)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

EPAHO113002171

Sample Duplicate Recovery

Project Name: T-19-6-10-08

Work Order #: 305842

Lab Batch #: 725833 **Project ID:** 19-6-10-08
Date Analyzed: 06/18/2008 **Date Prepared:** 06/17/2008 **Analyst:** ARP
QC- Sample ID: 305795-001 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

Metals per ICP-MS by SW 6020A Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Aluminum	ND	ND	NC	25	
Arsenic	0.093	0.093	0	20	
Barium	0.086	0.083	4	25	
Cadmium	ND	ND	NC	25	
Chromium	ND	ND	NC	25	
Cobalt	ND	ND	NC	25	
Iron	ND	ND	NC	25	
Lead	ND	ND	NC	25	
Mercury	ND	ND	NC	25	
Selenium	ND	ND	NC	25	
Silver	ND	ND	NC	25	
Zinc	ND	ND	NC	25	

Lab Batch #: 725844
Date Analyzed: 06/17/2008 **Date Prepared:** 06/17/2008 **Analyst:** MIA
QC- Sample ID: 305511-003 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TOC by SM 5310C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total Organic Carbon	2.90	3.30	13	20	

Lab Batch #: 725844
Date Analyzed: 06/17/2008 **Date Prepared:** 06/17/2008 **Analyst:** MIA
QC- Sample ID: 305751-004 D **Batch #:** 1 **Matrix:** Water
Reporting Units: mg/L

TOC by SM 5310C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total Organic Carbon	8.40	7.90	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

EPAHO113002172

XENCO Laboratories

Sample Duplicate Recovery

Project Name: T-19-6-10-08

Work Order #: 305842

Lab Batch #: 725909 **Project ID:** 19-6-10-08

Date Analyzed: 06/19/2008 **Date Prepared:** 06/19/2008 **Analyst:** JLG

QC- Sample ID: 306079-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TSS by SM2540D	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
TSS	120	102	16	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

EPAHO113002173

MITCHELL ANALYTICAL LABORATORY

2638 Faudree Road
Odessa, Texas 79765
561-5579

Mr. Brent Barron
Environmental Lab of Texas, Inc.
12600 West I-20 East
Odessa, Texas 79763

June 13, 2008

The following is the results on 1 liquid sample for water content, dated 6-13-08, Lab No. 08-JUN-W10380:

Sample	% Water
305842-001	75.12

Method: Karl Fischer

Analyst
George Roberts

Environmental Lab of Texas

EPAHO113002174

CES Environmental Services, Inc.

4904 Griggs Road
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Tel. (713) 676-1460
Fax. (713) 676-1676

To: Dana Carter
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/23/08

From: Miles Root

Lab Memo: 08-132

Subject: **Stolt Nielson Transportation Evaluation 0708-38**

A sample of MEA and reacted MDI from Stolt Nielsen Transportation has been evaluated for potential processing at CES. This sample is evaluation 0708-386.

This sample was generated from the removal of a heel prior to the cleaning of an ISO container. The evaluation states that it contains MEA (methyl ethyl amine) and reacted MDI (methylene diphenyl diisocyanate). The sample has a pH of 11.2 and a flash point greater than 140 deg F. This material can be brought in as a non hazardous waste and put into a class 2 sludge box. There is only one drum of this material. It is similar to waste profile 2173 for TDI and MEA, so creating a new profile with a name change from TDI (toluene diisocyanate) to MDI is the way to go with this stream. There are no other issues.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/21/08

From: Miles Root

Lab Memo: 08-131

Subject: **Triple B Evaluation 0708-36**

A sample stated to contain molasses and water from Triple B has been evaluated for potential processing at CES. This sample is evaluation 0708-36. The only information I have about this sample is that it is from a molasses spill.

This sample has a flash point between 125 and 130 deg F, so is classified as D001. It is dark brown in appearance. The sample can be boiled in the lab to alter its low flash point to greater than 140 deg F. The boiling just removes whatever component was used to help clean up the spill and its corresponding low flash point, as the sample does not really smell like molasses.

This sample does not treat well with our water chemistry, so water treatment and discharge is not an option. It is a sugar. I do not know the potential volume of material for treatment. A small quantity of material could be heated to remove the volatiles and then the remaining material put into a sludge box. Other than that, it does not fit our processing scheme. A large volume could be heat treated and then sent to System 1. This would require the use of a heated tank and the material heated until its low flash point characteristic is removed. This would require a commitment from operations, as tank space is valuable, and heated tank space more valuable yet. I do not know of any other options.

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To: Joy Baker, Marlin Moser, Matt Bowman
Cc: Matt Moser, Joe Camp, Gary Peterson

Date: 07/17/08

From: Miles Root

Lab Memo: 08-130

Subject: **Green Hunter Biofuels Lab Work**

As a follow up to the recent receipts of the Green Hunter Biofuels material, lab testing has been performed to help understand the nature of the received loads. Three separate samples have been looked at for potential processing schemes and/or characterization. Overall, the three samples are all somewhat different and yet have some similarities. This report should help to clarify the differences/similarities we have in three separate containers of this material.

The overall scheme of the testing was to see if this material could be acidified to recover usable material, and then what quality of material we would have and how potentially it could be used. The resulting waste water was also checked.

Tank 4 looks like sludge. Five percent of our plant sulfuric acid, assumed to be 98%, was mixed into the sample which was then thoroughly stirred with a spatula. The resulting mixture had the consistency of a pudding or gel. A portion of this sample was then centrifuged out to determine water and organics content. This sample contained 40% water, 50% organics and had a 10% rag or emulsion layer. The top organic portion of this sample was not miscible with our black oil. A BTU on the top organic phases showed 4641 BTU/lb. A TOC run on the water from centrifuging was 146,900 ppm.

This same testing scheme was performed with trailer 7735. This sample was a very pourable liquid, unlike the tank 4 material. Acidification forms a thick liquid, but pourable, and centrifuging of the sample showed 20% water and 80% organics with no emulsion. The top organic phase was totally miscible with our black oil.

Tank 7 was also tested. This material was the worst looking as its consistency was that of a very thick sludge. In actuality it treated the easiest of the three. Acidification forms a very pourable liquid and centrifuging showed 40% water, 55% organics and 5% emulsions. The top phase was totally miscible with our black oil. A BTU of the top organic phase showed 5249 BTU/lb. TOC on the water phase was 124,400 ppm.

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All of the top organic phases after centrifuging are either gels, as in the case of tank 4, or form gels upon sitting as with tank 7 and trailer 7735. Mixtures of 50/50 with black oil as of this writing have not formed gels, but the time frame since mixing has been less than three hours. A sample will be allowed to sit for further observations.

Acidification of the samples releases heat and good mixing is required in order to convert all of the salts to their acid form. All of the acidified samples will gel up within hours at room temperature. An ash will need to be performed and one has been started on the sample from tank 7, the best looking of the samples. It will not be completed today. I would guess that the ash will be higher than typical black oil, as the salts that are formed will not all move to the water phase upon a simple centrifuge technique. Water that is entrained in the organics should be high in ash content. Sodium is an ash, and the resulting sodium sulfate that is formed will make up at least a portion of the ash value.

Summarized in the table below is the data collected to date for the three tested containers.

Green Hunter Biofuels			
	T-4	T-7	Trl 7735
% H2SO4 for Acidification	5	5	5
Acidified State	Gel	Gel	Gel
BTU/lb on organics	4641	5249	N/A
TOC, ppm on water	146,900	124,400	N/A
Ash, wt%	N/A	N/A	N/A
Black Oil Suitability	No	Yes	Yes
Centrifuge Results			
Organics, vol%	50	80	55
Water, vol%	40	20	40
Emulsion, vol%	10	0	5

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To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/16/08

From: Miles Root

Lab Memo: 08-129

Subject: **Green Hunter Biofuels Evaluation 0708-32**

A sample of biodiesel from Green Hunter Biofuels has been evaluated for processing at CES. This sample is evaluation 0708-32 and appears to be a sample of biodiesel. Unfortunately, the actual material we received last night from this supplier looks nothing like the evaluation sample that was provided. Since I took the time to do the testing, this report summarizes what this material should have looked like, just for the record. These test results are summarized in the table below.

Green Hunter Biofuels	
Evaluation 0708-32	
API gravity	23
water, vol%	1.4
Ash, wt%	0.266
Viscosity, cSt	34.4
Flash Point, deg F	>140
Black Oil Compatibility	OK

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/31/08

From: Miles Root

Lab Memo: 08-134

Subject: **Arkema Beaumont Evaluation 0708-28**

A sample of DMS bi product from Arkema, Beaumont, TX has been evaluated for potential marketing by CES. This sample is evaluation 0708-28 and is a bi product quality DMS (dimethyl sulfide) from chemical processing. This is a potential feedstock to Peak, and the analytical data indicates that is should be a potentially good fit for that application.

DMS is very odorous and this sample is no exception. This sample is murky in its appearance and a trace amount of solids have settled out of the sample. The material has a good BTU value of 9717 and no ash. A sample sent to Metrohm Peak for testing shows an average of 0.415 mg/Kg chlorides, 0.83 mg/Kg potassium, and 0.76mg/Kg sodium. LCS tested for sulfur and results show the sample to contain 22.735 wt% as sulfur. This source is a good potential fuel for Peak as indicated from this data, and this should be pursued. No other abnormalities were noted. The table below summarizes the analytical data.

Arkema Beaumont	
Evaluation 0708-28	
Total Sulfur, wt%	22.735
BTU	9717
Ash, wt%	0.00
Chlorides, mg/Kg	0.415
Potassium, mg/Kg	0.083
Sodium, mg/Kg	0.076

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Matt bowman, Gary Peterson, Prabhaker, Matt Moser, Joe Camp

Date: 07/28/08

From: Miles Root

Lab Memo: 08-134

Subject: **Arkema Beaumont Evaluation 0708-28**

A sample of DMS bi product from Arkema, Beaumont, TX has been evaluated for potential marketing by CES. This sample is evaluation 0708-28 and is a bi product quality DMS (dimethyl sulfide) from chemical processing. This is a potential feedstock to Peak, and the analytical data indicates that is should be a potentially good fit for that application.

DMS is very odorous and this sample is no exception. This sample is murky in its appearance and a trace amount of solids have settled out of the sample. The material has a good BTU value of 9717 and no ash. A sample sent to Metrohm Peak for testing shows an average of 0.415 mg/Kg chlorides, 0.83 mg/Kg potassium, 0.76mg/Kg sodium and 452 mg/Kg of sulfur. This source is a good potential fuel for Peak as indicated from this data, and this should be pursued. No other abnormalities were noted. The table below summarizes the analytical data.

Arkema Beaumont	
Evaluation 0708-28	
Total Sulfur, mg/Kg	452
BTU	9717
Ash, wt%	0.00
Chlorides, mg/Kg	0.415
Potassium, mg/Kg	0.083
Sodium, mg/Kg	0.076

LCS

10201 Bay Area Blvd
Pasadena, Tx 77507
281-474-1334
281-474-7707 Fax

CERTIFICATE of ANLAYSIS

LCS Reference: T2008-2975H
CUSTOMER Reference: 0708-44

Solutions through Chemistry

FOR: C E S
PRODUCT: Dimethyl Sulfide
SAMPLE DRAWN FROM: DMS 0708-28
LOCATION: Pasadena, Texas
DATE of ANALYSIS: July 31, 2008

TEST	METHOD	RESULTS
COMPOSITE		
API GRAVITY @ 60°F	ASTM D-4052	
VISCOSITY CST @ 50°C	ASTM D-445	
FLASHPOINT °F	ASTM D-93, METH. B	
WATER BY DISTILLATION	ASTM D-95	
SULFUR %WT	ASTM D-4294	**22.735**
ASH %WT	ASTM D-482	
TOTAL SEDIMENT %WT	IP-375	
TOTAL HALOGENS, ppm	SW 9075	
PCB'S, ppm	SW 8082	
TOTAL ACID	ASTM D-664	
ORGANIC CHLORIDES, ppm	ASTM D-4929	
CAUSTIC GEL TEST		
Viscosity @ 50 C	ASTM D-445	
METALS		
ARSENIC, ppm	AA	
CADMIUM, ppm	AA	
CHROMIUM, ppm	AA	
LEAD, ppm	AA	

Hal Potts PhD
LCS REPRESENTATIVE

CES Environmental Services, Inc.

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To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/15/08

From: Miles Root

Lab Memo: 08-128

Subject: **EMA Evaluation 0708-17 Revisit**

I have taken another look at EMA evaluation 0708-17 using an updated and more complete MSDS and information package. This sample was evaluated earlier and rejected for use in marketing to the paper mills industry due to its reported ethanol content.

Evaluation 0708-17 is l isted as a spent caustic that contains a variety of solvents and organics. Included are methanol, ethanol, acetone, toluene, MEK and heptane. One of the data sheets shows this material to have a flash point of between 73 and 140 deg F, which make this a D001 hazardous waste. Solvents and light hydrocarbons such as this are not desirable for paper mills, so this material is still not suitable for that use.

The data sheet also shows this material to possibly contain sulfides. Perhaps this stream could be a potential feedstock for SIB processing? I tested for sulfides and find conflicting data. Titration with silver nitrate shows no sulfides or mercaptans, and the beginning millivolt reading of the titrator confirms this. A test with lead acetate paper, which is a qualitative test for sulfides, shows positive. I do not know of any positive interference for the lead acetate paper test, but believe the titration is more definitive.

Acidification of this sample produces what I must call a horrible odor, somewhat like butyric acid, which is VERY odorous. The lack of any rotten egg odor of hydrogen sulfide again makes this sample suspect for containing any sulfides. Any hydrogen sulfide present, when mixed with caustic, should be present in the form of sodium sulfide, which the data sheet indicates this sample may contain. The odor from this sample does not come from one of its listed components in the MSDS.

All of the above may be irrelevant, as the range of alcohols this sample may contain far exceeds the 24% alcohol limit for any disposal potential this material may have after acidification. The SIB process currently disposes of the water without issue. Any water from the processing of this material would have a low flash point and would exceed the 24% alcohol exemption limit to move it to System 1.

A distillation of this sample recovers approximately 30% of a water white material that also includes the very poor odor. I believe the odor alone would prevent marketability of this overhead product which should include some of the light solvents mentioned above.

No other work is planned for this sample at this time.

CES Environmental Services, Inc.
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Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: IN-Chem CORPORATION
Address: 800 CEL-RIVER ROAD
City: Rock Hill State: SC Zip: 29730
Contact: BRIAN HAMEL Title: EHS MGR
Phone Number: 803.329.8000 Fax Number: 803-329-8025
24/hr Phone Number: same
US EPA ID No: SC 981014780
State ID No: SIC Code: 2800

SECTION 2: Billing Information - ☐ Same as Above

Company: EMA, INC.
Address: 10627 MIDWEST INDUSTRIAL Blvd.
City: St. Louis State: MO Zip: 63132
Contact: Timothy J Hylla Title: V.P.
Phone Number: 314-785-6425 Fax Number: 314-785-6426

SECTION 3: General Description of the Waste

Name of Waste: Sulfide Caustic Solution
Detailed Description of Process Generating Waste:
Scrubbing by-product from Filtration Process
Material utilized as a substitute for virgin caustic in accordance with 40 CFR, 261.2(e)(1)(ii)

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: greenish brown Odor: Sulfides

Specific Gravity (water=1): >1 Density: _____ lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☐ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☒ Monthly ☐ Yearly ☐ One-Time
Quantity: 5000 gallon/month

EPAHO113002184

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☐ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: _____

Proper US DOT Shipping Name: CORROSIVE Liquid, Toxic, N.O.S. (Sodium hydroxide, Sodium sulfide)

Class: 8 UN/NA: UN2922 PG: III RQ: 6.1

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
	>12.5	mg/l	mg/l	<2 %
Oil & Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
mg/l	mg/l	mg/l	mg/l	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Water	50 - 70	
Ethanol	0 - 20	
Sodium hydroxide	10 - 15	
Methanol	5 - 10	
Acetone	0 - 10	
Heptane	0 - 5	
Hydrogen Sulfide	0 - 5	
MEK	0 - 5	
Sodium Sulfide	0 - 3	
Toluene	0 - 5	

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

_____

_____

_____

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. _____

_____

_____

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

_____

_____

_____

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals: _____
TCLP Volatiles: _____
TCLP Semi-Volatiles: _____
Reactivity: _____
Corrosivity: _____
Ignitability: _____

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

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

(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 10 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.

SECTION 11: Generator's Certification

The information contained herein is based on ☐ generator knowledge and/or ☑ analytical data.

I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 5/16/08

Printed Name/Title: Timothy J. Hyla

CES USE ONLY (DO NOT WRITE IN THIS SPACE)		
Compliance Officer:		
Date:	☐ Approved	☐ Rejected
Approval Number:		

MATERIAL SAFETY DATA SHEET

NO. 499

Revised: August 31, 2005

Product Name: **USED, SODIUM HYDROXIDE, Rock Hill, SC**

IN-CHEM CORPORATION

800 Celriver Road

Rock Hill, SC 29730

USA

Emergency Phone: (803) 329-8000

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical Formula: Sodium hydroxide
Other Designations: Caustic soda
Product Use: Processing to remove contaminants and to resell caustic soda
Manufacturer: SC
USA Phones: Health & Safety: (803) 329-8000

2. COMPOSITION/INFORMATION ON INGREDIENTS

				Exposure Limits (TWA in mg/m^3)	
Components	**CAS No.**	**% by Weight**	**Form**	**ACGIH TLV**	**OSHA PEL**
Sodium hydroxide	1310-73-2	5-15%	—		
Methanol		5-50%			
Water		30-60%			
Toluene		0-5%			
Acetone		0-10%			
Ethanol		0-20%			
Heptane		0-5%			
Hydrogen Sulfide		0-3%			
Sodium Sulfide		0-3%			
MEK		0-5%	—	—	—

cmpds = compounds

3. HAZARDS INFORMATION

EMERGENCY OVERVIEW

Liquid, gray-white color. Odorless. Non-combustible. **CORROSIVE.**

Can cause severe irritation, corrosive burns, and permanent damage to eyes, skin, respiratory tract and gastrointestinal tract.

Potential Health Effects

EYES: Direct contact can cause severe irritation, corrosive burns, and permanent damage including blindness.
SKIN: Direct contact can cause severe irritation, burns and damage to skin.
INHALATION: Can cause respiratory tract irritation, lung damage and other health effects listed below. Cancer and reproductive hazard.
INGESTION: Can cause irritation and damage to the gastrointestinal tract if swallowed.

This material can cause corrosive burns to eyes or skin on contact due to its alkalinity. It is destructive to all contacted human tissue and gives severe burns. Eye contact will produce severe or permanent injury including blindness. Inhalation of mist or spray can cause irritation or injury to the upper respiratory tract. Chronic exposure to liquid mist can cause irritation or damage to the respiratory tract tissues.

Sodium hydroxide can cause severe irritation/corrosive burns to the eyes, skin, mucous membranes, and respiratory system.

Medical conditions aggravated by exposure to the product:
Asthma, chronic lung disease, and skin rashes.

***IARC CLASSIFICATIONS:**

Group 1: The agent is carcinogenic to humans.
There is sufficient evidence that a causal relationship existed between exposure to the agent and human cancer.

Group 2B: The agent is possibly carcinogenic to humans.
Generally includes agents for which there is limited evidence in humans in the absence of sufficient evidence in
experimental animals.

4. FIRST AID MEASURES

EYES: Wash eyes immediately with plenty of running water for at least 15 minutes including under the eyelids and all surfaces. Speed in rinsing eyes after contact is extremely important if permanent injury is to be avoided. Obtain emergency medical care.
SKIN: Wash contact area promptly with large quantities of water. Remove contaminated clothing under the shower. Prolong washing in serious cases until medical help arrives, even for an hour or longer.
INGESTION: *Do not give anything by mouth to an unconscious person.* Immediately dilute chemical by drinking water or milk, up to 30 mL in children and 250 mL in adults. Do not neutralize with dilute vinegar, fruit juice or other acidic agents. Vomiting may occur spontaneously, but do not induce it. Contact a physician immediately.
INHALATION: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. Provide CPR for persons without pulse or respirations. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Sodium hydroxide solution is non-combustible. Sodium hydroxide will react vigorously with metals such as aluminum, tin, and zinc to generate flammable and explosive
hydrogen gas.
EXTINGUISHING MEDIA: Use fire extinguishing agent suitable for surrounding fire. Use water spray to cool containers of this material which are involved in a fire situation. However, take care not to splash this caustic solution.
FIRE FIGHTING INSTRUCTIONS: Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

6. ACCIDENTAL RELEASE MEASURES

SMALL/LARGE SPILL: Contact environmental control personnel. Plan ahead for handling spills. Personnel working on cleanup must use protective clothing/equipment to prevent body contact with the liquid and be properly trained as required by OSHA regulations. Abundant running water should be available for emergency use. Pick up spill with vacuum equipment (alkali resistant) for disposal or flush to holding area with water. Neutralize residues with dilute acid and rinse with water.

7. HANDLING AND STORAGE

HANDLING: Avoid handling conditions that may lead to spills or to mist formation. Do not permit workers to handle this material without proper training or without proper equipment.
STORAGE: Store in well-sealed containers which are protected from physical damage. Have abundant running water available where stored, unloaded, or handled. Drains must have retention basin for pH adjustment and neutralization of spilled materials and flushings before discharge.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use with adequate ventilation to meet the limits listed in Section 2.
RESPIRATORY PROTECTION: Use NIOSH-approved respiratory protection (mist respirator, high efficiency dust respirator for lead) as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 2.
SKIN PROTECTION: Wear chemical resistant gloves and other appropriate protective clothing to prevent skin contact.
EYE PROTECTION: Wear chemical splash goggles or face shield to prevent eye contact.

Sampling to establish **lead** level exposure is advised where exposure to airborne particulate or fumes is possible. Consult OSHA Lead Standard 29 CFR 1910.1025 for specific health/industrial hygiene precautions and requirements to follow when handling lead compounds

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Liquid (may contain precipitated inorganic salts); gray-white color
BOILING TEMPERATURE: 288-298°F (for 50% NaOH)
FREEZE-MELT TEMPERATURE: Not determined
VAPOR PRESSURE: <1.0 mmHg
EVAPORATION RATE: Not applicable
SPECIFIC GRAVITY: 1.2-1.3
DENSITY: See Specific Gravity
WATER SOLUBILITY: ~100%
pH: ≥ 12.5
ODOR: None
ODOR THRESHOLD (ppm): Not determined.
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not determined

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions in a sealed container. Do not store in magnesium, tin, chromium, aluminum, zinc, brass, bronze or galvanized containers.
REACTIVITY: This material will react with carbon dioxide in the air (when exposed) to form sodium carbonate. It will react violently with acids and with many organic chemicals, especially nitrocarbons and halocarbons. (Trichloroethylene will react with sodium hydroxide to form spontaneously flammable dichloroacetylene)

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

LD_{50} or LC_{50} for oral, dermal or inhalation routes of administration: No information found.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL/CHEMICAL FATE INFORMATION: No information found.

13. DISPOSAL CONSIDERATION

Material may be neutralized on-site with necessary permits and precautions or off-site by a reputable waste treatment company.

RCRA Hazardous Waste No.: D001 due to the ethanol flash of <140 degrees, and D002 due to high pH.

14. TRANSPORT INFORMATION

U.S.A. DOT: Corrosive liquids, flammable, n.o.s. (sodium hydroxide and ethanol solution) 8, UN 2920, II, RQ

Note: For packages less than 4,165 lb., delete "RQ" reference.

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA STATUS: All components of this product are listed on the TSCA inventory.

CERCLA HAZARDOUS SUBSTANCES: Chromium, Sodium hydroxide.

SARA TITLE III

Section 311/312 Physical and Health Hazard Categories: Immediate (acute), Delayed (chronic).

Section 313 Toxic Chemicals: Chromium

In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

State Regulations

PENNSYLVANIA "Special Hazardous Substance"

International Regulations

CANADIAN DOMESTIC SUBSTANCES LIST: All components of this product are listed on the Canadian DSL.

EUROPEAN COMMUNITY: All components of this product are listed on ECOIN, the European Core Inventory.

JAPAN: All components of this product are listed on MITI, the Ministry of International Trade Industry.

AUSTRALIA: All components of this product are listed on the AICS inventory.

16. OTHER INFORMATION

MSDS STATUS: New format.

MSDS System Number: 145285

PREPARED BY: Hazardous Materials Control Committee.

- Guide to Occupational Exposure Values-1997, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, June 1994.
- Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984.
- Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.

INFORMATION HEREIN IS GIVEN IN GOOD FAITH AS AUTHORITATIVE AND VALID; HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED, CAN BE MADE.

LEGEND:

ACGIH	American Conference of Governmental Industrial Hygienists	atm	atmosphere
AICS	Australian Inventory of Chemical Substances	cm	centimeter
CAS	Chemical Abstract Services	g, gm	gram
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	in	inch
CFR	Code of Federal Regulations	kg	kilogram
CPR	Cardiopulmonary Resuscitation	lb	pound
DOT	Department of Transportation	m	meter
DSL	Domestic Substances List (Canada)	mg	milligram
ECOIN	European Core Inventory	ml, ML	milliliter
EPA	Environmental Protection Agency	mm	millimeter
IARC	International Agency for Research on Cancer	n.o.s.	not otherwise specified
LC_{50}	Lethal concentration (50 percent kill)	ppb	parts per billion
LC_{Lo}	Lowest published lethal concentration	ppm	parts per million
LD_{50}	Lethal dose (50 percent kill)	psia	pounds per square inch absolute
LD_{Lo}	Lowest published lethal dose	µ, u	micron
NFPA	National Fire Protection Association	µg	microgram
NIOSH	National Institute for Occupational Safety and Health		
NTP	National Toxicology Program		
OEL	Occupational Exposure Limit		
OSHA	Occupational Safety and Health Administration		
PEL	Permissible Exposure Limit		
PIN	Product Identification Number		
RCRA	Resource Conservation and Recovery Act		
SARA	Superfund Amendments and Reauthorization Act		
STEL	Short Term Exposure Limit		
TCLP	Toxic Chemicals Leachate Program		
TDG	Transportation of Dangerous Goods		
TLV	Threshold Limit Value		
TSCA	Toxic Substances Control Act		
TWA	Time Weighted Average		

SECTION 17 DISCLOSURE STATEMENT

The information presented in this Material Safety Data Sheet is subject to additions and revisions and is not all-inclusive, but represented as the best information available to date. This information was drawn from recognized sources believed to be reliable. However, In-Chem Corporation, and/or the preparer of this data sheet will not be responsible for damages of any kind resulting form the use of or reliance upon such information.

The product discussed is sold without warranty, expressed or implied and upon conditions that purchasers shall perform their own verification and testing to determine its suitability for a particular purpose.

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

CERTIFIED MAIL

October 25, 2005

Mr. Timothy J. Hylla, Vice President
Environmental Management Alternatives
10627 Midwest Industrial Blvd.
St. Louis, MO 63132

RE: Reuse of used sodium hydroxide

Dear Mr. Hylla:

This letter is in response to a request submitted by Environmental Management Alternatives (EMA) dated September 1, 2005 and received by the South Carolina Department of Health and Environmental Control (Department) on September 20, 2005. On behalf of Inchem Corporation (Inchem) of Rock Hill, SC, EMA requested Department concurrence with the position that used sodium hydroxide from Inchem may be used as a "product substitute" or be considered to be in "continued use" in another process, and therefore excluded from hazardous waste management regulations.

The request package indicates Inchem's interest in shipping used sodium hydroxide to Arkla Disposal Services, Inc. (Arkla) to be used as a substitute for virgin caustic in their wastewater treatment process. According to the information submitted, this material will not be reclaimed prior to being used in the process at Arkla. South Carolina Hazardous Waste Management Regulations (SCHWMR) R.61-79.261.2(e)(1) states, "Materials are not solid wastes when they can be shown to be recycled by being used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed or land disposed." Furthermore, R.61-79.261.2(f) requires anyone claiming that a material is not a solid waste must 1) demonstrate that there is a known market or disposition for the material, 2) provide appropriate documentation demonstrating that the material is not a waste (or is exempt from regulation), and 3) show that they have the necessary equipment to do so. The information in the request package indicates a known market/disposition for the material, the basis for exemption from regulation and necessary equipment to use this material at the Arkla facility.

Based on the information provided in this package, EMA's position on this reusable material is consistent with the Department's interpretation of R.61-79.261.2(e)(1)(i) of SCHWMR. Note that this exemption applies only to used sodium hydroxide that has not been reclaimed prior to reuse.

EPAHO113002194

If you have any questions or concerns regarding this matter, please contact me at 803-896-4163.

Sincerely,

Duke Taylor, Engineering Associate
Operations Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

WASTE DISPOSAL SERVICE AGREEMENT
ARKLA DISPOSAL SERVICES, INC.

Date: 10-26-05

Profile Number: H05071309SC

Bill To: Environmental Management Alternatives
10627 Midwest Ind. Blvd.
St. Louis, MO 63132

Generator: In-Chem Corporation
800 Cel-River Road
Rock Hill, S. C. 29730

1. **Waste Stream -** Sulfidic Caustic Material from a filtration process. The first load is on a trial basis and will determine final approval. Material consistent with the following allowable parameters shall be deemed acceptable under this Agreement:

Phases / Layers	Bi-layered
pH	Caustic
Specific Gravity	Greater than 1.0
Color	Greenish Brown
Flash Point	73 to 140 degrees
Total Solids by Volume	Less than 2%
Water	50 to 70%
Ethanol	0 to 20%
Sodium Hydroxide	5 to 15%
Methanol	5 to 50%
Acetone	0 to 10%
Heptane	0 to 5%
Hydrogen Sulfide	0 to 5%
MEK	0 to 5%
Sodium Sulfide	0 to 3%
Toluene	0 to 5%

Transportation – Customer agrees to provide for the transportation of this stream to Arkla Disposal Services, Inc., 10845 Hwy. 1 South, Shreveport, La. at its own cost. Arkla shall have the right to reject access of such equipment to its facility if, in Arkla's opinion, the equipment is not safe or suitable for the transportation of customer's product material. Transporters shall provide Arkla Disposal Services, Inc. with a certificate of insurance prior to arrival on site. Arkla reserves the right to request a driver to leave its facility who demonstrates reckless and unsafe driving practices or unacceptable behavior. Customer shall schedule incoming loads with Arkla Disposal at least 24 hours in advance. Each load must be have the proper DOT description on the bill of lading. All loads must have empty and full weight tickets.

Volume – Approximate Volume will be 5,000 gallons per month.

2. **Method of Transportation** – Truck

EPAHO113002196

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

CERTIFIED MAIL

October 25, 2005

Mr. Timothy J. Hylla, Vice President
Environmental Management Alternatives
10627 Midwest Industrial Blvd.
St. Louis, MO 63132

RE: Reuse of used sodium hydroxide

Dear Mr. Hylla:

This letter is in response to a request submitted by Environmental Management Alternatives (EMA) dated September 1, 2005 and received by the South Carolina Department of Health and Environmental Control (Department) on September 20, 2005. On behalf of Inchem Corporation (Inchem) of Rock Hill, SC, EMA requested Department concurrence with the position that used sodium hydroxide from Inchem may be used as a "product substitute" or be considered to be in "continued use" in another process, and therefore excluded from hazardous waste management regulations.

The request package indicates Inchem's interest in shipping used sodium hydroxide to Arkla Disposal Services, Inc. (Arkla) to be used as a substitute for virgin caustic in their wastewater treatment process. According to the information submitted, this material will not be reclaimed prior to being used in the process at Arkla. South Carolina Hazardous Waste Management Regulations (SCHWMR) R.61-79.261.2(e)(1) states, "Materials are not solid wastes when they can be shown to be recycled by being used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed or land disposed." Furthermore, R.61-79.261.2(f) requires anyone claiming that a material is not a solid waste must 1) demonstrate that there is a known market or disposition for the material, 2) provide appropriate documentation demonstrating that the material is not a waste (or is exempt from regulation), and 3) show that they have the necessary equipment to do so. The information in the request package indicates a known market/disposition for the material, the basis for exemption from regulation and necessary equipment to use this material at the Arkla facility.

Based on the information provided in this package, EMA's position on this reusable material is consistent with the Department's interpretation of R.61-79.261.2(e)(1)(i) of SCHWMR. Note that this exemption applies only to used sodium hydroxide that has not been reclaimed prior to reuse.

EPAHO113002197

If you have any questions or concerns regarding this matter, please contact me at 803-896-4163.

Sincerely,

Duke Taylor, Engineering Associate
Operations Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

Arkla Disposal Services LLC
10845 Hwy. 1 South
Shreveport, La. 71115

Facility 318-797-0087
Fax 318-797-6688

Material Profile

Profile Number: H05071309SC

A. Generator Information

Company IN-CHEM CORPORATION **Phone** (803) 329 - 8000

Site Address 800 CEL-RIVER ROAD

ROCK HILL, SOUTH CAROLINA 29730

Contact / Title BRIAN HAMEL **Fax** (803) 329 - 8005

EPA # SCD981014780 **State Generating ID#** _____ **SIC Code** 2800

B. Billing Information

Company EMA, INC. **Phone** (314) 785 - 6425

Mailing Address 10627 MIDWEST INDUSTRIAL BLVD.

ST. LOUIS, MO 63132

Billing Contact TIMOTHY J HYLLA **Fax** (314) 785 - 6426

C. Transporter Information

Company _____ **EPA ID#** _____

US DOT Proper Shipping Name: rq, flammable liquids, corrosive, n.o.s. (ethanol, sodium hydroxide)

DOT Hazard Class 3 **UN/NA #** UN2924 **Packing Group** II

Shipping Frequency: Number of Gallons 5,000 Per: ☒ Month ☐ Quarter ☐ Year ☐ One Time ☐ Other

D. General Waste Information

Non-hazardous _____ **Hazardous** _____

Waste Name sulfide caustic solution

Process Generating Waste scrubbing by-product from filtration process.

Material utilized as a substitute for virgin caustic in accordance with 40 CFR 261.2(e) (1) (ii).

Arkla Disposal Services LLC
10845 Hwy. 1 South
Shreveport, La. 71115

Facility 318-797-0087
Fax 318-797-6688

E. REACTIVE CHARACTERISTICS

☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

F. Physical Properties

Color greenish- brownish **Liquid %** 100 **Sludge %** _____ **Oil %** _____ **Solids %** <2

Specific Gravity _____ **Flash Point** 73 to 140 **pH** >12.5 **BTUs** <5,000

Single Phase _____ **or Multi Phase** bi-layered

Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis) TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

Constituents	Concentration Range	Constituents	Concentration Range
Water	50 to 70	Sodium Sulfide	0 to 3
Ethanol	0 to 20	Toluene	0 to 5
Sodium Hydroxide	5 to 15		
Methanol	5 to 50		
Acetone	0 to 10		
Heptane	0 to 5		
Hydrogen Sulfide	0 to 5		
MEK	0 to 5		

G. Certification

I certify that all information submitted in this and all attached documents is complete and accurate and that all known or suspected hazards have been disclosed. I further certify that any analytical and/or samples submitted in conjunction with this document are representative of the waste to be shipped.
Authorized Generator Signature _____ Date: _____

Printed Name / Title _____

H. ARKLA USE ONLY Status: Approved / Rejected

Signature _____ Arkla Representative

Signature _____ City of Shreveport Representative

WASTE DISPOSAL SERVICE AGREEMENT
ARKLA DISPOSAL SERVICES, INC.

Date: 10-26-05

Profile Number: H05071309SC

Bill To: Environmental Management Alternatives
10627 Midwest Ind. Blvd.
St. Louis, MO 63132

Generator: In-Chem Corporation
800 Cel-River Road
Rock Hill, S. C. 29730

1. **Waste Stream -** Sulfidic Caustic Material from a filtration process. The first load is on a trial basis and will determine final approval. Material consistent with the following allowable parameters shall be deemed acceptable under this Agreement:

Phases / Layers	Bi-layered
pH	Caustic
Specific Gravity	Greater than 1.0
Color	Greenish Brown
Flash Point	73 to 140 degrees
Total Solids by Volume	Less than 2%
Water	50 to 70%
Ethanol	0 to 20%
Sodium Hydroxide	5 to 15%
Methanol	5 to 50%
Acetone	0 to 10%
Heptane	0 to 5%
Hydrogen Sulfide	0 to 5%
MEK	0 to 5%
Sodium Sulfide	0 to 3%
Toluene	0 to 5%

Transportation – Customer agrees to provide for the transportation of this stream to Arkla Disposal Services, Inc., 10845 Hwy. 1 South, Shreveport, La. at its own cost. Arkla shall have the right to reject access of such equipment to its facility if, in Arkla's opinion, the equipment is not safe or suitable for the transportation of customer's product material. Transporters shall provide Arkla Disposal Services, Inc. with a certificate of insurance prior to arrival on site. Arkla reserves the right to request a driver to leave its facility who demonstrates reckless and unsafe driving practices or unacceptable behavior. Customer shall schedule incoming loads with Arkla Disposal at least 24 hours in advance. Each load must be have the proper DOT description on the bill of lading. All loads must have empty and full weight tickets.

Volume – Approximate Volume will be 5,000 gallons per month.

2. **Method of Transportation** – Truck

EPAHO113002201

CES Environmental Services, Inc.

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

To: Dana Carter
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/14/08

From: Miles Root

Lab Memo: 08-127

Subject: **KSolv Evaluations 0708-25 & 26**

Two samples of waste water from KSolv, Channelview, have been evaluated for processing at CES. These samples are evaluations 0708-25 and 26. Overall, evaluation 0708-26 is acceptable for processing and 0708-25 is not acceptable.

Evaluation 0708-25 is plant water. It has a flash point of 80 deg F. The TOC on the treated water is a very high 61,700 ppm. It does not easily treat. There are no recoverable oils or hydrocarbons from this source and it is totally miscible with water. It does not mix with light ends. We cannot process material with a low flash point that is not a recyclable material such as this. Also, this is not a candidate for System 1 since it has a low flash point. If we know for sure that the flash point is due to alcohols we could send it to System 1 under the alcohol exemption, but I have no information on this source. Therefore, we cannot accept this stream for processing.

Evaluation 0708-26 is dock water from a barge stripping operation. It has a flash point greater than 140 deg F. This sample treats easily and has low phenols, TOC and metals. We can process this stream with no surcharges if this sample is representative. A minimum of $.12/gal should be charged for this stream to be profitable.

The table below summarizes the analytical results of these two streams.

KSolv Evaluations 0708-25-26		
	Evaluation 0708-25	Evaluation 0708-26
Neat		
Flash Point, Deg F	80	>140
pH	8	7
Oils, vol%	0	0
Solids, vol%	0.1	0.1
Treated		
TOC, ppm	61,700	1213
Phenols, ppm		0
Metals		
Cd		0.094
Cr		0.097
Cu		0.035
Ni		0.223
Zn		0.104

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/14/08

From: Miles Root

Lab Memo: 08-126

Subject: **Rada Technologies Evaluation 0708-29**

A sample of oily water from Rada Technologies has been checked for processing at CES. This sample is evaluation 0708-29 and is oily water from biodiesel production. The generator of this material is Green Hunter Biofuels. Overall, this stream looks good for processing at CES and will need minimum special handling.

This sample contains less than 5% oil with a trace of solids. The oil phase separates fairly quickly after mixing and will not need to be actually heated in our oil tanks for processing. The water treats easily and has solids that quickly fall out of solution. The TOC, metals and phenol are all very acceptable and no special surcharge will be needed. The table below summarizes the analytical work on this stream.

Rada Technologies Evaluation 0708-29	
Neat	
Oil, vol%	<5
Solids, vol%	Trace
pH	11
Treated	
Phenol, ppm	0
TOC, ppm	1708
Metals	
Cd	0.076
Cr	0.056
Cu	0.095
Ni	0.173
Zn	0.071

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/08/08

From: Miles Root

Lab Memo: 08-125

Subject: **Phoenix Evaluations 0608-57**

A sample from Phoenix has been checked for density. This sample is evaluation 0608-57. The density of this material, which has the consistency of a paste, is 1.7 g/mL, which makes this material approximately 14 lb/gal.

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/08/08

From: Miles Root

Lab Memo: 08-124

Subject: **EMA Evaluations 0708-16 & 17**

Two samples from EMA have been evaluated for potential processing or disposition at CES. These two samples are evaluations 0708-16 & 17. Overall, one of these samples may potentially be processed at CES and the second is only a candidate for System 1.

Evaluation 0708-16 is waste water produced from line flushing operations in a tolling process. This material is generated at Aerofil in Sullivan, MO. It is profiled as a D001 and F003 for ignitability due to its makeup. It contains predominately water with acetone, IPA and hexane. This sample essentially does not treat without first heating and then acidification. There is no recoverable anything from this sample other than the solids it will produce, but this material will need to be classified as a recyclable due to its waste codes. The neat sample has 16% solids by volume. The treated water has a high TOC of 15,305 ppm. Phenols are low at only 1 ppm and the metals are acceptable except for the nickel, which is 3 ppm on this particular sample. Pricing should account for the high TOC, solids, heating and acidification, which runs this stream up to $0.34/gallon. Our other option is to move it to System 1 under the alcohol exemption, since it will have its low flash point. Our cost for this would be $.20/gal so our price would need to be greater than this to be profitable. Since this type of stream is high in solids, we should also set up a surcharge for solids that will be greater than 16%, since our costs will increase as well.

Evaluation 0708-17 is a spent caustic that contains ethanol. This type of material is not suitable for our caustic program due to the ethanol content, which is listed to be between 2% and 8%. Also, the listed components of dead yeast cells at 15% to 20% and the ethanol should easily give a TOC value of over 100,000. We cannot recover the ethanol from this type of caustic stream. Pricing to System 1 will cost CES $.14/gal so our price to EMA must be greater than this to be profitable.

The table below summarizes the analytical work on these two samples.

CES Environmental Services, Inc.

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

EMA Evaluations 0708-16 & 17		
	Eval 0708-16	Eval 0708-17
Neat Sx		
pH	7	11.6
Solids, vol%	16	0
Oil, vol%	0	0
NaOH, wt%		6
Treated Sx		
TOC, ppm	15,305	Very High
Phenols, ppm	1	
Metals, ppm		
Cd	0.047	
Cr	0.041	
Cu	0.495	
Ni	3.024	
Zn	1.277	

CES Environmental Services, Inc.

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

To: Dan Bowman
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/07/08

From: Miles Root

Lab Memo: 08-123

Subject: **One Source Evaluations 0708-14 & 15**

Two samples of waste water from One Source, Liberty, TX have been evaluated for potential processing at CES. These samples are evaluations 0708-14 & 15, and are waters cleaned from a spill of drilling additives mixed with rain water. Overall, both samples are potentially acceptable for processing at CES. High amines may be an issue when treated and discharged and both streams are slightly elevated in zinc.

Evaluation 0708-14 is from tank 116. This sample has an odor of amines. Hydrogen peroxide will not remove this odor. This sample has a flash point greater than 140 deg F, a pH of 8 and only 1 ppm phenol. There are no oils and only a trace of solids. The water treats with some difficulty and is slow to phase separate. When it does, the water is murky and not clear as it should be. The TOC on the treated water is high enough to warrant a surcharge at 9700 ppm and the zinc in approximately 7.3 ppm. The amine odor may be an issue for the city discharge and needs to be considered.

Evaluation 0708-15 is tank 118. This sample also has an odor of amines. Hydrogen peroxide will not remove this odor. This sample has a flash point greater than 140 deg F, a pH of 9 and only 1 ppm phenol. There are no oils or solids. This water also treats with some difficulty and is slow to phase separate. The separated water is close to clear in appearance. The TOC is an acceptable 2963 ppm and the zinc concentration is a slightly elevated 5.9 ppm. The amine odor may be an issue for the city discharge and needs to be considered.

The table below summarizes the analytical testing on these samples.

CES Environmental Services, Inc.

4904 Griggs Road
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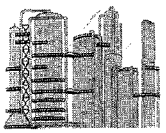
Fax. (713) 676-1676

One Source Evals 0708-14 & 15		
	0708-14	0708-15
	T-116	T-118
Neat		
Oil, vol%	0	0
Solids, vol%	Trace	0
Flash Point, deg F	>140	>140
pH	8	9
phenols, ppm	1	1
Treated		
TOC, ppm	9700	2963
Metals, ppm		
Cd	0.236	0.182
Cr	0.918	0.218
Cu	0.78	0.274
Ni	1.945	1.746
Zn	7.3	5.9

Triple B

Industrial Services, LLC

L.C. Bledsoe
PO Box 752564
Houston, Texas 77075
Office: (713) 946-0002
Fax: (713) 946-0130



Chemical Cleaning
Tank Cleaning
Hydro-Blasting
Vacuum Service
Soaps and Detergents

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/02/08

From: Miles Root

Lab Memo: 08-122

Subject: **Triple B Industrial Evaluation 0708-03 – Additional Second Sample**

A second sample of water from Triple B Industrial has been evaluated for potential processing at CES. This sample is evaluation 0708-03, an additional second sample, and is water from the cleanup of spilled grain and oil from a barge. This sample represent only around a drum quantity of material. My earlier lab memo 08-119 reports the first sample from this supplier. Overall, this water is again acceptable for processing at CES, but has a high TOC and needs to be surcharged for such.

This sample has a pH of 9 and contains only a trace of solids. There are no oils visible in this sample. The water treats easily and has no issues. The treated water has low phenols and acceptable metals, but is high in TOC at 39,290 ppm. A minimum charge of $.27/gallon should be acceptable for us to make money on this stream.

The table below summarizes the test results.

Triple B Industrial Eval 0708-03	
Neat Sample – 2nd Sx	
pH	9
Solids, vol%	trace
Oils, vol%	0
Treated	
TOC, ppm	39,290
Phenols, ppm	0
Metals, ppm	
Cd	0.031
Cr	0.000
Cu	1.192
Ni	1.484
Zn	0.246

CES Environmental Services, Inc.

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

To: Gary Brauckman
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/02/08

From: Miles Root

Lab Memo: 08-121

Subject: **Midstate Evaluation 0708-07**

A sample of oily water from Midstate has been evaluated for potential processing and oil recovery at CES. This sample is evaluation 0708-07 and is a tank bottoms type of material from tank cleaning. The oil that is recovered from this sample by heating and acidification does not meet the chlor-d-tect value of less than 4000 mg/L, and is considerably higher. Values this high cannot be rebutted, so this source of oil is not acceptable for our recovery and use.

CES Environmental Services, Inc.

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Fax. (713) 676-1676

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/01/08

From: Miles Root

Lab Memo: 08-120

Subject: **MTI Evaluation 0708-04**

A sample of biodiesel from MTI has been evaluated for potential blend use processing at CES. This sample is evaluation 0708-04 and is an off-spec biodiesel. Overall, this biodiesel cannot be blended with any of our current streams due to incompatibility, so its acquisition should not be pursued.

This sample was blended with black oil, stream 3, methylene chloride, and another unknown solvent stream in an attempt to check its compatibility with any of our products. This source does not mix with any of the mentioned above. Blending this material with our black oil was noted to produce some type of small particulates that stayed suspended in the mixture. Unless we have a use for this off spec product "as is", then we should not pursue the acquisition of this stream for any type of potential process blending, as it just does not blend with our products.

CES Environmental Services, Inc.

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

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/01/08

From: Miles Root

Lab Memo: 08-119

Subject: **Triple B Industrial Evaluation 0708-03**

A sample of water from Triple B Industrial has been evaluated for potential processing at CES. This sample is evaluation 0708-03 and is water from the cleanup of spilled grain and oil from a barge. Overall, this water is acceptable for processing at CES and has no real issues.

This sample has a pH of 9 and contains no solids. There are no oils visible in this sample. The water treats fairly easily but takes a little longer to phase separate out since the solids that are produced are finer looking than typical. This will not be a processing issue. The treated water has low phenols, low TOC and acceptable metals. A minimum charge of $.12/gallon should be acceptable for us to make money on this stream. Joy indicates there may be a total of one load of this material available.

The table below summarizes the test results.

Triple B Industrial Eval 0708-03	
Neat Sample	
pH	9
Solids, vol%	0
Oils, vol%	0
Treated	
TOC, ppm	2000
Phenols, ppm	5
Metals, ppm	
Cd	0.051
Cr	0.068
Cu	0.094
Ni	1.491
Zn	0.672

BOX # 114

TYPE OF DOCUMENTS: _____

DOCUMENTS OF INTEREST:

- Documents and records from lab
- some caustic related material

VIOLATIONS SUPPORTED: DOT (RCRA) SDWA OSHA

BOX SEARECH BY: GRuff

DATE SEARCHED: 8/25/09

EPAHQ114000001

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
7-17	Sample and offload TRL 270 Oceaneering	done
	Sample and offload TRL 243 H+W	done
	Sample and offload TRL 241 Socotherm	done
	Sample and offload Truck 104 Siemens	done
	• Load KMCO TRL 233 to TK1, pull from poly	
	tank (1000 gallons)	
	• Sample/ Unload 230 DO NOT PROCESS (DAY SHIFT WILL DO MONDAY)	done
	258 unloaded	done
	Tank 7 I added 250 gallons Needs 100 gallons	
	more bleach	
7-20	Offload TRL 271 1/2 load from H+W	done
	Offload TRL 243 WW from Tank wash process	done
	Offload TRL 406 WW from Hexion process	
	Sample and offload TRL 205 H+W (2)	done
	Sample and offload TRL 254 H+W (2)	done
	Sample and check PH on TRL 270 if good offload	done
	(Did not have time for 406)	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
7-15	TRL 271 + 228 TRANSMONTAINE'S SAMPLE AND	
	TRANSLOAD TO TRL 213 + 406 only	
	SAMPLE TRL 243 SOCOTHERM offload AND PROCESS	done
	transloaded 271 into 213	done
	228 did not show	
7-15	Hexion D.bol 271 ✓	done
	Champion 270 ✓	done
TTBonge	pull Sample 233 & 241 wait on QC if good	PROCESS
	Recereve Water from bt = 408 8,000 gallons	
	233 & 241 was good I Discharged and empt'd	
	tank 5. the bleach is working very good	
	tank 7 phenol is about 25 double check	
	We still have about 100 gallons in tote	

FOR GILBERT

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:			Completed By:
7/11/09	USE BLEACH TO TREAT HIGH PHENOL LOAD TO < 50 PPM PHENOL:			
	(1) TRAILER 414 [redacted]			
	(2) NP TK 3 (JOE CARRILLO WILL SEND YOU THE WATER)			
	(3) ANY TANKS THAT HAVE HIGH PHENOL			
	[redacted] 1 GALLON OF BLEACH MUST BE ADDED FOR EVERY			
	1 PPM OF PHENOL			
	EX PHENOL = 150 PPM ADD 100 GALLONS OF			
	BLEACH TO GET PHENOL = 50 PPM			
7/13/09	SAMPLE/UNLOAD	228	SOCOTHERM	done
	SAMPLE	3001	STREAM 3 (ENSURE GROUNDED GLASS BOTTLE)	done
		7253	ALKYLATED PHENOLS (GLOVES, SLEEVES DOWN, GLASS BOTTLE)	done
	[redacted] Reprocessed 12 & 8 the numbers went			
	down. Maybe We can work them down.			
	(Tallis call) left @ 2 good tanks 10 & 9			
7-14	Sample and offload Ameri Forge TNL 206			

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

7-10	~~Sample and offload TRL 241 KMCO Biosludge in the Poly TANK done~~	
	Take water from TK 6 OP 300ppm phenol	
	will offload tomorrow (hold) (put in TRL 238)	L
	Sample and offload TRL 241 Southeast (empty)	
	• ~~TREAT~~ TRL 238 (T/T BARGE) done	
•	Help Salvador	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
7/2	252 Scottherm	done
	205 Maybe	
	(ASSIT Hydro Carb.)	
7.6	Unload one load from FRAC 1002 (load of oil)	done all water
	Received w/w from BT 408 (2:00 AM)	done
	Receive TK 100 Ni 7.75 Zn 5.73 blend best as possible	done
	If tank wash have any water take it	
	tank 10 has low flash water from tk-408	
	also tank 4 has about 2,000 gallons of the	
	low flash water. tk 8 has 1/2 Enviro and 1/2	
	water from tank (top).	
7.7	Close night shift	
7-8	H & W TRL 233 & 241 sample and offload	done
7/9	• LOAD HEXION TO ~~TRL 223 WHEN IT GETS BACK~~	done
	• 223 or 406	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

6:30	Offload And Treat TRL 205 blend with Tk 6 + 9	done
	Sample TRL 243 Hydril may go to Newpark	done
	Pull load from Tank wash tank Treat and blend with	done
	Low flash water from BT 408	
cancel	~~Sample TRL 270 TT Barge and Transload into TRL 221~~	
	Sample TRL 233 H+W offload send if Top layer to heat	done
	Tank in the back	
cancel	~~Sample TRL 256 TT Barge and Transload into TRL~~	
	Sample TRL 206 and offload H+W send Top	layer (done)
	to heat Tanks	
7-1	Sample + unload TT Barge 270 + 256	
	Pull load from Frac 1001 Treat + discharge (1)	done
	~~1 load from from Back~~ 10,000 from HL (7 up)	done
	252 Socotteam	done
	270 went into tank 1 W.W. had no	done
	where to put it.	
	256 went into 222	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
6/26	check PH on TK 5OP (IF need Add Acid)	done
✓+	heat TK 4NP ONLY	done
✓+	Unload TRL 227 in TK 3NP	done
✓+	Turn OFF steam on TK 7OP in 3 hr and	pump de
✓	to TK 3NP	done
✓+	Load TRL 213 from BT 408.	done
✓+	Put the rest of WATER FROM BT 408 into TK 3NP	
✓+	Pump lightends from BT 408 to BT 407	done
✓+	Un load TRL 409 & 221 in to BT 408	(TT Barge)
✓+	Sample 210 (Kinder Morgan) Transload to TRL 416	
6.29	TRANSload TRL 205 into TRL 223 only	done
	Sample and Offload TRL 228 (LA BARGE)	done
	Trichlon Treat TK 4 phenol is 275 ppm	
	Trichlon Treat TK 7 phenol is 150 ppm	
	UNLOAD TRAILER 249 (GATX) - HAS SULFIDE SMELL	done
	Tank 7 is 350 not 150 on phenol	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

6-25	Sample and offload TRL 243 Southern	done
	Sample and offload TRL 252 Biglen	done
	Sample and offload TRL 233 Malin (Sent organic layer to back)	done
	Sample TRL 269 only with MASK	done
	Sample TRL 271 & 205 TTRange	done
	Offload TRL 414	done
	270 H&W ~~[illegible]~~ Sent Organic layer to back	done
	tank 5 is processed phenol is ~~[illegible]~~ 150	
	tank 7 phenol is 500	
6/26	Hold All Biglen Load tonight	done
	Do not discharge TK 8 (Biglen)	done
	TRL 270 +++	done
	256 +++ Unloaded 222	done
6/27	243 & 241 Biglen are in Bay	
	still loaded.	
	Lights went out at 2:00 a.m the breaker	
	box is locked	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
6/22/09	• SAMPLE/UNLOAD 206, 252, 256, 241 BIGLER	done
	• SAMPLE 270 (T&T BARGE)	done
	• ~~PUMP TRL 249 THROUGH SMALL FILTER PRESS (GATX)~~	
	~~& ROUTE WATER TO TANK~~	
6-23	Offload TRL TT 545 U.S. Oil	done
	Bigle sample and offload: 228; 243; ~~[illegible]~~; 205; 252; 241	done
	Sample if load come in TRL 256 (~~TRANSLOAD TO TRL 238~~) 238	done
	271, ~~[illegible]~~	
	load 223 from tank 4 W.W.	done
6-24	Sample and offload Bigler TRL 271; 270; 256; ~~[illegible]~~	
	Sample and offload LABarge TRL 241 Leave for City	done
	Sample and QC GATX TRL 243 if good offload	done
	Tank 10 has Socotherm for City (Contaminated)	done
	104 Bigler	done
	Put One tot of tricloro in trailer 222	done
	and put inside Zn - ~~8.64~~ 10.03	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

6/18/09	SAMPLE / UNLOAD	228	SOCATHERN	done
	" "	270 (x2)	BIGLER	done
	" "	271	BIGLER	done
	" "	256	BIGLER	Unloaded
	" "	252 (x2)	BIGLER	done
	~~RECIEVE WATER FROM BARGE (OP TK 7)~~			
	SAMPLE FRAC TANK 1001, 1002, 1004			done
	Only took 1 load out of 1001 we			
	ran out of bromide. It does not			
	blend the phenol out that much.			
6/19/09	• TRANSLOAD 243 (BATX) TO 249 (Leo will do Sunday)			
	• BLEND 222 1000 GALLONS AT A TIME @ TREAT WITH			done
	OTHER WATER (FROM BT 409 Ni = 0.25 ZN = 0.012)			
	• RECIEVE TK 6 OP TO FRAC TANK (1001) Ni = 2.006 ZN = 9.85			done
	SAMPLE / UNLOAD Bigler TRL 256			done
	Socothern TRL 270			done
	Bigler TRL 271			done
	Bigler TRL 252			done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
6-16	TRL 271 Sample/offload Socotherm	done
	TRL 270 Sample/offload Biglen	done
	TRL 256 Sample/Offload Bigler	done
	TRL 252 Sample/offload Biglen	done
" "	TRL 205 Sample/offload Biglen	done
	- 233 Bigler	done
	Take Water from tank 4 op	done
6-17	Offload TRL LT 1050 (U.S. Oil)	done
	SAMPLE/UNLOAD 271 Bigler	done
	" " 270 DELTA (IF EMULSION SEND TO BACK)	
	*DECANT WATER PHASE	
	" " 256 BIGLER	done
	" " 252 BIGLER	done
	" " 228 BIGLER	done
	104 & 105	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
	SAMPLE/UNLOAD IND(x2) US OIL	done
6/12	SAMPLE/UNLOAD 271, ~~[illegible]~~, 233 ~~[illegible]~~, 243 BIGLER	done
	" " 256 BIGLER (ONLINE)	done
	" " 270 SOCOTHERM	done
	[* SOME BIGLER LOAD MAY CANCEL]	
	CLEAR SLUDGE FROM FRAC TANK 1001	done
	~~[illegible]~~ ~~[illegible]~~	
	(Put a tote of Bleach in 1001)	
6-15	Sample/offload ~~[illegible]~~ ~~Socotherm~~ Bigler 270	done
	Sample/offload 256 Miller check phenol	done
	Sample/offload 252 Bigler	done
	Sample/offload TWM send oil to the back	done
	241 Bigler	done
	233 Socotherm	done
	took water from tank 7 op	done
	The triclero tote almost blew up last night	
	and smells bad.	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

6/10	SAMPLE / UNLOAD 270, 271, 256, 252 BILLER	done
	" " 271 CHAMPION (RO)	done
	" " 270 LUBRIZOL BAYPORT (DISCHARGE NO MORE 1000 GALS)	
	PULL 1-2 LOADS FROM FRAC TANK 1001 (NUMBERS ON BOARD)	
	RECEIVE WATER FROM BT 408 (~1000 GALS)	done
	233 Socotherm	done
	US Oil	done
	104 Oceaning	done
6-11	Sample / offload 206 Biglen	done
	Sample / offload 233 Biglen	done
	Sample / offload 270 Biglen (2) loads	done
	Sample / offload 252 Biglen	done
	Sample / offload 241 Biglen	done
	Sample / offload U.S. Oil Small VAC Truck	done
	256 miller	done
	271 Socotherm	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

	SAMPLE/UNLOAD	256	SUPERHEAT	done
	" "	271	CHAMPION R/O	done
	" "	228	LABARGE (HOLD)	done
	" "	241	BIGLER	done
	" "	205	TORNADO	done
	" "	220	BIGLER	done
	SAMPLE ALL FRAC TANKS AND UPDATE LEVELS			done
		205	miller	
	205 is still in trailer			
	There is a little water left			
	in Distillation cannot remove because			
	of the rubbery stuff			
6-9	TRL 271 Offload			done
	Sample/unload TRL 240 Bigler (2) maybe only			done
	Sample/unload TRL 228 Bigler (2) maybe only 1			done
	Offload TRL 256 And give TRL to Maint.			done
	Sample/unload TRL 206 Bigler			done
	Sample/unload Truck 105 Lubrizol PCB			don
	Maybe U.S. Oil will have one more load			

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
6/3	Sample/Unload 252 Bigler	done
	" 270 Socotherm	done
	" ~~241 Socotherm~~	
	" 205 Bigler	done
	" 206 Bigler	done
	" 104 Oceaneering	done
	PRELOAD 409 FROM [redacted] FINAL TANK	1004 done
6/4	SAMPLE/UNLOAD 205 BIGLER	done
	" " 270 BIGLER	done
	SEND TK 6 TO FINAL TANK 1004	done
	HOLD TK 10 We Discharged tank 10	
	[redacted] We Retreated tank 10	
	got the Zinc at a 1.8	
6/5	252	done
	270	done
	241	done
	243	done

2559 took 1 load from 1002 done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
6/1/09	SAMPLE/UNLOAD 252 BIGLER	done
	" " USOIL (OUTSIDE CARRIER) 1-2 MORE LOADS	done
	" " 271 SOUTHERN	done
	205 BIGLER ✓	done
	PRELOAD ~~[illegible]~~ TRAILER 233 FROM FRAC TANK 1002	done
	OFFLOAD 104 SOUTHCOAST ✓	done
	The Air Compressor in the front & Back	
	is not working. Rick said he will come	
	and fix before going to port Aurthor.	
6.2	TRL 223; ~~255~~; ~~201~~ Preload for Newspark	done Maybe 1 or 2
	Sample and offload TRL 205 (Bigler) Maybe 2 loads	done
	Sample and offload TRL 252 (Bigler) Maybe 2 loads	done
	Sample and offload TRL 271 (Bigler)	done
	Offload and Treat TRL 222 water from the back	good done
	to go when treated	
	Unloaded. 104	done
	Also took Water from tank 7 op	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
5/27	Sample Trl 206 And offload (Bigler)	done
	Sample Trl 243 And offload (Bigler)	done
	Sample Trl 228 And offload (Bigler)	done
	~~[illegible]~~ 105	done
	233	done
	pulled one load from 1001 there is	
	7,000 gallons left in 1001	
5-28	Take ~~[illegible]~~ at lease 10,000 gal from Rolando in TK 6	done
	Sample TRL 228 and offload (Bigler)	done
	Sample TRL 233 and offload (Bigler) 2	done
Alpha	Sample TRL 271 and offload water layer send Top layer to back	done
Alpha	Sample Trl 243 and offload water layer send Top layer to back	done
	Sample TRL 206 and offload (Bigler)	done
	Look for Irvin he have the tote of bleach	
	Irvin D. Anot bring bleach	
5-29	H & H Sample & Unload 270	done
	BIGLER Sample Unload 206	done
	~~241~~ (CRX)	
	252 ~~[illegible]~~	done
	Socotherm 205	done
	104	done

Sent water from tank 10 (Done) done

EPAHO114000018

CES Environmental Services, Inc.

WASTE WATER ~~Special~~ Processing Work List Form

Date:	Job Description:	Completed By:
5-20	Sample TRL 256 and offload (Bigler) 2 loads	done
	Sample TRL 252 and offload (Bigler) 2 loads	done
	If FRAC TANKS are good discharge what you	done
	can/blend with TK 4 A least 1,000 or so with	done
	good low metal that's available	
5-21	Sample TRL 252 and offload (Bigler)	done
online	Sample TRL 228 and offload (Lubrizol) Put in tank	for 1000 gal at time
	Sample TRL 271 and offload (Socotherm)	done
5/22	SAMPLE/UNLOAD 206 SOCOTHERM	done
	" " 271 HEXION-DIBOLL	done
	252 BIGLER	done
5/26	SAMPLE/UNLOAD 241 BIGLER	done
	252 BIGLER	done
	PULL 1-2 LOADS FROM FRAC TANK (SEE WHICH HAS	done
	LOW METALS/TREATABLE) (took one load from 1001) (Zn	high)
	~~RECEIVE WATER FROM BACK (CP TK 7) NI- ZN-~~	
	~~Fed~~ load trailer 221	done
	~~Fed~~ 256 Bigler	done
	unloaded 270	done
	271	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
5-15	Sample and offload TRUCK 205 SEMASYS	done
	Sample and offload TRL 205 Biglen pull in FRAC 1004	done
	Sample and offload TRL 252 Biglen	done
	Sample and offload TRL 256 Biglen Pull in FRAC 1004	done
	Recieve 10,000 gallon of ww from TK1 and Put in frac 1004	done
5-18	Sample and offload TRL 271 (Coastal Chemical)	done
	Sample and offload TRL 256 (Biglen)	done
	Sample and offload TRUCK 104 (Lubrizol)	done
	Sample and offload TRL 270 (Biglen)	done
	Sample and offload TRL 205 (Biglen)	done
	Pull 1 load from FRAC 1004 CANCEL	Canceled
	Sample load 252 and offload (Biglen)	done
	Pressed half of poly tank	done
5-19	Pull possible 2 loads from FRAC 1004	done
	Sample only TRL 243 CANCEL	
	Sample and offload TRL 256 (Biglen) 270 (Biglen)	252 (Biglen)
	Sample and offload TRL 206 (Socotherm)	done
	Empty'd poly tank	done

CES Environmental Services, Inc.

Wastewater **Processing Work List Form**

Date:	Job Description:	Completed By:
5-13	TRL 256 Needs Process allready QC	done
	TRL 270 Needs Process Allready QC	done
	TRL 233 Need Sample and offloaded (1000 gal a day)	
	TRL 206 Bigler Need sample + offload	done
	TRL 252 Bigler Need Sample + offload	done
	Pull one load from Frac 1002 to be process	done
	Received water from Back	done
	233 sent to back per Sam	
5-14	Put TRL 233 water only in Tk 6 send oil back to back	done
	Sample and offload 254 Bigler	done
	~~Sample~~ and offload 270 Bigler	done
	Discharge water from TRL 1001 Tidepool Send	done
	oil to the oil Frac.	
	Sample and offload TRL 206 Bigler	done
	Sample and offload TRL 252 Bigler	done
	Pulled water from 1002 it has	done
	about 3,500 gallons left also	done
	empt'd poly tank. Need to clean	
	Frac 1004 before we can use again	

Please, please, please !!!!!

CES Environmental Services, Inc.

Wastewater [redacted] Processing Work List Form

Date:	Job Description:	Completed By:
5-12	Sample TRL 252 Bigler and offload	Dave
5-12	Sample TRL 206 Bigler and offload	Dave
5-12	Pulled one load from frac 100R	
5-12	Sample TRL 271 Southern and offload	done
	241	Dave
	243	Dave
	206	Dave
	256	Dave
	still need another filter press pump	
	the 3 inch we have is not working	
	very well	

CES Environmental Services, Inc.

[redacted] Processing Work List Form
WASTEWATER

Date:	Job Description:			Completed By:
5/7	RECEIVE WATER FROM BACK NP [redacted] TK1 (NI=2.3, ZN=1.8)			
	Still need to seed tank 1			
5/8	RECEIVE WATER FROM BACK OP TK5 →	NI- 1.028	ZN- 4.782	done
		OP TK7 → NI- 0.09	ZN- 0.0	done
	SAMPLE/UNLOAD	271	SOCOTHERM	done
		256	BIGLER	done
		252	BIGLER	done
		206	Bigler	done
5/11	SAMPLE/UNLOAD	206	BIGLER	done
		256(2)	BIGLER	done
	RECEIVE WATER FROM BACK (NP TK4	NI-	ZN-)	done
	Sample/unload	252	Bigler	done
	loaded trailer 228 to Newpark from			done
	Frac 1004			
5-12	Preload TRL 409 from Frac 1004			
	Load on line TRL 241 need sample and offload			
	Sample and offload TRL 256			
	Discharge tank 12			

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Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

5/5	SAMPLE/UNLOAD	256 (x 2)	BIGLER	done
	" "	206	BIOSELECT FUELS (ON TO BACK)	done
	" "	252	BIGLER	done
	• EMPTY POLY TANK (BIOSLUDGE)			
	• RECIEVE WATER FROM BACK NP TK 4, NP TK 1			done
	(ZN & NI ARE GOOD) → RECEIVE INSIDE			
	• PULL SAMPLES OF FRAC TANKS			
	Could not empty poly tank to much sludge inside,			
	Unloaded 241 and 3 outsiders			
5/6	TRL 205 Hydril Sample only for Newpark			done
	Truck 104 Lybarger Sample and offload to WW			done
	TRL 256 Bigler Sample and offload to WW			done
	TRL 206 Bigler Sample and offload to WW			done
	Outsider Bioselect Sample and offload water to WW			done
	put 7 into 229			
	took 15,000 from Back			done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: | one load here now 4:31pm ↓ | **Job Description:** | **Completed By:**

4-30	205 DANA SAMPLE AND offload to WW	(2) loads done
	228 Need SAMPLE loaded on YARD MAY PROCESS to WW	done
	104 Need SAMPLE loaded on YARD Socotherm	* done
	271 Need SAMPLE loaded on YARD Rectorseal	done
	241 DANA SAMPLE AND offload	done
	256 Bigler SAMPLE AND offload	done
↓	252 Bigler SAMPLE AND offload	done
" "	Recive WATER FROM oil Lab TANKS 5-7	done
5-1	228 ~~Bigler~~ Socotherm SAMPLE AND offload	done
	256 Bigler SAMPLE AND offload ~~(2 loads)~~	done
	252 Bigler SAMPLE AND offload ~~(2 loads)~~	done
5/4	228 Socotherm Sample AND offload	Done
	256 Bigler Sample AND offload	Done
	~~252 Bigler Sample AND offload~~	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/7	• SAMPLE/UNLOAD 256 GATX	done
	• LOAD TRAILER 209 WITH WATER FROM TK 7	done
	(209 WILL HAVE WATER FROM BT 408 IN BACK, OIL GUYS WILL LOAD TRAILER FIRST.)	
	Tk 7 has about 2,000 gallons Left.	
4/8	Unload 259 (Redorseal) – send top layer to back,	done
	Sample/unload TWM – might go to back,	done
	Sample/unload SCOT – might go to back,	done
	Blend off water from frac #1002 if possible	done
	☆ DO NOT discharge tank 12 – hold for city	

EPAHO114000026

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/3	SAMPLE/ UNLOAD	259	HERION (DIBOW)	Done
	~~SAMPLE/ UNLOAD~~ " "	1001	TIDEPORT (OUTSIDER)	
	" "		TWM (MAY GO-TO BACK)	Done
	BRING IN AT LEAST (1) LOAD FROM FRAC TANK 1002 &			
	TREAT			
	SAMPLE	1358	ENVIRO SOLUTIONS (SHOULD GO TO BACK)	Done
4-6	DANA	241	SAMPLE check phenol offload	done
	" "	271	" "	done
	• RECEIVE WATER FROM BACIC (TILT)	(600D)	16,000 gallons	done
	• TREAT WATER IN FRAC TANK 1001 OR 1002 (1/2 TANK			
	AT A TIME ZN 3.59, NI 0.66)			
	GATX	206	(PARKED ON LINE)	done
		259	Enlarge	done
	206 has about 20 gallons left			
	in it. had to unload from top			
	Valve was Crystalized with something			
	1001 is ~~done~~ Empty			

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Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/1	SAMPLE 409 HEXION - BIBOLL (MAY GO TO SGS) LAB-QC	done
	~~BIBOLL~~	
	Sample 252	done
4/2	Sample/unload - 256 - Dana,	Done
	" 205 - Dana,	Done
	" 206 - Dana,	Done
	" 206 - Syntech,	Done
	" 243 - Syntech,	Done
	" 104 - Lubrizol,	Done
	" 233 - Dana,	Done
	** DO NOT discharge tank 7,	
	" ~~243 Martin (might go to back)~~,	
	put Liquid Transport load into frac #1004	Done

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Wastewater Processing Work List Form

Date: 49in - **Job Description:** - 45 **Completed By:**

3/30	Load 213 from frac # 1001 for Newpark,	done
	Load 409 from frac # 1001/1004 for Newpark,	done
	Sample / offload – 271 – Ameriforge,	done
	~~Dana~~	
	Sample only – 241 – Hydril,	done
	Sample / offload – 105 – BJ,	done
	Receive NP tank 4 from oil facility (Ni=3.99 Zn=5.51)	done
	Sample / offload – 271 – Dana	done
3/31	SAMPLE / UNLOAD 256 here DANA	done
	" " 243 here DANA	done
	" " 271 DANA	done
	" " 205 DANA	done
	" " 271 DANA	done
	RECEIVE WATER FROM BACK (TK 5 OP) MIX WITH DANA	done
	LOADS (NI 5.44, ZN 4.74) → 1000 GALS AT A TIME	
	w/ DANA.	
	There is still a little bit left	
	had to unload from the top	

The Valve will not come open. Called Joe Camp In trailer 205

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:			Completed By:
3/26	Dana Waste Water	TT 252		done
	"	TT 228		done
	"	TT 243		done
	"	TT 205		done
	~~Ethyl~~	~~TT 1001~~		
	[redacted]			
3/27	SAMPLE / UNLOAD	IND	HEXION (JOB 83778)	done
	Never Came	IND	HEXION (JOB 83777)	
	SAMPLE/ UNLOAD	241	SYNTECH	done
	" "	243	SYNTECH	done
	" "	205	DANA	done
	" "	256	DANA	done
	BLEND 1000 GALS OF FRAC TANK 1001 W/ HEXION			done
	LOADS – TREAT & DISCHARGE			
	~~Dana~~ UNLOAD	105	BJ SERVICES	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

	Sample/unload – 252 – Syntech,	done
	" – outside carrier – Enviro Solutions [redacted] → 1201,	done
	" 205 – Dana,	done
	" 228 – Dana,	done
	" 241 – Champion R/O,	done
	Receive NP Tank 4 from oil facility (3ppm Zn)	done
	" – outside carrier – Enviro – 1276	done
	Tank 7 is 12.28 on Nickel and	
	6.6 on Zinc tank 4 has	
	same water. This water is	
	from Tank 4 NP oil facility.	
	PRELOAD (409) (213) & (228) w/ WASTEWATER FROM	done
	TK4, TK7, & FRAC TANK 1001	done
	SAMPLE/UNLOAD 228 DANA	done
	252 (D) DANA	done
	SAMPLE IND SOUTHCOAST TERMINALS	done
	(WILL PROBABLY GO TO BACK)	
	SAMPLE 241 SIERRA (MAY GO TO 51:1)	done
	243 Dana Inc	done
	205 Dana	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:			Completed By:
3/19	SAMPLE/UNLOAD	206	DANA	done
	" "	205	DANA	done
	" "	256	DANA	done
	RECEIVE GOOD WATER FROM BACK (15000 GALS)			done
	CLEAN UP (PRESSURE WASH) ~~252 Tanker~~ AREA			
3/20	UNLOAD	LT-372	WATER PHASE ONLY, THEN SEND TO BACK	done
	SAMPLE/UNLOAD	256	DANA	done
	SAMPLE	205	AMERIFORCE (SEND TO BACK)	done
		252		done
3/23	UNLOAD	LT 372	ENVIRO SOLUTIONS	done
	" "	LT 1201	" "	done
	SAMPLE/UNLOAD	205	SOCOTHERM	done
	" "	205	DANA	done
	" "	206	DANA	done
	" "	228	DANA	done
	" "	243	DANA	done
	" "	104	FORCED VESSEL	done
	* TRANSLOAD 414 TO 409			

TRANSLOAD 259 WATER PHASE TO 409, KEEP IN BAY (LOAD STICKS) (USE TOTES

* 259 GOES TO OIL FACILITY ONCE WATER PHASE OUT. YOU WILL NEED TO GIVE THEM 414 ONCE EMPTY (259 LE. → 414)

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

3/16	PULL TANK 4 INTO FRAC TANK 1001 (HIGH METALS)			done
	SAMPLE/UNLOAD	271	DANA	done
	" "	228	DANA	done
	" "	256	DANA	done
	" "	205	DANA	done
3-17	Pulled Sample Hexion BRADY TRL 241 only (REDIMAT SYSTEM)			done
	SAMPLE/UNLOAD	228	DANA	done
	" "	228	DANA	done
	" "	270	DANA	done
	" "	205	DANA	done
	" "	256	DANA	done
	" "	(4522) IND	DANA (BAIC) SOUTHCOAST TERM.	went to tank
3-18	Sample/unload	206 here	DANA	done
	" "	228	DANA	done
	" "	205	Shawcor	done
	" "	205	DANA	completed
	" "	252 here	DANA	done
	" "	105 here	Lubrizol	done
	Retreat Tank 5 After Removing Solids			

tank 5 => still high

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
3/12	Sample/unload — 206 — Dana,	done
	" — 104 — Lubrizol,	CNX
	" — 205 — Dana,	done
	Check 259 and ~~2815~~ 2813 — Transmontaigne	(2813 CNX) Empt, CC
	↳ (if they're not empty pull sample and call Joe),	
	Load trailers 213 and 228 from frac 1004	done
	↳ for Newpark (no more than 5,500 gal, / leave sample in lab)	
	Continue to pull 1,000 gal. from frac 1001 for	done
	each good tank	
3/13	Sample only — 206 — Hydril	done
	Sample/unload — 271 — Packless (might go to back)	done
	" — 205 — Hutchison Hayes	done
	" — 256 — Dana	done
	☆ continue to pull 1,000 gal. (total) per good tank	
	from fracs 1001 and 1002 (go to 1002 when	
	1001 gets empty)	
	Do not take Anymore from 1001 this water	
	is not processing. processed tank 4 four	

times the water still looks bad.

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

3/10	SAMPLE 206 VAM-USA (MAY GO TO BACK)	done
	SAMPLE / UNLOAD 252 SHAWCOR	done
	- BLEND AT LEAST 1000 GALS OF FRAC TANK 1001 WITH	done
	SHAWCOR	
	• PULL WATER OUT OF FRAC TANK 1004 • ~~FORGOT~~ TWO	done
	GOOD LOADS WENT HERE EARLIER TODAY (SHAWCOR &	
	LABARGE)	
	[redacted]	
3/11	Unload water phase from 1001 (Ethyl),	done
	Sample / unload - 206 - Dana	done
	" 228 - [redacted] - Dana	done
	" 241 - [redacted] - Dana	
	☆ pull in 1,000 gallons from Frac 1001 for each good tank	done

CES Environmental Services, Inc.

WASTE WATER [redacted] Processing Work List Form

Date	Job Description	Completed By:
3/5	Load 213 from frac 1002 and 1004,	[redacted]
	Load 409 from frac 1002 and 1004,	[redacted]
	Receive tank 1 from oil facity into frac 1002	[redacted]
3/6	SAMPLE/UNLOAD ~~221~~ 271 GA7X	[redacted]
	" " 241 ALTIVIA (MAY STRAIGHT DISCHARGE)	[redacted]
	PRELOAD [redacted] TRAILERS 228 & 409 FROM FRAC TANK 1002	[redacted]
	THEN 1001 (WHEN 1002 IS EMPTY) ↳ (no more than 5500 gallons)	
	☆ DO NOT DISCHARGE TANK 12 ☆	[redacted]
3/9	~~Add 12 sample bottles each to 2815 and 259 (Hideaway)~~	
	Unload – 241 – Dana,	[redacted]
	Unload – 228 – Dana,	[redacted]
	Sample/unload – 252 – Dana,	[redacted]
	~~Pull 1,000 gallons per tank from frac tank # 1001~~	
	Receive NPTK1 from oil facility (blend half and half with Dana loads)	[redacted]
	☆ Can use water from tank 10 too (can now discharge)	[redacted]
	UNLOAD T104 into FRAC TANK 1001	[redacted]

CES Environmental Services, Inc.

[redacted] Processing Work List Form

WASTE WATER

Date	Job Description			Completed By:
3/2	SAMPLE/UNLOAD	228	DANA	done
	[redacted] " "	IND	TEXAS WATER MGMT.	CNX
	" "	IND	TEXAS WATER MGMT.	CNX
	" "	IND	(MAY BE OILY) GLOBAL ENV. MARINE SVCS	[redacted] done
	" "	IND	(MAY BE OILY) GLOBAL ENV. MARINE SVCS	
	*RECEIVE WATER FROM BACK IN (12000 GAL MAX) FRAC TANK 1001.			done
	[redacted] IF NEEDED PUT REMAINING WATER IN FRAC 1002			
3/3	Sample only – 206 – Hydril			done
	~~Sample/unload – 252 – Martin Transport~~			done
	↳ might go to back			
3/4	Sample/unload – 243 – Champion RO,			done
	206 – Dana,			done
	252 – Dana,			done
	205 – Dana,			done
	105 – Forged Vessel,			not to back
	Receive water tank from oil plant			

CES Environmental Services, Inc.

[redacted] Processing Work List Form

WASTE WATER

Date: **Job Description:** **Completed By:**

2/26	SAMPLE/UNLOAD	[redacted] 252	DANA here	done
	" "	205	DANA here	done
	" "	104	LUBRIZOL (PCB)	done
	" "	271	DANA	done
	~~• TOP OFF 243 FROM FRAC TANK 1001~~			
	• PRELOAD 409 from frac tank 1001			done
	• Receive bullet trailer from oil plant			done
2/27	Sample / unload TWM (might go to back),			~~here~~
	" Ameriforge (trailer # 270),			Canceled
	" Lubrizol (271),	HERE		done
	" Dana (243),	here		done
	" GATX (241),			done
	" Dana (241)			done
	Sample only Hydril (206),			DONE
	Sample / unload BJ Services (105),	HERE		done
	" Dana (252) ←			DONE

Prepare Tote for bleach / Phenol
Let TI

* TALK to Scott 3' pump for filter press

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/28	-RECEIVE TK 4 NP FROM OIL FACILITY (NI 1.13, ZN 3.76)	done
	ABOUT 10-12 GALLONS	
	- SAMPLE/UNLOAD 256 BIGLER	done
	259 BIGLER	done
	205 KMCO (BIOSLUDGE)	done
	228 BIGLER	done
4/29	Sample / unload – 256 – Bigler,	done
	" – 256 – Bigler,	done
	" – 252 – Bigler,	done
	~~" – 252 – Bigler~~	
	" Enviro Solutions (might go back),	done
	☆ Receive tank 1 NiPi from oil facility,	done
	☆ Receive tank 4 NiPi from oil facility	done
	Sample / unload – 105 – Koch	done
	(took 15,000 gallons)	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/23	• RECEIVE TANK 5 FROM OIL FACILITY (10-12K GALLONS)			done
	[NI = 0.167, ZN = 3.41] BLEND WITH BIGLER			
	SAMPLE/UNLOAD	259 X 2	BIGLER	done
	SAMPLE	104	SHAWCOR (MAY GO TO BACK)	
	SAMPLE/UNLOAD	271	OCEANEERING	done
	1001 has 2,500 gallons left.			
4/24	• WORK FRAC TANK 1002 DOWN TO FIT AT LEAST (3) LOADS			done
	TOMMORROW (BIGLER). THIS WATER DOES NOT NEED TO BLEND.			ADD ± 30 GAL
	• SAMPLE/UNLOAD	241	BIGLER	BLEACH done
	• DRAIN WATER PHASE 233 & BLEND WITH BIGLER			done
4/27	SAMPLE/UNLOAD	241	BIGLER	done
		205	BIGLER	done
	• RECEIVE BT 408 FROM BACK (TREAT INSIDE)			done
	• UNLOAD 263 & TREAT			done
	• RECEIVE OP TK1 FROM BACK (FRAC TANK)			done
	SAMPLE/UNLOAD	105	CHAMPION R/O	done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
4/9	Sample/unload – 243 – Bigler,	done
	" – 243 – Bigler,	Completed
	" – 259 – Koch (might go to bak),	done
	" – 228 – Dana,	done
	" – 271 – Dana,	done
	Get rid of as much water as possible from fracs #1002 then #1004 (should be able to blend half and half with good water)	done
	Put the rest of tank 7 in 1002 800 gallons.	
4/13	Unload – 206 – MT Bernard, ← (still in shop)	done
	Sample/unload – 243 – Bigler, ←	done
	★ Should be able to blend both loads half and half with frac tank #1004,	done
	★★ Water from frac #1001 can blend half and half with frac #1002 – bring in and treat as much as possible tonight	done
	7,000 g.	

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:	Completed By:
4-21	DANA – TRL 243,	done
" "	DANA – TRL 228 (TWO loads, SAME TRL) – NIGHT,	done
	[redacted] TRL 241 – Dana,	done
ASAP	~~[redacted] – TRL [redacted]~~ Champion – Trl 228	done
	Bigler – Trl 206,	done
	Discharge as much as possible from frac tanks #1001 and #1002 (all good water)	
	1002 has 4,000 gal.	done
4/22	RECEIVE WATER FROM BACK (JUAN: TK4 ABOUT 11000 GALS), THIS	done
	WILL NEED TO BE BLENDED WITH BIGLER (NI – 1.13 ZN – 3.76)	
	SAMPLE / UNLOAD 252 GATX (ON THE LINE)	done
	" " 205 (x2) BIGLER	done
	[redacted] 243 PECTOR SEAL	done
	DRAIN WATER PHASE OFF 228 & ~~206~~ (TREAT),	done
	LEAVE OIL IN TRAILERS	
	[redacted] Frac tank 1001 has 5,000 gals.	done
	test	

EPAHO114000043

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date: **Job Description:** **Completed By:**

4/16	SAMPLE/UNLOAD	233	BILGER	done
	" "	241	BILGER TRADING	done
	" "	104	LUBRIZOL (PCB)	done
	* TREAT 1/4 TANK TO 3/4	BILGER WITH FRAC TANK 1002		done
	The Scrubber is working now the			
	Valve was shut outside it is now			
	pulling ~~suck~~ Suction.			
4/17	~~SAMPLE~~ 259			DONE
4/17	SAMPLE/UNLOAD	[redacted] 243	GATX	done
	" "	241	BILGER	done
	" "	241	BILGER	done
4/20	SAMPLE/UNLOAD	~~206~~ ~~241~~	BILGER ~~DANA~~	done
	"	~~206~~	~~BILGER~~	
	" "	~~206~~	~~BILGER~~	
	" "	~~243~~	~~DANA~~	done
	~~SAMPLE~~	205	~~HYDRIL~~ (SPS 3)	
	~~SAMPLE/UNLOAD~~	104	~~FORGED VESSEL~~ (MAYBE OILY)	done
	Unload	241		done
	Unloaded	259		done

CES Environmental Services, Inc.

Wastewater Processing Work List Form

Date:	Job Description:			Completed By:
4/14	SAMPLE/ UNLOAD	271	BIGLER	done
	SAMPLE	259	PACKLESS (MAY GO TO BACK)	
	Bring in and treat the rest of the water from			done
	frac tanks #1001 and #1002 (should be able			
	to treat blended half and half)			
4/15	SAMPLE/ UNLOAD	259	BIGLER	done
	~~[illegible]~~	~~259~~	~~BIGLER~~	
	" "	271	BIGLER	done
	* RECEIVE TANK 4 FROM BACK (NI=0.7, ZN=0.2)			done
	THIS CAN COME INSIDE			
	* BLEND 1/2 AND 1/2 [illegible] FRAC TANK 1002 WITH			done
	TANK 4 FROM BACK			
	** drain scrubber knockout drum and clean up			done
	(test scrubber – tape up flex hose)			
	Scrubber doesn't seem to be sucking			

CE
LAB
T-20
8/4/09

CES Environmental Services, Inc.

2
9.5 x 5
47.5 47 1/2

Hydrocarbon Processing Work List form

Date **Job Description** **Completed By:**

7/16	LOAD TRL 210 from Centrifuge TK 80P for U.S. Oil	
	Send Water from BT 408 to WW	
	Off load TRL's 205 + 256 Champion to BT 408	
	Sample TRL 215 Only 2Ach clean Sludge Judge	
	Pulled 2000 gal from TK 2 NP then Top off From TK 8	
	Pulled Sample from Dist Unit (Base Oil)	
•	TRL # 256 has half of load. don't fit in BT 408.	
7-17	Put TRL's 409 + 256 in BT 408 (Champion's)	
	Off LOAD TRL 7253 product load Hydrocabon Eng.	
	Put TK 4OP first valve put in BT 407 Top off with TRL Lightends mix and pull sample for Lab	416
	Put Bottom from TK 20P to TK 8OP	
	UnLoad Sandrock in TK 2 OP heat w/Acid 205	
7-20	MiX TK 11 3 to 1 with lightend into BT 407 take Sample	
	Keep heating BT 40P	
	Pulled sample from TK 2 OP Have lab test it. if good Send tonight if not in the morning	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
	SHIFT 2pm to 11:30 pm	
7-14	Sample And offload FARAK to heat 243	TK 70P
Cancel	Sample And wait for QC on TRL ~~220~~ 228 KMCO ~~KMCO~~	CANCEL
	Load TRL 210 from Tk 10P or 80P for U.S. Oil	
	Sample TRL 213 + wait for Instruction	
	Load TRL 410 from BT 408 Lightend only	
	Pull A load from FRAC TANK to BT 408 (heat)	
7-15	Fill BT 407 with black oil / blend lightend Mix TRL 410	
	pulled Sample for QC (black oil from T-90P to OFF TK OP	
Finish	Top off Dist Unit from Tk 30P	
	Load Trl 210 From Tk 10P	
	Heat BT 408 (slow)	
	Check the Base oil before living	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
7/13	• UNLOAD TRC# 271 IN TO TK 60P ADD ACID AND HEAT	
	• UNLOAD TRC# 252 IN TO BT 407	
	• UN LOAD TRK # 104 IN TO BT 407 (200 GALLONS OF GAS	
	• TOP OFF BT 407 FROM TK 90P AGITATE AND SAMPLE. (WITH NITROGEN)	
	• TRANS LOAD TRC# 226 (METHANOL) IN TO LEE'S TRACER	
	• LOAD TRC 210 FROM TK 20P TO U.S OIL RECOVERY. (SAMPLE)	
	• CHECK WITH CHRIS FOR WATER FROM TK TOP IF IS GOOD SENT TO FRONT.	
	TRC# 226 HAS ABOUT 50 to 70 GALLS OF METHANOL	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

salvador only

Date	Job Description	Completed By:
7-10-09-		
7/10	[illegible]	[illegible]
	Sample 271 FAROUK try to offload if u have room	
	Champion Loads in TRL 256 + 270; 205 low flash	
	Load Alamo from TK 4OP	
	Heat TK 7OP and Add Acid (check PH)	
	SEND OP TK6 TO FRONT (w/w)	
7/13	Unload TRL 271 Heat Tank (6OP)	
	Unload TRL 252 BT 407	
	Unload TRL 104 BT B07 (200 GALLONS GAS)	
	Top off BT 407 from TK 9OP. (Aerter + Sample)	
	Load Lee's Truck from TRL 226 (methanol)	
	check with Chris for water from TK 7OP	
	to Sent the water to front.	
	Load TRL 210 from T-20P to US Oil	
	(SAMPLE)	

[illegible]

(1/9 GAS)

EPAHO114000050

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
7/8	TRANSFER TK 1NP TO TK 10P (2 min only)	
—	[redacted] TRANSFER CLEAN OIL FROM TK 1NP	
	[redacted] TO TK 90P	
—	Add 30 Galls of Acid in BT 408 (heat 160 / 25)	
—	Unload TRL #270 in TK 1NP ([redacted])	
—	HEAT TK 5OP & 7OP	
—	HEAT TK [redacted] 1OP	
—	change Carbon from [redacted] NP	
7/9	• Add Acid and Heat TK 1 NP.	
	• Sent Water from TK 7OP to Front.	
	(NI - 2.141, ZN - 5.13)	
	• PUT 2000 GALS TRL 252 TO BT 407, PUT	
	4000 GALS TK9 OP TO BT 407. AGITATE & SAMPLE (2ND Value)	

CHECK CARBON BEFORE HEAT! CHANGE BEFORE HEAT.

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
7/6/09	• SEND BT 408 TO FRONT AFTER HEATING UNTIL 10:00 AM	
	• LOAD BT 408 FROM FRAC TANK	
	• LOAD TRAILER 270 & 271 INTO FRAC TANK (LOAD TEST INTO HEAT TANK)	
DAY SHIFT TOMORROW	• TRANSLOAD 256 (SHELL) TO TRAILER 406 (AFTER WASH)	
	[redacted]	
	[redacted]	
	• SEND TK 7 OP TO FRONT (WATER), CHECK OIL	
	• UNLOAD 241 (TX OIL TOOLS) – CHECK LAB (GO TO HEAT TANK)	
	• HEAT TK 5 OP, CHECK pH	
	• UNLOAD 205 (DIXIE) – CHECK LAB (GO TO HEAT TANK)	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
7/2	Add Acid TK 80P (Heat & Mix)	
—	Sent water from BT 408 to Front	
—	Unload TRL 1276 in to BT 408 (heat 175°)	
—	check PH on 70P (heat 180°)	
—	Unload The Rest of the Truck on TK4	NP
	check PH & Heat	
—	Transfer TK 90P in to BT 407	
—	~~Pick~~ Pick up the Trash & clean around the Tanks	
—	Unload TRL 228 (Shell) in the Dist Unit	
—	Unload TRL 205 (Champion) in heat tank	(4NP.)
—	Sample Only TRL 233 (Don't Unload)	
-	Unload Sun Coast in heat tank T 50P.	

600 - 635

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CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date: **Job Description:** **Completed By:**

7/1	Unload Tec 228 into 4 OP	
	Unload Sun Coast in to 7 OP. (check pH) (3-4 pH)	
	[redacted]	
	TOP OFF BT 408 from frac Tank	
	[redacted]	
	Sample Unload Tec 271 in to 4 OP	done
	Mix Sample Tk 3 OP (Dr. Sam)	
	pump Vac Box 610 into Box 635 (only half)	
	Sent Water from T 7 OP To front	
	Unload 241 in T 7 OP	
	233 went into tank 6 (Lyntends)	
	205 & 241 went into tank 7 OP	
	Sent 10,000 gallons to front	
	tank 3 OP Need more Dr. Sam's	
	Tank 7 OP has room for one more	
	truck	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
6/29	*LOAD TRAILER 270 & 256 TO FRAC TANK (T/T BARGE),	
	SAMPLE BEFORE LOADING	
	* SAMPLE TRAILER 241, LOADED TO HEAT TANK IF GOOD	S-7
	• TRANSFER OIL FROM OP TK 4 TO OP TK 9	
	• ADD 2000 GALLONS FROM 416 (LIGHT ENDS) TO BT 407 - MIX	AIR-MIX
	AND SAMPLE	
	• UNLOAD 252 (CHILLER) TO HEAT TANK	
	• FILL BT 408 FROM FRAC TANK (RINSE WATER)	
	• UNLOAD ENVIROSOLUTION TO TK 5 OP	
	• CHECK pH TR 6,5 AND HEAT	
6/30	• ADD 3000 GALLONS FROM OP TK 9 TO BT 407 & 2000	
	GALLONS FROM 416 (LIGHT ENDS). AGITATE AND SAMPLE	
	• LOAD TRAILER 263 FROM TK 8 OR TK 1, SAMPLE TO LAB	
	• LOAD TT BARGE (270, 256) TO FRAC (AFTER FILL UP BT 408)	
	• VOID ENVIROSOLUTIONS TO TK 7 OP TANK	
	• SEND TK 6 w/w OP TO FRONT	
	• CHECK TK 5 OP, HEAT. CHECK pH TANK 7	
	• SAMPLE 234 (LET SETTLE)	

6" — 3"

243 HEAT TANK

CES Environmental Services, Inc.

Hydrocarbon.

Processing Work List Form

Date: **Job Description:** **Completed By:**

6.25	Sample: TRL 908 select and offload TK 4 NP	done
	Offload Organic Layer in TK 4 NP (200 gal) from TRL 220	
	Top off TRL 222 from T-50P	done
	Load TRL 414 from T-60P.	WATER ONLY
	Unload TRL 221 has light ends Unload into	done
	BT 407 Top off from T 90P.	(Filter)
	SAMPLE TRL 234 + 210 only kinder Morgan	done
	205 into 406 409 Trans Load	done
	271 into 401 221 Trans Load	done
	Unload 0.1 layer 233	done
	Unload 2 Envir. Solution in to heat Tank	
	406 was full so we used 221 it	
	is not on the dispatch for tomorrow.	
	T&T Barge	

ARIZAGA Serv.
Environmental

Check pH on TK 5OP (if need add Acid.)
Heat TK 4NP. only

TRC 227 unload TK 3NP.

T 7OP. Shut down Stream 2hr. pump water to TK 3NP.
213. esta ~ basia. yenala- de la. BULLET.
T.R. 408

FROM BT408 Put the Rest of waste water in TK3NP

- LOAD LE TO BT 407 (FROM BT 408)
- LOAD 409, 221 TO BT408 (TT BARGE)
- ~~[illegible]~~ SAMPLE 210 (KM LIGHT ENDS), TRANSLOAD TO [illegible] TRAILER 416

CES Environmental Services, Inc.

Hydrocarbon.

Processing Work List Form

Date:	Job Description:	Completed By:
6-23	TRANSload TRL 414 into 223	
	Offload (Region) outsider KMCO into TRL 409	done
	Salvador 104 - y - 105 - bon. ch. el. Tanque	
	6. of. (la. Traila 913. aravala	de
	Yenar. del. TK. 4. NP.-) Ponles.)	acido
	al. 105 Tanques. 7 - 5 - y 6. of. - 45.	
	gallones de acido ala. TRL 408 heat 175°	
6-24	-TRANSload TRL 205 into ~~414~~ 406 (KMCO FOR BT 408)	done
	-TRANSLOAD 210 & 221 INTO BT 408 (MAKE BOTH FIT).	done
	HEAT (NO ACID) → CHECK pH	done
	-Sample and QC SunCoast (UNLOAD TO HEAT TANK) (TK7)	done
	- UNLOAD SELECT TRAILER 909 IF LAB SAYS SO TO HEAT TANK (TK7)	
	- MONITOR TK8 & TK6 (ON HEAT)	done
	Unload TRL 227 into FRAC TANK	done
	227 still has 1/4 of gassy Water Did not	
	Sit in frac tank. (per clint)	

CES Environmental Services, Inc.

Hydrocarbon.

Processing Work List Form

Date:	Job Description:	Completed By:
6/19/09	Acid and Heat Tank 4 N.P. B.T. 408	Tank 7 O.P.
Sample	Select trl. 920 and unload to Tank 7 O.P.	
Sample	Unload trl. 933 to Tank 3 O.P.	
	Trans Load	
	TRANSLOAD 205 (KMCO) TO 221	
	Sent water from Tank 6 O.P. to Fractank 1001	
	Unload trl. 928 to Tank 6 O.P.	
	Unload trl. 206 to Tank 6 O.P. Acid and Heat	
6/22/09	• TRANSFER WATER FROM OP TK 7 → 213 (TOP OFF WATER	done CC
	FROM OP TK 5), CHECK pH IS 4 OR MORE. IF NOT ADD (PH. 6)	
	15 GALLONS CAUSTIC	
	• HEAT & ACID TK 6 OP	
	• CHANGE CARBON (TANK 5/6)	done CC
	• PULL 2000 GALLONS FROM ~~VACUUM BOX~~ BT 408 AND	done CC
	PUT INTO VACUUM BOX 610 (NEXT TO BT 408)	
	• LOAD 205 INTO. BT 408	done CC

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CES Environmental Services, Inc.

Hydrocarbon.

Processing Work List Form

Date:	Job Description:	Completed By:
6/17/09	Load: Fire bird from trl. 409	
Sample	Unload select trk into tank 1 N.P.	
	Acid and Heat Tank 5 O.P. 1 N.P.	
	Sample trl 263 [redacted]	
	trans load trl. 241 into 213 [redacted]	
	LOAD 104 (T3 ENERGY) TO HEAT TANK	
	LOAD 105 (POLLED VESSEL) TO HEAT TANK	
6/18/09	Unload select to tank 6 O.P.	
	Acid and Heat tank 1 N.P. 6 O.P.	
	Sample Tank 9 O.P.	
	trans load trl. 416 to Hydrocarbon trl	
	• LOAD TRAILER 406 FROM OP TK9 TO GO TO US OIL. SAMPLE	
	AND TAKE TO LAB.	

CES Environmental Services, Inc.

Hydrocarbon. **Processing Work List Form**

Date:	Job Description:	Completed By:
6/15/09	Sent water from O.P. Tank 7 to the Front	
	Unload trl. 271 to Tank 4 N.P.	
	trl. 239 call Lab	
	trl. 243 unload tank 4 N.P.	
	Load trl 209 from Tank 5 O.P.	
	Heat and Acid Tank 6 O.P. 4 N.P.	
6/16/09	Sent water to the front Tank 4 N.P.	
	Heat only Tank 6 O.P. 7 O.P.	
	Load TRL 249 FROM BT 408	
	Unload TRL 239 into BT 408	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
6/11/09	• [redacted] Transfer Tank 11 O.P. to B.T.	407
	Sample to the lab	
	• Transfer bottom from tank 3 O.P. to Tank 1 O.P.	
	• Acid and Heat Tank 4 N.P.	
	• LOAD 209 FROM OP TK 5 FOR US OIL - PULL FROM MIDDLE 2" VALVE	
6/12/09	Unload 105 Tank 7 O.P. or 1 N.P.	
	Acid and Heat Tank 6 O.P. 7 O.P.	
	Load trl. 209 from O.P. Tank 5 Pull from middle 2" valve	
	Load trl. 406 from O.P. Tank 5	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
6/9/09	Transfer water from Tank 4 N.P. TO	
	Tank 3 N.P.	
	Acid and Heat Tank 1 N.P.	
	Heat only Tank 7 O.P.	
	Transfer TRL 252 into TRL 409 - Tankwash will clean	
	Trailer 409 First	
	LOAD TRL 406 from Tk 1 OP for 9.S.O:1	
6/10/09	Unload 104 TO Tank 7 O.P. Acid and Heat	
	Transfer to the front water from B.T. 408	
	~~[illegible]~~	
	strap Trl 416, 410, 213	
	PRELOAD 228 & 221 FROM NP TK 3 CHECK pH	
	AND SAMPLE. MAKE SURE NO OIL!	
	ENSURE 209 IS LOADED FOR OS OIL, SAMPLE TRAILER	
	AND BRING TO LAB	
239	TRL offload into BT 408 After sending water to the	
	front	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date: **Job Description:** **Completed By:**

6/4	Unload Select TRL 908 in Tank 4NP	
	Unload Proler TRL ~~206~~ 252 in Tank 4NP	
	Acid and heat Tank 4NP	
	Heat Only Tank 7 OP	
	Load 2 Trailer from Tank 4NP	
	Trailer 409 and 406 to New park	
6/4	Unload Enviro Solutions in to heat Tank.	
6/5/09	Acid and Heat tank 4 N.P.	
	Heat 7 O.P.	
	TRANSfer Water from BT 408 into TRL 414	
	Load BT 408 from TRL 228 & 233 And heat Acid	
	TRANSfer TRL 222 into TRL 410 clean holds	
	RECEIVE SULFURIC ACID IN POLY TANK FROM TRL 208	
	PUMP MATERIAL FROM VAC BOX TO ROLL OFF BOX (NO MORE THAN 1/2)	
	206 260 200	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
6/3/09	Load trl. 222 from Dist. 2 samples	
	sent water from tank 7 O.P. to the front	
(filter)	transfer oil from tank 11 O.P. to tank 4 O.P.	
	Sample trl. 213	
	Acid and Heat tank 4 N.P.	
6/4/09	~~Sent water from tank 7 O.P. to the front~~	
	Unload Select trl. 908 to Tank 4 N.P.	
	Unload Proler trl. ~~xxx~~ 206 to Tank 4 N.P.	
	Acid and Heat to tank 4 N.P.	
	Heat only Tank 7 O.P.	
	2 trailer from tank 4 N.P.	
	409 ~~$ 233~~ to go to New Park	
	406	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
6/1/09	Acid, and Heat TO tank 7 O.P., 6 O.P. 4 N.P.	
	Unload & select trl. 908 TO tank 4 NP	
	Unload TOP Lightends from trl. 264	TO B.T. 407
	(No rag, no water) Mix and Sample	
	Unload the Bottom of trl. 264 to Heat tank	
	2 Samples from trl. 414 to the Lab	
	Load Dist. tank trl. 222 (filter)	
6/2/09	Unload farouk trl. 243 TO tank 4 N.P.	Acid Heat
	Neat Tank 6 O.P. (No Acid)	
	transfer TOP Lightend from B.T. 408. TO	B.T. 407
	transfer Oil from Tank 9 O.P. to B.T. 407 Mix	
	Sample (filter)	
	SEND TK 7 OP TO FRONT	
	SAMPLE & UNLOAD SELECT TO TK 4 NP (TRL 908)	
	Sample trl. 213	
	Sample and offload Truck 105 (Timken Boring)	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
5/28/09	Sent water To the front from B.T. 408 and T60.P.	
	ACid, Heat 20 gal. Dr sam Tank 4 N.P.	
	Heat tank 70.P. 30.P.	
	Heat water to Tank 6 O.P.	
	TAKE OIL PHASE FROM TRL 243 & 271 TO HEAT TANK (ALPHA MAR).	
5/29/09	Sent water to the front from Tank 4 N.P.	
	Tank 10 O.P. * TK 4 NP → TK 3 NP * SAMPLE TK 10 NP BEFORE SENDING	
	Load 4000 gal from Top 2" Val Tank 10.P.	TO
	trl. 409 and Top of from bottom	Tank 4 O.P.
	Sample to Lab.	
	Top of trl. 239 from Tank 3 N.P. Sample	
	Heat Tank 6 O.P., 7 O.P. (No Acid)	
	10 gal emulsion breaker to tank 7 O.P.	
	~~transfer fuel~~	
	trans load oil from tank 11 O.P. To B.T. 407 (filter)	

CES Environmental Services, Inc.

Hydrocarbon **Processing Work List Form**

Date:	Job Description:	Completed By:
5/27/09	Unload trl. 270 Proler to tank 4 N.P.	
	Unload Select trl. 909 to tank 4 N.P.	
	Sent water from tank 4 N.P. to the front	
	Sample trl. 271	
	load trl. 223 from tank 3 N.P. Sample	
	Acid and Heat to tank 4 N.P. 6 O.P. 7 O.P.	
	~~[illegible]~~ Heat B.T. 408 (No Acid) 170°	
	30 gal. Dr. sam to tank 7 O.P.	
	Unload trl. 241 Tank 7 O.P. or 6 O.P.	
	~~Unload Delta (86656) into trl 104~~	
	Unload Delta into 104	

CES Environmental Services, Inc.

Hydrocarbon.

Processing Work List Form

Date:	Job Description:	Completed By:
5/26/09	[redacted] (SAMPLE)	
	[redacted]	
	[redacted]	
	trans load from top of B.T. 408 grease to Box	
	no water	
	Unload trl. 233 To B.T. 408 (NO ACID) Mix and Heat	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	[redacted]	
	LOAD 233 FROM [redacted]	
	[redacted]	

CES Environmental Services, Inc.

Hydrocarbon. **~~Processing~~ Work List Form**

Date:	Job Description:	Completed By:
5/26/09	Transload global into trl. 259 (SAMPLE TO LAB)	
	Unload trl. 104 into Heat Tank	
	Transload Lightends from B.T. 408 to trl. 264	
	trans load from top of B.T. 408 grees to Box	
	ao water	
	Unload trl. 233 To B.T. 408 (NO ACID) Mix and Heat	
	Transload oil from Tank 11 O.P. to Tank 4 O.P.	
	Unload 1500 gal. from trl. 249 To Tank 4 O.P.	
	Acid Heat emulsion Breaker (25gal.)	
	SEND WATER TK 7 OP TO FRONT	
	UNLOAD 234 TK 7 OP AFTER SENDING WATER	
	LOAD 234 FROM TK 5 OP (WATER ONLY), SAMPLE & CHECK pH	
	SAMPLE/UNLOAD 271 (HEW) TO HEAT TANK	

vertex

CES Environmental Services, Inc.

Hydrocarbon

Processing Work List Form

Date:	Job Description:	Completed By:
5/21/09	Sample 243, 233 dont unload	
	Heat only to Tank 5 O.P. 7 O.P.	
	Acid and Heat B.T. 408	
	Load Midstate from Tank 4 O.P.	
	Unload trl. 206 to Tank 5 O.P.	Heat
	~~change carbon Drums New plant~~	
5/22/09	Unload select to Tank 5 O.P.	Heat
	Heat acid tank 7 O.P.	
	Heat tank 4 N.P.	
	~~[illegible]~~	
	Sample trl. 259 (SHELL GLOBAL) sample only	
	Sample trl. 234 (VERTEX) sample only	
	Leave TRL 239 PARK in the bay	
	Trl. 228 (AMERIFORGE) oil rag to Heat tank	
	TRL 256 (KMCO) put into TLR 414	
•	SEND WATER IN BT 408 TO FRONT, PUMP OUT SLUDGE	
	TO VACUUM BOX.	
•	LOAD TRAILER 243 TO BT 408. HEAT & ACID	

CES Environmental Services, Inc.

Hydrocarbon

Processing Work List Form

Date:	Job Description:	Completed By:
5/19/09	Unload 233 to tank 4 N.P.	
	Unload 254 to tank 4 NP Acid and Heat	
	25 gal. Dr. Sams to tank 1 NP Heat	
	transfer B.T. 407 to tank 8 O.P. and rinse	
	From Tank 9 O.P. Top 2" Val Transfer 100" to	
	B.T. 407 Unload highend from trl. 414 to	
	B.T. 407 Mix and sample	
	-LOAD BOTTOM RAG LAYER OF TRL 414 TO BT408	
	- SAMPLE TRL 243 & STRAP	
5/20/09	transload global to trl. 406	
	~~Unload Proler trl 228 tank 5 O.P. and 7 O.P.~~	
	Acid and Heat tank 5 O.P. and 7 O.P.	
	Unload Proler (228) B.T. 408 Acid and Heat	
	Unload TWM to tank 5 O.P.	

CES Environmental Services, Inc.

Hydrocarbon. **Processing Work List Form**

Date:	Job Description:	Completed By:
5/15/09	Unload trl 104 Tank 4 N.P. Acid and Heat	
	Heat Tank 7 O.P. and trl 254	
(10000 GALS)	Sent ~~Sand~~ water from Tank 1 N.P. to the from	
	Unload trl 923 to Tank 4 O.P. (filter)	
	Transfer from 2" valve Tank 3 O.P. 86 inch. to	
	Tank 4 O.P.	
	Unload 1500 gl. from trl 249 to Tank 4 O.P.	
	Heat and Mix sample	
5/19/09	Acid and Heat Tank 1 N.P. and 15 gal. Dr. Sam	
	change carbon Drums set 1, 3	
	Don't ~~Take~~ Move trl 254 leave there	
	Heat Tank 2 O.P.	

CES Environmental Services, Inc.

~~Special Processing~~ Work List Form

Hidro carbon

Date: **Job Description:** **Completed By:**

5/13/09	Sent water from Tank 7 O.P. To the front	
	Unload trl. 105 Tank 1 N.P.	
	Heat and Acid Tank 1 N.P.	
	Heat only Tank 1 O.P. 8 O.P.	
	Pul 3 samples trl. 410	
	LOAD TRL 7293 TO OP TK 6	
	TRANSLOAD 3000 GAL FROM OP TK 6 TO OP TK 4	
	TRANSLOAD TRL 227 TO OP TK 4	
	HEAT & MIX OP TK 4 THEN SAMPLE	
5/14/09	Mix air to BT 407 Sample	
	Acid Heat Tank 1 N.P.	
	30 gal ~~Ferric~~ ferric and Heat Tank 5 O.P.	
	Unload trl. 241 tank 1 N.P.	
	transfer 5000 gal. from Tank 6 OP. to Tan 4 O.P.	if.
	need top of tank 4 O.P. from Tank 3 N.P.	
	Mix. and Heat to 140°F and Sample	
	Off load TRL 233: 0:1 layer in Heat TANK	
	OFFLOAD TIDEPORT TRL 1001 TO HEAT TANK AFTER W/W GETS	
	WATER	

CES Environmental Services, Inc.

~~Special Processing~~ Work List Form

Hydro carbon

Date: **Job Description:** **Completed By:**

5/11/09	Unload trl. 205 tank 5 O.P. Acid and Heat	
	Unload trl. 270 to Dist. tank (filter)	
	transfer B.T. 407 tank 8 O.P.	
	Transfer Lightends from Top B.T. 408 to B.T. 407	
	Sent to the front water tank 4 W.C. (No water no rag)	
	Unload trl 264 to tank 3 O.P. Heat and Emulsion (35 gal. Breaker)	
5/12/09	Unload trl. 205 Tank 7 O.P. or 5 O.P. Acid and Heat	
	Unload trl 271 (Farouk) tank 5 O.P. Acid and Heat	
	transfer B.T. 407 to B.T. 408 Rinse B.T. 407	
	transfer Tank 11 O.P. To B.T. 407 Trans load 3000 gl.	
from Top	from Trl. 414 to B.T. 407 punt air to mix and Sample	
	to the lab	
	Unload trl 222 to Tank 4 O.P. (filter)	
	transload 5000 gl. from Tank 6 O.P. to Tank 4 O.P.	
	Heat and mix Tank 4 O.P. and sample	

CES Environmental Services, Inc.

~~Wastewater~~ Hydrocarbon Processing Work List Form

Date:	Job Description:	Completed By:
5/6/09	Unload Enviro solutions to BT 407	
	Acid Heat Tank 4 N.P.	
	Sent to the front water Tank 5 O.P.	7 O.P.
	load trl. 271 water to new park	From T1 O.P.
	HEAT OP TK 6 & MIX WITH AIR, THEN TOP OFF OP TK4	
	HEAT & AGITATE OP TK 4	
5/7/09	transload trl. 259 to trl. 416 (Filter)	
	transfer good oil tank 1 O.P. to Tank 9 O.P. (Filter)	
	Acid and Heat Tank 5 O.P. (sample)	
	Sent to the front water Tank 1 N.P.	
	Unload trl. 105 tank 7 O.P. (Pooler)	
	CHANGE CARBON DRUMS	
5/8/09	Sent water to the front Tank 5 O.P.	7 O.P.
	transload trl. 270 to trl. 264	
	Unload trl. 229 to B.T. 408	
	Transfer 3000 gal. from Tank 3 N.P. to tank 4 O.P.	
	Top of Tank 4 O.P. from Tank 6 O.P.	
	Heat and Mix pul sample to Lab.	
	Unload trl. 209 Tank 6 O.P.	

Acid and Heat Tank 4 N.P.
Mix and Heat Tank 3 O.P.

CES Environmental Services, Inc.

~~Wastewater~~ Hydrocarbon Processing Work List Form

Date: **Job Description:** **Completed By:**

5/4/09	Unload Trl. 205 (Broler) Tank 4 N.P.	
	Unload Trl. 241 (Broler) Tank 4 NP Acid and Heat	
	Sample Trl. 271 do not off load	
	Sample Trl 206 And offload (Miller)	
5/5/09		
	Sent water to the front Tank 4 N.P. 1 N.P. (filter)	
	if good oil on Tank 4 N.P. transfer to Tank 11 O.P.	
	Unload Trl 228 Tank 4 N.P.	
Sample	Unload Trl. 271 Tank 4 N.P.	
	Sample Unload Trl. 270 Tank 4 N.P.	
Acid	Heat Tank 4 N.P. 7 O.P.	
	Heat 5 O.P. No acid	
	Unload Enviro Solution Tank 7 O.P.	
	Unload 241 Tank 1 N.P. Acid Heat	
	Unload 205 Tank 1 N.P.	
	UNLOAD/PUMP SLUDGE FROM BT 408 TO VACUUM BOX	
	LOAD 409 INTO BT 408 (LEAVE SOLIDS IN TRAILER)	
	PRELOAD 264 FROM OP TK8 FOR US OIL	
	Offload oil layer Trl 206 to black oil	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/28	Unload trl 104 (200 gal.) Tank 7 O.P.	
	Unload trl 252 Tank 7 O.P.	
	Unload Sea Coast To Tank 1 O.P.	
	Sea water to the front Tank 4 N.P.	
	Unload Tide Port Distribution Tank 3 N.P.	
	Unload trl 105 Broker Tank 4 N.P.	
	Acid and Heat tank 1, 4 N.P. 7 O.P.	
	~~Fill trl 211 to Tank 6 O.P.~~	
4/29	Sent to the front water Tank 4 N.P.	
	Sent water to the front Tank 1 N.P.	
	Unload trl 205 (Broker) Tank 4 N.P.	
	Trans load Top Light ends from B.T. 408 to	B.T. 407
	Trans load Bottom B.T. 408 To Box	
	Unload trl 259 to B.T. 408 Acid and	Heat
NOT GOOD OIL	load trl 263 from Bottom Tank 4 O.P. (No water)	
	[redacted] Heat Tank 7, 5, 1, 0 P check P.H.	
	Acid Heat Tank 4 N.P.	
	Trans load tid port to trl 222	
	Unload tid port to Tank 3 N.P.	

TRANSLOAD 270 → 1077 (TRAILER TO BE TOPPED OFF WHEN 270 RETURNS TONIGHT)

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/27	Sent water B.T. 408 To the front	
	Unload Trl 206 BT. 408 and Heat + Acid	
	Sample Trl 270 and top off. Trl 6964	
	Unload Trl 243 Tank 1 N.P. or 5 O.P.	
	Unload Trl 259 and 271 Tank 9 O.P. (filter)	
	Transload 256 to Trl 264	
	load Trl 263 from Tank 1 O.P. (water no oil)	
	Send ther rest of Tank 1 O.P. to the front	
	transload the oil from Tank 1 O.P. To Tank 8 Of	
	Acid and Heat to Tank 1 N.P.	
	Load 222 (base oil) to Smitty's (outside	
	Unload. 105 - To. TONK-5. transporter).	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/22	Sample trl 271 Do nat offload	
	Sample trl 206	
	Transfer Tank 3 N.P. to Tank 1 N.P. Acid and Heat	
	trans load AA Affordable to trl 223	
	Acid and Heat Tank 5 O.P. and Bullet trl 408	
	Send water to the front Tank 4 O.P.	
4/23	• unload 252 proler Tank 1 N.P.	
	• Sample 270 Do nat off load (KINDER MORGAN)	
	• Sample Box 25115 and 25224 (ever green Box)	
	liquid Part	
	• send to the front water tank 5 O.P.	
	• trans load Top 3 Ft. from BT 408 To BT 407	
	(filter)	
	• unload trl 206 BT 408 and Heat	
	• load trl 409 From Tank 1 O.P.	
	• Acid Tank 7 O.P. and 1 N.P.	
	• Sample Tank 1 O.P. (OIL NEEDS TO BE AT LEAST 65%)	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/20	Acid and Heat Tank 1 N.P., 4 N.P.	
	Load D.ST. From trl 8177 (Filter) and	Run D.ST.
	Sample 271 donat unload	
	243 unload into tank 1 N.P. or Tank 3 N.P.	
	- CHANGE CARBON SCRUBBER FOR NP TANK 1 & 4	
	243 DELTA	
	259 DELTA	
	104 — DID NOT GET OFFLOADED	
4/21/09	unload Trl. (Kmco) 233 tank 4 O.P.)	
	unload trl 105 Tank 4 O.P. or 5 O.P.)	
	unload trl. 259 tank 3 N.P.)	
	Sample trl. 271 donat unload)	
	Acid and Heat tank 4 O.P. 5 O.P.)	
	load D.st. (filter) trl. 223 and Run)	
	transload trl. 256 to trl. 209)	
	change carbon scrubber for N.P.)	
	DO NOT move trailer 416 — let settle)	
	unload Phoenix Pollution to heat tank	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4-16	Transfer 3500gal. (36") from 410 to 264	
	Top off 264 to 53" 6000gal. from dist. unit	(Sample)
4-16	Pump the rest of 410 to dist unit and run ~~for~~ unit.	
4-16	Sample 223 and load to 222 (Rohmax)	DID NOT HAPPEN
4-16	Top off BT-408 from 206 (Dixie), put	
	the rest in TK 4op	
4-16	Add acid and heat TK's 4op, 2op & BT-408	
4/17	Unload 256 into OP tank 6,	
Sample and	Unload 252 into OP tank 6, (do not overflow tank)	
	Unload 233 (Champion) into heat tank,	
	Unload 228 (Champion) into heat tank,	
	Unload 206 (Farouk) into heat tank,	
	Unload 205 (Schlumberger) into heat tank,	
	Put bottom solids/grease from bullet trailer	
	408 into vacuum box	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4-15	Send Tk 4op to front	
4-15	Load 4/6 from Dist Unit * + Sample	
4-15	Filter 222 to Dist Unit *	
4-15	Add acid and heat Tk 4wp	
4-15	Outsiders unload to Tk 7op	
	Heat Tk 7op	
	* Wash out dist. Unit First	
4-16	Transfer 3500 gal from Trl 410 to 264	
4-16	Top off #264 from dist unit Agitate for	
	30min + sample	
4-16	Load dist. unit	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/14	Load 416 into 406 (base oil),	
4-14	Load 233 from 256 (water only – no oil) and	
	top off 233 from bullet trailer 408 (water only – no oil)	
4-14	Load oil from top 256 into OP tank 7,	
4-14	Load 256 from bullet trailer 408 (water only – no oil);	
4-14	Check water on dist unit, load into trl. 416	
	When water is below 150 ppm * agitate with air while loading *	
4-14	~~Load~~ ~~for~~ Wash out dist unit then load	
	222 to dist unit (Filter)	
4-14	Unload 205 to Tk 70p	
4-14	Sample 258 and unload to Tk 70p	
4-14	Unload 270 to Tk 30p	
	* hook air up to bottom valve and agitate	
	trl. while loading * make sure air	
	hose is dry!!	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/14	Load 416 into 406 (base oil),	
4-14	Load 233 from 256 (water only – no oil) and	
	top off 233 from bullet trailer 408 (water only – no oil)	
4-14	Load oil from top 256 into OP tank 7,	
4-14	Load 256 from bullet trailer 408 (water only – no oil);	
4-14	Check water on dist unit, load into trl. 416	
	when water is below 150 ppm. * agitate with air while loading *	
4-14	~~Load~~ Wash out dist unit then load	
	222 to dist unit (Filter)	
4-14	Unload 205 to Tk 7op	
4-14	Sample 258 and unload to Tk 7op	
4-14	Unload 270 to Tk 3op	
	* hook air up to bottom valve and agitate	
	trl. while loading * make sure air	
	hose is dry!!	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/9	Sample and unload 206 (Ineos) into NP tank 1,	
	Add ~~acid~~ to NP tank 1 and heat,	
	Heat bullet ~~trailer~~ 408 (NO acid),	
	Filter 270 ~~(base oil)~~ into distillation unit,	
	~~Continue~~ heating OP tank 7,	
	~~Change carbon in New Plant (carbon in warehouse)~~	
4-13	Run dist. unit	
	Add acid to Tk 4 OP	
	Heat BT-408	
	Use 270 and start bulking drums	
	Do not put anything in Tk 5 OP	
	Put water from Water Tk to BT-408	
4/14	Load 416 into 406 (base oil),	
	Load 233 from bullet trailer 408 (water only),	

4.3 165/gal

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4-7	Load 209 from BT-408 (water phase)	
4-7	Pull Light ends off to of BT-408 put into 407	
4-7	Top off 407 from Tk 6op Agitate & Sample	
4-7	Transfer Tk 8op ~~60~~ to Tk 7op	
4-7	Unload Farouk Trl. 243 to Tk 7op	
4-7	Unload outsider (MTI) ~~f~~ to Tk 5 op	
4-7	Add acid and heat Tk 7op	
4-7	Heat Tk 5op & Tk 7op	
4/8	Load 222 into 233 after 233 gets cleaned	
	(do NOT load more than 6,400 gallons into trailer),	
	~~Unload 252 (Lubrizol ROS) into~~	
	~~Unload 259 (Lubrizol ROS) into~~	
	Add acid to NP tank 4 and heat,	
	Add acid to OP tank 4 and heat,	
	Unload any outsiders into OP tank 7,	
	Unload 206 into OP tank 7,	
	★ Do NOT unload 252	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4-03	Unload 256 to 4 NP	
4-03	Unload 241 to 4 NP	
4-03	Load 409 from Tk 8 OP (Sample to lab)	
4-03	Transload 265 to 263 (After 263 is clean)	
4-03	Send 265 to Tankwash	
4-03	Heat Tk 1 NP & Tk 4 OP	
4-03	Unload 233 & 243 Lubrizol to Tk 9 OP (Filter)	
4-03	PN & heat 5 OP & ~~4~~ 4 NP	
4-03	~~Load Hydrocarbon~~ Eng from BT-407	
4-6	Transfer Tank 3 N.P. TO Tank 4 N.P. Acid	and Heat
	Heat tank 5 O.P.	
	Unload trl. 252 and trl. 243 Lubrizol	
	to tank 9 O.P. (Filter) if Ned Put in Tan 11 O.P.	
	Send Tank 7 O.P. To the Front	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
	~~Unload 252 to 407~~	
	~~Put remaining 252 in Tk 1~~	
	Agitate 407 & Sample	
	Unload 259 (Acid) to Poly Tk and put the rest into totes marked "Acid"	
	Unload 241 to Tk 4op. (Champion)	
	Unload 105 to Tk 4op	
	Add acid & heat Tk 1op	
	Unload 267 to Tk 1wp (KMTX)	
	Unload 243 to ~~Tk 1wp~~ or Tk 4op (Martin)	
	Heat 408	
	~~Load 11. 213 from Tk 8op~~	
	Unload 267 to Tk 1wp if phenol is high	
	Put 267 in Tk 4op if phenol is Low	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
4/1	Load 233 from B-408 (water) NO OIL	
	load water from 408 to 406 (NO OIL)	
	Top off 406 from Tk 1NP	
	Transfer 407 BT- to 408 (All of it)	
	Transfer from top of 265 to 407 BT-	
	Transfer water from 265 to 408 Appox 200gal	
	Filter Tk 6 op to BT-408	
	Unload 256 to Tk 4NP	
	Unload 243 to Tk 4NP	
	Add acid heat Tk 4NP Keep pH above 4	
	Transfer Tk 3NP to BT-408	
	Heat BT-408	

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CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
3-30	Unload 259 to BT-407	
3-30	Top off BT-407 from Tk 6op	
3-30	Agitate and sample BT-407	
3-30	Transfer 233 to 256 pull from Top	
3-30	pH adjust and Heat TK 7op	
3-30	Heat BT-408	
3-30	Send Tk 4NP to front	
3-30	Unload 243 to Tk 8op	
3-31	Acid Tank 7 O.P., 4 O.P. and Heat	
3-31	Load trl. 213 from Tank 1 N.P. and adjust P.H.	
3-31	(6 gal. caustic) → ↳ take sample to lab when done	
3-31	Send Tank 5 O.P. to the front	
3-31	Heat B.T. 408	
3-31	SAMPLE 419 & BRING TO LAB FOR QC ASAP (TRL IS EMPTY)	
3-31	Load Smitty's from trailer 406	
3-31	Leave trailer 865 sitting in the bay	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
3-25	Unload 243 to Tk 4op	
3-25	Transfer Tk 11 to BT-407	
3-25	Unload Ethyl (Trl. 1001) to Tk 4op	
3-26	Sample and unload Trl. 271 (KMTX) to Tk3NP	
3-26	Sample (Trl. 270) Kinder Morgan Do NOT UNLOAD	
3-26	Transload 235 to 249 *	
3-26	Load water from Tk 5op to Trl. 213	
	* Wash out hoses to Bullet Trl. 408*	
3-27	unload trl 256 (Farouk) to Tank 5 O.P.	
	acid to Tank 5 O.P. and 4 O.P.	
	transfer water from Tank 3 N.P. to	
	Bullett trl. 408 and Heat no acid	
	Sample trl. 270 Kinder Morgan Do not unload	
	~~PRELOAD TRL 409 & 213 FROM O.P.~~	
	Preload trl 213 From Tank 7 O.P. chek P.H.	
	Preload trl 409 From Tank 7 O.P.	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
	Send Tk 4 NP. to Front	
	Transfer 1500gal from BT-408 to Tk 1NP	
	Transfer rest of BT-408 to Tk 4OP	
	Unload Faroulk (Trl. 205) to Tk 4OP (Sample First)	
	Sample Trl. 271 (KM TEX)	
	Transfer from 2" valve Tk 3OP to BT-407 (Agitate & Sample)	
	Load 264 from Dist. Unit (Test water first)	
3-25	Load 264 from dist unit (Sample)	
3-25	Unload 249 to Tk 6 OP ~~Agg~~ Filter, agitate & sample)	
3-25	Unload 259 (acid) to poly-Tk.	
3-25	Watch heat on Tk 4 NP & BT-408	
3-25	Pull from bottom of Tk 11 and put into	
~~3-25~~	Tk 8OP.	
3-25	Unload TWM to Tk 11	
	Send Tk 4OP ASAP	
3/26	KMTEX Gassy Water TT 271	
	Kinder Morgan Feedstock TT 270 SX Only!!	

(271)

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
3-23	Transfer 3000gal. from Tk-3 NP to Tk 1 OP	
3-23	Transfer remaining oil to Tk 80p	
3-23	Heat Tk 30p to 175° add 20gal. of Dr. Sam's	
3-23	and agitate	
*3-23	Unload water phase from 259 to Trl. 409	(PUT INTO A TOTE) *
*3-23	Unload Lightends from 259 to 414	*
3-23	Unload 264 to BT-408 heat and add acid	
	* Do not this in the WastewaTER Bay *	
3-24	Transfer BT-408 Approx. 1500gal. to Tk 1 NP	
3-24	Check pH on Tk 1 NP after transfer.	
3-24	Unload Farouk Trl. ~~265~~ BT-408 to Tk Tk 40p	
3-24	Load 264 from Dist. Unit (sample and gauge trl.)	
3-24	~~Unload TWM to Tk 40P, heat add acid~~	
3-24	Sample Trl. 271 (KMTEX)	

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
3-20	Sample 206 and unload to Tk 1 NP	
3-20	Add acid and heat Tk 1 NP	
3-20	Unload LT-372 to Tk 40p	
3-20	Unload LT-1201 to Tk 40p	
3-20	Add acid and heat Tk 40p	
3-20	Load 243 from Top 2" valve on Tk 80p	
3-20	Pull water phase from 243 to 252	
3-20	Put Light Ends from 243 to BT-408	
3-20	Unload 205 to Tk 40p (Sample)	
3-20	Unload & Sample 271 to Tk 30p	
3-23	Transfer half Tk 3 Np to Tk 1 op put remaining to Tk 8 op	
3-23	Unload 264 to BT-408 Heat and add acid	
3-23	Unload [redacted] water p	

(416)

CES Environmental Services, Inc.

Hydrocarbon Processing Work List Form

Date	Job Description	Completed By:
3-18	Load 228 from BT-407. Wash out BT-407	
3-18	Top off 228 from Tk 1 op	
3-18	Pull Lightends from top of 408, transfer	
3-18	to Bullet TK 407.	
3-18	Unload Trl. 254 (Champion) to BT-408	
3-18	Add acid and heat @ Tk 7 op	
3-18	Add acid and heat BT 408	
3-18	Check w/ the lab may have an	
	outsider	
3-18	Unload 104 to heat TK	
3-19	Filter 416 to 409 (USE 25 micron) Base Oil	Sample
3-19	Tranload 252 to 416 (Sample)	
3-19	Load 413 from BT-408 leave about 1500gal	
3-19	Unload 414 to to BT-408	
3-19	Add acid and heat Tk 4NP & BT-408	
3-19	Send water from Tk 1NP to Front	

LAB
T-20
8/4/09
CE

+ BOLTS

EPAHO11400098

CE
LAB
T-20
8/4/09

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
7/2	Sample 216 tonight	DAP
7/5	Run Distillate	Done
7/5	~~Put one load from 1002 and process~~	
	~~put sample in tub~~	
	* PREPARE (4) TOTES FOR BLEACH	
	* HELP SALVADOR	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
6/10/09	RUN DISTILLATION UNIT	Done
	ASSIST W/W	Done
6/11/09	RUN DISTILLATION UNIT / SAMPLE TRL 215 ZACH	Done
6/12/09	RUN DISTILLATION UNIT (CLEAN UNIT ON)	Done
6/13/09	SAMPLE 231 (ZACH)	Done
6/18	ASSIST W/W	
6/21	Load taste into Distillation	Done
	Transload 243 into 249	Done
6/22	RUN DISTILLATION UNIT	Done
	ASSIST W/W	Done
	SAMPLE 3001 @ 500 AM (PARK IN BAY)	Done
6/26	SAMPLE 8013 (ADD MEA - .5 GALLONS)	

7/1 Release pressure from unit / Pull sample for Toc

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
5/22	RUN DISTILLATION UNIT	Done
	ASSIST IN W/W & CLEAN UP	Done
5/26	~~SAMPLE TRL 3015 (FOR 3 SAMPLES)~~	
	RUN DISTILLATION UNIT	Done
	ASSIST SALVADOR IN OIL AREA	Done
5/27	Sample trailer 215, Please get 3 samples	Done
	Help Chris in W/W	Done
6/1	UPDATE TRAILER INVENTORY	Done
6/2	SAMPLE TRAILER 3001 (ZACH)	Done
	" " 216 (ZACH)	Done
	RUN DISTILLATION UNIT	Done
6/3	RUN DISTILLATION UNIT	Done
	ASSIST W/W	Done
6/5	REMOVE WATER FROM DISTILLATION UNIT	Done
	ASSIST W/W	Done

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
5/15	RUN DISTILLATION UNIT	Done
	ENSURE WAREHOUSE IS CLEAN BEFORE LEAVING	Done
	HELP W/ PROCESSING W/W	Done
5/18	• SAMPLE METHANOL TRAILERS (738, 225, 265, 415) AND	Done
	LEAVE IN LAB	
	• ASSIST W/W	Done
	• RUN DISTILLATION UNIT	Done
	• ENSURE WARE HOUSE IS CLEAN	Done
5/19	• RUN DISTILLATION UNIT	Done
	• UPDATE TRAILER INVENTORY (VOLUME, DENSITY)	Done
	• ENSURE WAREHOUSE IS CLEAN	Done
	• ASSIST W/W	Done
5/20	• RUN DISTILLATION UNIT	Done
	• ASSIST W/W	Done
	• ENSURE WAREHOUSE CLEAN	Done
5/21	SAME	Done

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
4/29/09	~~RUN DISTILLATION #3~~	
	HELP CHRIS IN W/W	
4/30	Run dist, unit #3,	Done
	Help Chris	Done
5/5	HELP CHRIS	
	[redacted] UPDATE TRAILER INVENTORY	
5/7	HELP CHRIS (W/W)	
[redacted]5/11	HELP W/W	
5/13	RUN DISTILLATION UNIT	Done
	ENSURE FLOOR (WAREHOUSE) IS CLEAN BEFORE LEAVING	Done
	HELP W/ PROCESSING W/W	Done
5/14	RUN DISTILLATION UNIT	
	ENSURE WAREHOUSE IS CLEAN BEFORE LEAVING	
	HELP W/PROCESSING W/W	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
4/17	Sample 229 (KMCO)	Done
4/20	Load trailer 220 (Zach) to Hydrocarbon	Done
	Engineering	
	- UPDATE INVENTORY (TRAILER)	Done
	- RUN DISTILLATION #3	Done
4/21	Sample 238 + 226 and put on	Done
	Kim's desk	
4/22	RUN DISTILLATION UNIT #3	Done
4/23	RUN DISTILLATION UNIT #3	Done
	ASSIST W/W (CHRIS)	Done
4/24	Run dist, unit #3,	Done
	help Chris	Done
4/27	RUN DISTILLATION UNIT #3	Done
	HELP CHRIS	Done

[redacted]

4/28 YOU KNOW WHAT TO DO CUNT

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
4/9	Run distillation unit (keep an eye on chiller	Done
	temp. - might have to cut back steam),	
	Help Chris	Done
4/13	Same as 4/9 (watch chiller)	Done
4/14	Transload 209 into 413 (after 413 is clean),	Done
	Run dist. #3 into trailer 413,	Done
	Don't turn steam up too high (try to keep	Done
	chiller cool),	
	Help Chris	Done
4/15	SAMPLE 220 (ZACH)	Done
	RUN DIST. #3, WATCH STEAM & CHILLER TEMPATURE	Done
	ASSIST CHRIS	Done
4/16	SAME AS ABOVE (RUN DIST #3)	
	ASSIST CHRIS	
4/17	~~SAMPLE 259~~	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
3/30	Help Chris,	Done
	Sign time sheet (on Joe's desk)	Done
3/31	ASSIST WASTE WATER	Done
4/1	SAMPLE 231 ZACH	DONE
4/1	DRAIN WATER PHASE OFF 231	done
4/6	Get as many totes as possible into dist. unit #3,	DONE
	Begin running dist. unit #3 (around 9 pm)	Done
	*USE 406 AS CATCH TRAILER ONCE CLEANED FROM TANK WASH	
4/7	Sample 216 - Zach	DONE
	RUN DISTILLATION UNIT #3	Done
4/8	Hook 209 up to dist. unit and turn on after 209 is cleaned	Done
	(Keep an eye on chiller temp. - may need to cut steam back if temp. rises above 55°F)	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
3/17	SAMPLE TRL 231 (ZACH)	DONE
	MONITOR DISTILLATION UNIT #3	Done
	ARRANGE TRAILERS ON YARD IN PROPER AREAS	Done
3/19	MONITOR DISTILLATION #3	Done
	ARRANGE TRAILER	Done
3/23	Update trailer inventory sheet (TRAILER 415)	Done
	MONITOR DISTILLATION #3 - MONITOR CLOSELY (NEAR FULL)	Done
3/24	Sample 210 - Evalca,	DONE
	Sample 215 - Zach	Done
	Email incident report to Joe & Clint,	Done
	Help Chris	Done
3/25	SAMPLE 216 ZACH	Done
	" " 8013. ZACH	Done
3/26	Sample 220 (Zach)	DONE
3/27	~~PERFORM DISTILLATION UNIT #3~~ ASSIST CHRIS IN W/W	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
3/11	Sample 215 (Zach), → and move it to correct area	Done
	Finish cleaning out dist. unit #2,	↓
	Load and start dist. unit #3 (filter from 235)	
3/13	Sample 221 (Evalca),	Done
	Run dist. unit #2,	Done
	Help Chris,	Done
	Arrange trailers appropriately	Done
3/16	~~PULL TANK 10 INTO FRAC TANK~~ Test [redacted] (HIGH METALS)	
	SAMPLE/UNLOAD 271 DANA	
	" " [redacted] DANA	
	" " 256 DANA	
	" " 205 DANA	

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
3/6	* [redacted] DRAIN WATER FROM	DONE
	DISTILLATION #3 & PUT IN FRAC TANK 1002 (BRING SAMPLE	↓
	TO CLINT FIRST, MAY GO TO WASTE WATER FOR	↓
	PROCESSING. CHECK WITH CLINT FIRST!)	↓
	* ASSIST OIL AREA / WASTE WATER	DONE
3/9	Empty dist. unit #2,	DONE
	Load and start dist. unit #3,	
	Clean out dist. unit #2 so it can be repaired,	
	Sample 216 (Zach),	Done
	Sample 7253 (Evalca) – take sample to Miles	DONE
	Add 12 Sample bottles each to 2815 and 259 (hideaway)	DONE
3/10	. UPDATE TRAILER INVENTORY	DONE
	. [redacted] ASSIST OIL AREA / WASTE WATER	DONE
	. ORGANIZE TRAILERS ON YARD	DONE
	. PULL (4) FULL SAMPLES OF HIDEAWAY & PUT ON DISPATCHERS	DONE
	DESK	
	• START CRUSHING DRUMS ON TRAILER 245. USE CLEAN DRUMS! (CATCH GOOD OIL & LABEL DRUMS "OIL")	DONE

CES Environmental Services, Inc.

Special Processing Work List Form

Date:	Job Description:	Completed By:
	415	
2/23	HOOK UP [redacted] WHEN FINISH TANKWASH, RUN UNIT	
	MOVE TRAILERS TO DESIGNATED AREAS BEFORE LEAVING	
	L6731	DONE
2/24	Sample 235 (Evalca) - give to Miles for dist,	DONE
	Start dist, unit #3, LOAD L6731 INTO UNIT #2 [redacted]	DONE
	Get water out of dist, unit #2	DONE
	~~Suck base oil drums into 228 (tonight)~~	
2/26	Filter load into dist, unit #2,	DONE
	Continue to run unit #3	DONE
	UPDATED INVENTOR (TRAILER 415 & 226)	DONE
2/27	Sample 220 (Zach),	DONE
	Run dist, unit #2 an #3 (check carbon)	DONE
3/3	SAMPLE TRAILER 231 (ZACH),	DONE
	Sample 234 (methanol) and take to KIM	DONE
3/4	• Sample 228 (Ethanol)	DONE

• MONITOR UNITS (#2 & #3)

LAB
T-20
CE
8/4/09

Southcoast

Need sample

MATERIAL SAFETY DATA SHEET
Infineum

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Infineum F7595

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Infineum F7595
CHEMICAL FAMILY:
Petroleum Product Additive
PRODUCT DESCRIPTION:
Fuel additive

CONTACT ADDRESS:
Infineum USA L.P.
P.O. Box CN 135, Linden NJ 07036

** EMERGENCY TELEPHONE NUMBERS: (24 Hours)		**
** CHEMTREC	(800) 424-9300	**
** CHEMTREC outside USA	(703) 527-3887	**
** Infineum USA L.P.	(800) 726-2015	**

NON EMERGENCY TELEPHONE NUMBER : (8am-5pm M-F)
FOR GENERAL PRODUCT INFORMATION CALL : (800) 654-1233

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.
This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Combustible Liquid	Alkyl nitrate, Aromatic solvent
Target Organ - Heart	Alkyl nitrate
ACGIH TLV / OSHA PEL	Naphthalene

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS
EYE CONTACT:
Will cause slight eye discomfort, but will not injure eye tissue.
SKIN CONTACT:
Moderate systemic toxicity through the skin.
Frequent or prolonged contact may irritate and cause dermatitis.
Overexposure to alkyl nitrates via skin contact may cause headaches, dizziness, nausea, decreased blood pressure, changes in heart rate and oxygen deficiency (cyanosis) from methemoglobinemia.
Skin contact may aggravate an existing dermatitis condition.
INHALATION:
Avoid breathing vapors or mists.
Moderately toxic.
Headaches, dizziness, nausea, decreased blood pressure, changes in heart

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7595 = 7594 12668

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rate and cyanosis may result from over-exposure to vapor or skin exposure to alkyl nitrates.
Vapors and/or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract.
Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

INGESTION:
Minimal toxicity.
Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

SPECIAL PRECAUTIONS
Use with adequate ventilation. Avoid contact with skin or clothing. See personal protection section.
Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

SECTION 4 FIRST AID MEASURES

EYE CONTACT:
Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:
Immediately flush with large amounts of water; use soap if available.
Remove contaminated clothing, including shoes, after flushing has begun.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:
If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

SECTION 5 FIRE-FIGHTING MEASURES

FLASH POINT: 176 Deg F. METHOD: PMCC ASTM D93 NOTE: Typical
FLAMMABLE LIMITS: NOTE: Not Available
AUTOIGNITION TEMP.: 266 Deg F. NOTE: Typical

GENERAL HAZARD
Combustible Liquid, can form combustible mixtures at temperatures at or above the flashpoint.
If thermally decomposed, flammable/toxic gases may be released.
Toxic gases will form upon combustion.
"Empty" containers retain product residue (liquid and/or vapor) and can be

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dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING

Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Respiratory and eye protection required for fire fighting personnel.
This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, Carbon Dioxide (CO2), Carbon Monoxide (CO) and Oxides of Nitrogen (Toxic)

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.
Vapors may be harmful. Avoid contact. Warn or evacuate occupants in surrounding and downwind areas.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Vapors may be harmful. Avoid contact. Warn or evacuate occupants in surrounding and downwind areas.
Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.
Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.
Consult an expert on disposal of recovered material and ensure conformity

Continues on page 4

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to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:
No, but use proper bonding and/or grounding procedure.
STORAGE TEMPERATURE, Deg F:
Ambient
LOADING/UNLOADING TEMPERATURE, Deg F:
Ambient
STORAGE/TRANSPORT PRESSURE, mmHg:
Atmospheric
LOADING/UNLOADING VISCOSITY, cSt:
Not available
STORAGE AND HANDLING:
Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials.
Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.
This material is not a static accumulator, but use proper bonding and/or grounding procedures.
Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.
This product contains alkyl nitrates. When heated above 100 deg C (212 deg F), this product may undergo a self-accelerating exothermic decomposition reaction which causes a rapid rise in temperature and pressure. This could cause the storage vessel to rupture and result in a fire/explosion.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a lab hood. Provide mechanical ventilation of confined spaces.
See respiratory protection recommendations.
PERSONAL PROTECTION
For open systems where contact is likely, wear butyl rubber or polyvinyl alcohol (PVA) gloves, a chemical suit, rubber boots and a face shield.
Where contact may occur, wear long sleeves, butyl rubber or polyvinyl alcohol (PVA) gloves and a face shield.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.

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WORKPLACE EXPOSURE GUIDELINES
OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:
A TWA of 10 ppm (50 mg/m3) and a STEL of 15 ppm (75 mg/m3) for Naphthalene.
The recommended permissible exposure levels indicated above reflect the levels revised by OSHA in 1989 or in subsequent regulatory activity. Although the 1989 levels have since been vacated by the 11th Circuit Court of Appeals, a supplier recommends that the lower exposure levels be observed as reasonable worker protection.
THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:
A TWA of 10 ppm (52 mg/m3) and a STEL of 15 ppm (79 mg/m3) for Naphthalene, with an A4 designation.
A SUPPLIER RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS:
a 15 minute short term exposure limit of 1 ppm (7.16 mg/m3) for all isomers of octyl nitrate.
50 ppm for oxo alcohols.
100 ppm total hydrocarbon based on composition.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY at Deg F:	0.95 at 60 Typical
DENSITY at Deg F:	7.9 lbs/gal at 60 Typical
VAPOR PRESSURE, mmHg at Deg F:	Negligible at ambient
SOLUBILITY IN WATER, wt. % at Deg F:	Negligible
VISCOSITY OF LIQUID, cSt at Deg F:	2.2 at 68 Typical 2.0 at 104 Typical
SP. GRAV. OF VAPOR, at 1 atm (Air=1):	Greater than air
FREEZING/MELTING POINT, Deg F:	-51 Pour Point
EVAPORATION RATE, n-Bu Acetate=1:	Not available
BOILING POINT, Deg F:	Not available

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable
CONDITIONS TO AVOID INSTABILITY:
Temperatures above 100 Deg C (212 F) may cause dangerous exothermic decomposition. See Section 7.
HAZARDOUS POLYMERIZATION:
Will not occur
CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
None
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Strong oxidizing agents

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HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of Nitrogen (Toxic)

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information.

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):
DOT SHIPPING DESCRIPTION: COMBUSTIBLE LIQUID, N.O.S., (ALKYL NITRATE, PETROLEUM DISTILLATES) NA1993, III, MARINE POLLUTANT(ALKYL (C7-C9) NITRATE)

NOTE: In containers of 119 gallons capacity or less this product is not regulated by DOT unless shipped by vessel. If shipped by vessel then use: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (ALKYL (C7-C9) NITRATE), 9, UN3082, III, MARINE POLLUTANT(ALKYL (C7-C9) NITRATE)

SECTION 15 REGULATORY INFORMATION

TSCA:
All of the components of this product are listed on the TSCA Inventory.
Clean Water Act/Oil Pollution Act:
This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.
CERCLA:
If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.

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The reportable spill quantity of this product is 8,260 pounds.
It contains:
Naphthalene.

SARA TITLE III:
Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Immediate health, Delayed Health, Fire.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS #	MAX. %
Naphthalene	N/A	1.2

SECTION 16 OTHER INFORMATION

HAZARD RATING SYSTEMS:
This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704
HEALTH	2	3
FLAMMABILITY	2	2
REACTIVITY	2	2

KEY
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

CAUTION: HMIS ratings are based on a 0-4 rating scale with 1 representing minimal hazards or risks, and 4 representing significant hazards or risks. Recommended HMIS ratings should not be used in the absence of a fully implemented HMIS hazard communication program.

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REFERENCE NUMBER:
HDHA-B-12088

SUPERSEDES ISSUE DATE:

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

LAST PAGE

RINECO LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

Generator: Channel Chemical **EPA ID #** MSD122687064

Manifest Doc. # 002535000FLE

EPA Codes D001 D002 **Profile #** 0903-04488 **Line Item** 1.

EPA Waste Codes		Waste Description & Treatment/ Regulatory Subcategory	NON-WASTEWATER	Concentration in mg/1 or Technology Code
[ ]	D001	Ignitable characteristic wastes, except for 261.21(a)(1) High TOC subcategory that are managed Non-CWA/nonCWA equivalent/non class I SDWA systems.		DEACT and meet 268.48 standards or RORGS; or CMBST
[XXX]	D001	High TOC Ignitable characteristic liquids subcategroy based on 40 CFR 261.21(a)(1)-greater than or equal to 10% TOC.		RORGS; or CMBST; or POLYM
[XXX]	D002	Corrosive characteristic wastes that are managed in non-CWA non CWA equivalent, or class / SDWA systems.		DEACT & meet 268.48 standards

D004-D011 Heavy Metals Expressed in Concentrations of mg/l (TCLP) and must meet 268.48 Standards. (NON-WASTEWATER)

[ ]	D004	Arsenic 5.0	[ ]	D008	Lead 0.75
[ ]	D005	Barium 21	[ ]	D009	Mercury 0.20 low mercury subcategory
[ ]	D006	Cadmium 0.11	[ ]	D010	Selenium 5.7
[ ]	D007	Chromium 0.60	[ ]	D011	Silver 0.14

D012-D043 Concentrations Expressed in mg/kg, and Must Meet 268.48 Standards. (NON-WASTEWATER)

[ ]	D012	Endrin 0.13	[ ]	D024	m-cresol 5.6	[ ]	D036	Nitorbenzene 14
[ ]	D013	Lindane 0.066	[ ]	D025	p-cresol 5.6	[ ]	D037	Pentachlorophenol 7.4
[ ]	D014	Methoxychlor 0.18	[ ]	D026	Cresol Mixed Isomer 11.2	[ ]	D038	Pyridine 16
[ ]	D015	Toxaphene 2.6	[ ]	D027	p-dichlorbenzene 6.0	[ ]	D039	Tetrachloroethylene 6.0
[ ]	D016	2,4 D 10	[ ]	D028	1,2-dichloroethane 6.0	[ ]	D040	Trichlorethylene 6.0
[ ]	D017	2,4,5-TP Silvex 7.9	[ ]	D029	1,1-dichloroethylene 6.0	[ ]	D041	2,4,5-Trichlorophenol 7.4
[ ]	D018	Benzene 10	[ ]	D030	2,4-dinitrotoluene 140	[ ]	D042	2,4,6-Trichlorophenol 7.4
[ ]	D019	Carbon Tetrachloride 6.0	[ ]	D031	Heptachlor & epoxides 0.066	[ ]	D043	Vinyl Chloride 6.0
[ ]	D020	Chlordane 0.26	[ ]	D032	Hexachlorbenzene 10			
[ ]	D021	Chlorobenzene 6.0	[ ]	D033	Hexachlorobutadiene 5.6			
[ ]	D022	Chloroform 6.0	[ ]	D034	Hexachloroethane 30			
[ ]	D023	o-cresol 5.6	[ ]	D035	Methyl Ethyl Ketone 36			

F001-F005 Spent Solvents: concentrations expressed mg/kg (NON-WASTEWATER) **F003-F005 Non-Wastewater spent solvents expressed in mg/l (TCLP)**

[ ]	Acetone 160	[ ]	Isobutyl Alcohol 170	[ ]	Carbon disulfide 4.8
[ ]	Benzene 10	[ ]	Methylene Chloride 30	[ ]	Cyclohexanone 0.75
[ ]	N-butyl alcohol	[ ]	Methyl Ethyl Ketone 36	[ ]	Methanol 0.75
[ ]	carbontetrachloride 6.0	[ ]	Methyl Isobutyl Ketone 33		
[ ]	chlorobenzene 6.0	[ ]	Nitrobenzene 14		
[ ]	o-cresol 5.6	[ ]	Pyridine 16		
[ ]	m-cresol 5.6	[ ]	Tetrachloroethylene 6.0		
[ ]	p-cresol 5.6	[ ]	Toluene 10		
[ ]	Cresol mixed isomers 11.2	[ ]	111-Trichloroethane 6.0		
[ ]	O-Dichlorobenzene 6.0	[ ]	112-Trichloroethane 6.0		
[ ]	Ethyl Acetate 33	[ ]	112-Trichloro-122-trifluoroethane 30		
[ ]	Ethyl Benzene 10	[ ]	Trichloroethylene 6.0		
[ ]	Ethyl Ether 160	[ ]	Trichloromonofluoromethane 30		
		[ ]	Xylene (mixed isomers) 30		

MUST TRAVEL WITH SHIPMENT

EPAHO114000128

HEXION
Specialty Chemicals

MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

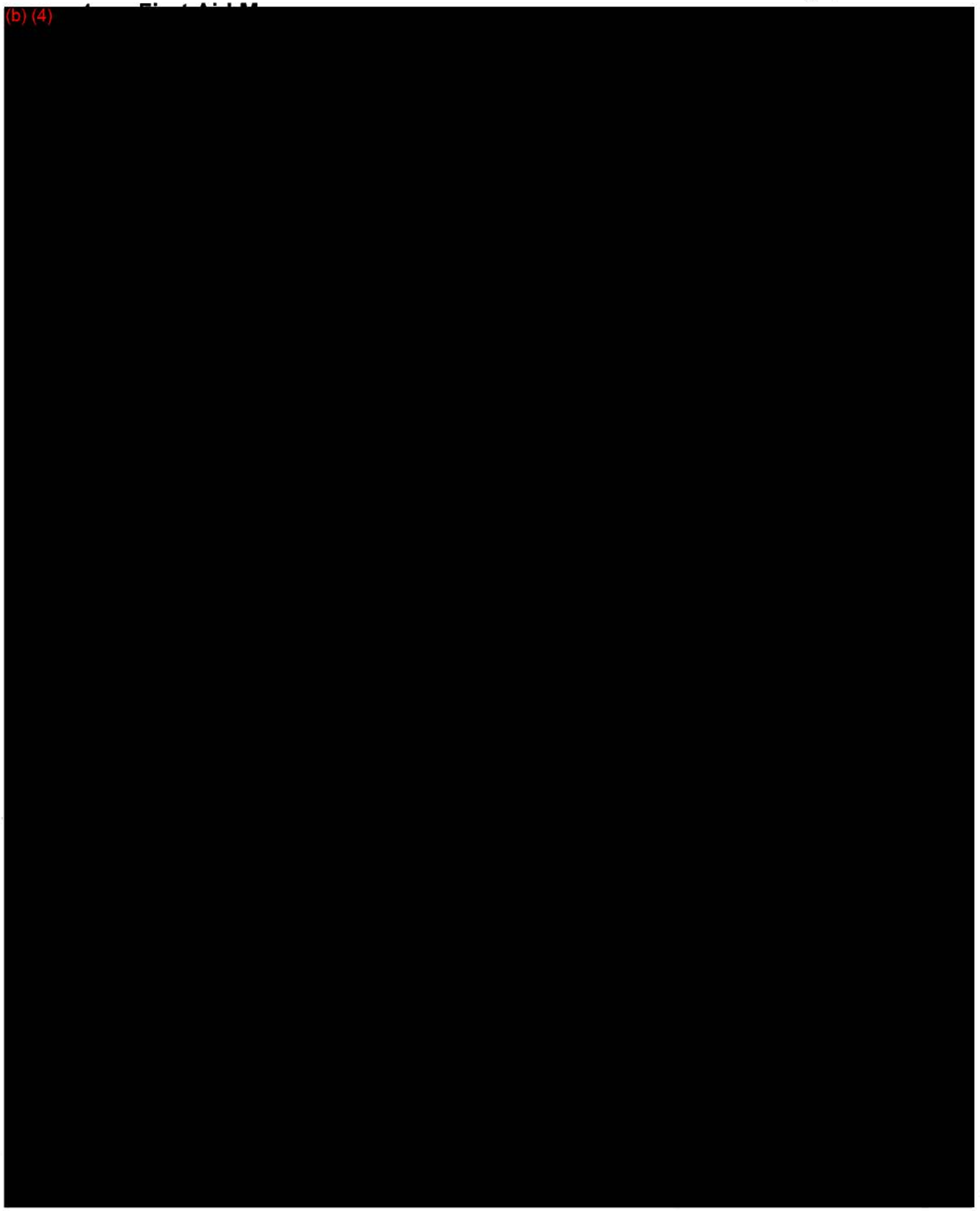
(b) (4)

[redacted]

(b) (4)

[redacted]

(b) (4)



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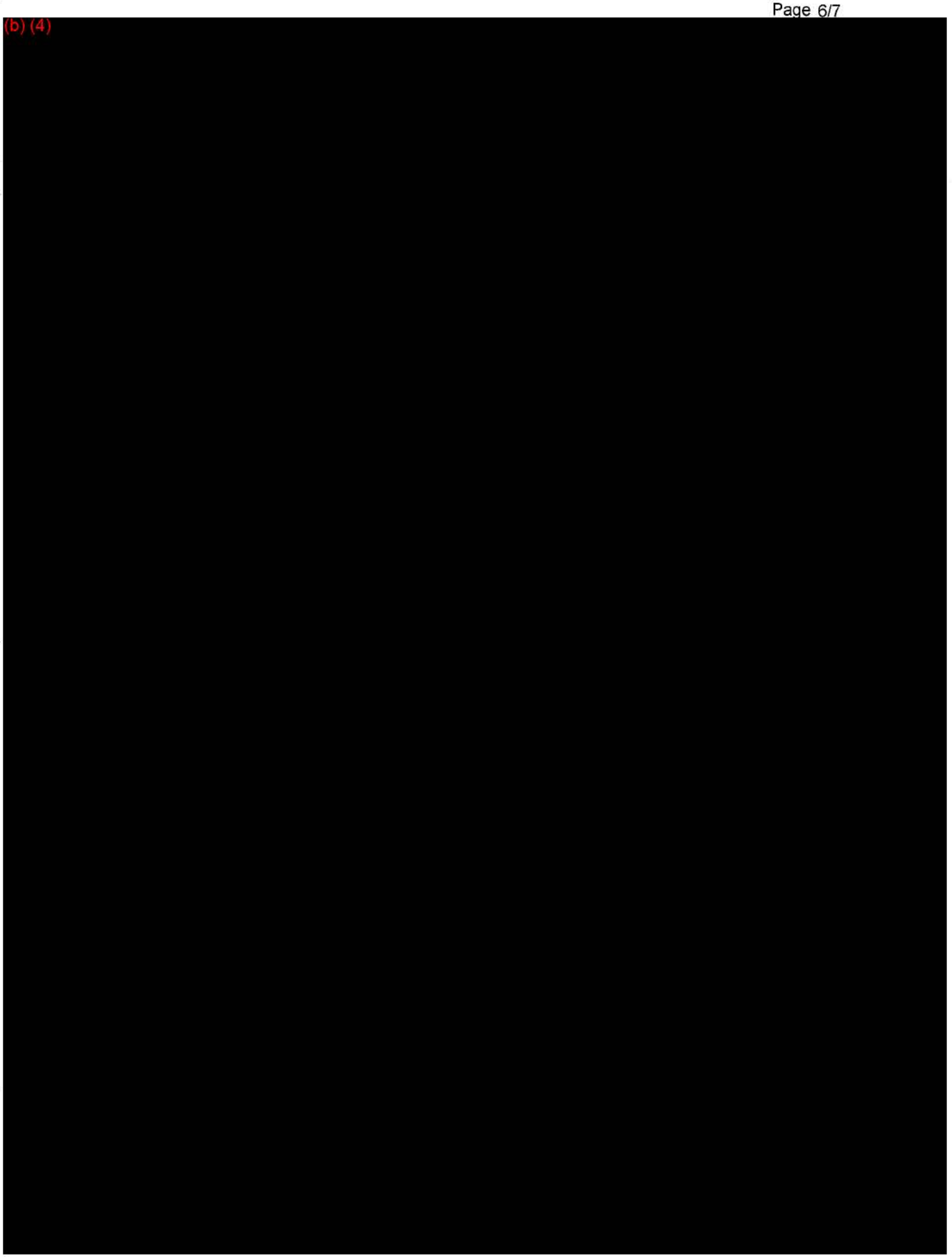

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[redacted]

268.48 UNIVERSAL TREATMENT STANDARDS TABLE FOR UNDERLYING HAZARDOUS CONSTITUENTS

Generator Name: Channel Chemical **Rineco Profile #** 0903-04488

Manifest Doc. #: 002535000FLE

If the specified treatment technology of "DEACT" and meet 268.48 Standard" is identified, then each underlying hazardous constituent present in the waste at the point of generation that is at a level above the F039 constituent specific treatment standard must be listed. Please check the box next to each constituent present to note the constituent(s) that must be managed under 40 CFR268.7.

Constituent	Present	NWW	Constituent	Present	NWW
I. Organic Constituents	Check Here	mg/kg3		Check Here	mg/kg3
A2213		1.4	Chlordane (alpha & gamma isomers)		0.26
Acenaphthylene		3.4	p-Chloroaniline		16
Acenaphthene		3.4	Chlorobenzene		6.0
Acetone		160	Chlorobenzilate		NA
Acetonitrile		38	2-Chloro-1,3-butadiene		0.28
Acetophenone		9.7	Chlorodibromomethane		15
2-Acetylaminofluorene		140	Chloroethane		6.0
Acrolein		NA	bis (2-Chloroethoxy) methane		7.2
Acrylamide		23	bis (2-Chloroethyl) ether		6.0
Acrylonitrile		84	Chloroform		6.0
Aldicarb Sulfone		0.28	bis (2-Chloroisopropyl) ether		7.2
Aldrin		0.066	p-Chloro-m-cresol		14
4-Aminobiphenyl		NA	2-Chloroethyl Vinyl Ether		NA
Aniline		14	Chloromethane / Methyl Chloride		30
Anthracene		3.4	2-Chloronaphthalene		5.6
Aramite		NA	2-Chlorophenol		5.7
alpha-BHC		0.066	3-Chloropropylene		30
beta -BHC		0.066	Chrysene		3.4
delta-BHC		0.066	o-Cresol		5.6
gamma-BHC		0.066	m-Cresol		5.6
Barban		1.4	p-Cresol		5.6
Bendiocarb		1.4	m-Cumenyl Methylcarbamate		1.4
Bendiocarb Phenol		1.4	Cyclohexanone		0.75 mg/L TCLP
Benomyl		1.4	o,p'-DDD		0.087
Benzene		10	p,p'-DDD		0.087
Benz (a) anthracene		3.4	o,p'-DDE		0.087
Benzal Chloride		6.0	p,p'-DDE		0.087
Benzo (b) fluoranthene		6.8	o,p'-DDT		0.087
Benzo (k) fluoranthene		6.8	p,p'-DDT		0.087
Benzo (g,h,i) perylene		1.8	Dibenz (a,h) anthracene		8.2
Benzo (a) pyrene		3.4	Dibenz (a,e) pyrene		NA
Bromodichloromethane		15	1,2-Dibromo-3-chloropropane		15
Bromomethane / Methyl Bromide		15	1,2-Dibromoethane/Ethylene Dibromide		15
4-bromophenyl Phenyl Ether		15	Dibromomethane		15
N-butyl Alcohol		2.6	m-Dichlorobenzene		6.0
Butylate		1.4	o-Dichlorobenzene		6.0
Butyl Benzyl Phthalate		28	p-Dichlorobenzene		6.0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		2.5	Dichlorodifluoromethane		7.2
Carbaryl		0.14	1,1-Dichloroethane		6.0
Carbenzadim		1.4	1,2-Dichloroethane		6.0
Carbofuran		0.14	1,1-Dichloroethylene		6.0
Carbofuran Phenol		1.4	trans-1,2-Dichloroethylene		30
Carbon Disulfide		4.8 mg/L TCLP	2,4-Dichlorophenol		14
Carbon Tetrachloride		6.0	2,6-Dichlorophenol		14
Carbosulfan Disulf		1.4 Disulfi	2, 4-Dichlorophenoxyacetic Acid/2, 4-D		10

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268.48 UNIVERSAL TREATMENT STANDARDS TABLE FOR UNDERLYING HAZARDOUS CONSTITUENTS

Constituent	Present	NWW	Constituent	Present	NWW
I. Organic Constituents	Check Here	mg/kg3		Check Here	mg/kg3
1, 2-Dichloropropane		18	Hexachloropropylene		30
cis-1, 3-Dichloropropylene		18	Indeno (1,2,3-c,d) pyrene		3.4
trans-1, 3-Dichloropropylene		18	Iodomethane		65
Dieldrin		0.13	Isobutyl Alcohol		170
Diethylene Glycol, Dicarbamate		1.4	Isodrin		0.066
Diethyl Phthalate		28	Isolan		1.4
p-Dimethylaminoazobenzene		NA	Isosafrole		2.6
2-4-Dimethyl Phenol		14	Kepone		0.13
Dimethyl Phthalate		28	Methacrylonitrile		84
Dimetilan		1.4	Methanol		0.75 mg/L TCLP
Di-n-butyl Phthalate		28	Methapyrilene		1.5
1, 4-Dinitrobenzene		2.3	Methiocarb		1.4
4, 6-Dinitro-o-cresol		160	Methomyl		0.14
2, 4-Dinitrophenol		160	Methoxychlor		0.18
2, 4-Dinitrotoluene		140	3-Methylcholanthrene		15
2, 6-Dinitrotoluene		28	4, 4-Methylene bis (2-chloroaniline)		30
Di-n-octyl Phthalate		28	Methylene Chloride		30
Di-n-propylnitrosamine		14	Methyl Ethyl Ketone		36
1, 4-Dioxane		170	Methyl Isobutyl Ketone		33
Diphenylamine		13	Methyl Methacrylate		160
Diphenylnitrosamine		13	Methyl Methansulfonate		NA
1, 2-Diphenylhydrazine		NA	Methyl Parathion		4.6
Disulfoton		6.2	Metolcarb		1.4
Dithiocarbamates (total)		28	Mexacarbate		1.4
Endosulfan I		0.066	Molinate		1.4
Endosulfan II		0.13	Naphthalene		5.6
Endosulfan Sulfate		0.13	2-Naphthylamine		NA
Endrin		0.13	o-Nitroaniline		14
Endrin Aldehyde		0.13	p-Nitroaniline		28
EPTC		1.4	Nitrobenzene		14
Ethyl Acetate		33	5-Nitro-o-toluidine		28
Ethyl Benzene		10	o-Nitrophenol		13
Ethyl Cyanide/Propanenitrile		360	p-Nitrophenol		29
Ethyl Ether		160	N-Nitrosodiethylamine		28
bis (2-Ethylhexyl) Phthalate		28	N-Nitrosodimethylamine		2.3
Ethyl Methacrylate		160	N-Nitroso-di-n-butylamine		17
Ethylene Oxide		NA	N-Nitrosomethylethylamine		2.3
Famphur		15	N-Nitrosomorpholine		2.3
Fluoranthene		3.4	N-Nitrosopiperidine		35
Fluorene		3.4	N-Nitrosopyrrolidine		35
Formetanate Hydrochloride		1.4	Oxamyl		0.28
Formparanate		1.4	Parathion		4.6
Heptachlor		0.066	Total PCBs (Sum of all PCB isomers, or all Arochlors)		10
Heptachlor Epoxide		0.066	Pebulate		1.4
Hexachlorobenzene		10	Pentachlorobenzene		10
Hexachlorobutadiene		5.6	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0.001
Hexachlorocyclopentadiene		2.4	PeCDFs (All Pentachlorodibenzofurans)		0.001
HxCDDs (All Hexachlorodibenzo-p-dioxins)		0.001	Pentachloroethane		6.0
HxCDFs (All Hexachlorodibenzofurans)		0.001	Pentachloronitrobenzene		4.8
Hexachloroethane		30	Pentachlorophenol		7.4

EPAHO114000130

268.48 UNIVERSAL TREATMENT STANDARDS TABLE FOR UNDERLYING HAZARDOUS CONSTITUENTS

Constituent	Present	NWW	Constituent	Present	NWW
I. Organic Constituents	Check Here	mg/kg3	II. Inorganic Constituents	Check Here	mg/kg3
Phenacetin		16	Antimony		1.15 mg/l TCLP
Phenanthrene		5.6	Arsenic		5.0 mg/L TCLP
Phenol		6.2	Barium		21 mg/l TCLP
o-Phenylenediamine		5.6	Beryllium		1.22 mg/l TCLP
Phorate		4.6	Cadmium		0.11 mg/l TCLP
Phthalic Acid		28	Chromium (Total)		0.60 mg/l TCLP
Phthalic Anhydride		28	Cyanides (Total)		590
Physostigmine		1.4	Cyanides (Amenable)		30
Physostigmine Salicylate		1.4	Fluoride		NA
Promecarb		1.4	Lead		0.75 mg/l TCLP
Pronamide		1.5	Mercury-Nonwastewater from retort		0.20 mg/l TCLP
Propham		1.4	Mercury-All Others		0.025 mg/l TCLP
Propoxur		1.4	Nickel		11 mg/l TCLP
Prosulfocarb		1.4	Selenium		5.7 mg/l TCLP
Pyrene		8.2	Silver		0.14 mg/l TCLP
Pyridine		16	Sulfide		NA
Safrole		22	Thallium		0.20 mg/l TCLP
Silvex / 2,4,5-TP		7.9	Vanadium		1.6 mg/l TCLP
1,2,4,5-Tetrachlorobenzene		14	Zinc		4.3 mg/l TCLP
TCDDs (All Tetrachlorodibenzo-p-dioxins)		0.001			
TCDFs (All Tetrachlordibenzofurans)		0.001			
1,1,1,2-Tetrachloroethane		6.0			
1,1,2,2-Tetrachloroethane		6.0			
Tetrachloroethylene		6.0			
2,3,4,6-Tetrachlorophenol		7.4			
Thiodicarb		1.4			
Thiophanate-methyl		1.4			
Tirpate		0.28			
Toluene		10			
Toxaphene		2.6			
Triallate		1.4			
Tribromomethane/Bromoform		15			
2,4,6-Tribromophenol		7.4			
1,2,4-Trichlorobenzene		19			
1,1,1-Trichloroethane		6.0			
1,1,2-Trichloroethane		6.0			
Trichloroethylene		6.0			
Trichloromonofluoromethane		30			
2,4,5-Trichlorophenol		7.4			
2,4,6-Trichlorophenol		7.4			
2,4,5-Trichlorophenoxyacetic Acid/2,4,5-T		7.9			
1,2,3-Trichloropropane		30			
1,1,2-Trichloro-2,2,2-trifluoroethane		30			
Triethylamine		1.5			
tris-(2,3-Dibromopropyl) Phosphate		0.10			
Vernolate		1.4			
Vinyl Chloride		6.0			
Xylenes (sum of o-,m-,p-xylene concetrations)		30			

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POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **Flammable/combustible materials.**
- May be ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a **"P"** may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

HEALTH

- May cause toxic effects if inhaled or ingested/swallowed.
- Contact with substance may cause severe burns to skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Large Spill

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

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EMERGENCY RESPONSE

FIRE

- **Some of these materials may react violently with water.**

Small Fires • Dry chemical, CO_2, water spray or alcohol-resistant foam.

Large Fires • Water spray, fog or alcohol-resistant foam.

- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.
- Do not get water inside containers.

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine).
- Use clean non-sparking tools to collect absorbed material.

Large Spills • Dike far ahead of liquid spill for later disposal.

- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Mixed Aromatic and Aliphatic Hydrocarbon Process Solvents
Product ID: 0968
SYNONYMS: MAAHPS
ISSUE DATE: 11/24/2004
EDITION NO.: 4

PPG Industries, Inc.
One PPG Place, Pittsburgh, PA 15272, USA
24-hour Emergency Telephone Number: 1-412-434-4515
For Product Information (8am-5pm Eastern time):
1-800-323-2487 (Fine Chemicals)

PREPARER: Product Safety, Chemicals

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material/CAS Number	Percent
Toluene 108-88-3	0 - 95
Xylene 1330-20-7	0 - 95
Heptane 142-82-5	0 - 95
Ethylbenzene 100-41-4	0 - 30
Tetrahydrofuran 109-99-9	0 - 30
Tributylamine 102-82-9	0 - 15
4-Methoxyphenyl acetonitrile 104-47-2	0 - 8
Styrene 100-42-5	0 - 5
Cyclohexanone 108-94-1	0 - 5
Ethanol 64-17-5	0 - 5
Methanol 67-56-1	0 - 5

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Isopropyl Alcohol 67-63-0	0 - 5
N-benzyloxycarbonyl-valine-N-carboxyanhydride 158257-41-1	0 - 4
Venlafaxine nitrile 93413-76-4	< 2
Venlafaxine amine acetate NONE	< 2
Benzyl chloride 100-44-7	0 - 2

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER! Flammable. Causes severe eye irritation. This product contains a material which causes irreversible eye damage. May cause skin burns. May be harmful or fatal if absorbed through the skin. May cause allergic skin reactions. Vapor irritates eyes, nose and throat. Vapor and/or spray mist harmful if inhaled. Harmful or fatal if swallowed. Keep away from heat, sparks, flames and other sources of ignition. Avoid contact with aluminum.

Contains methanol which may cause blindness or be fatal if swallowed. Cannot be made non-poisonous.

Precautions: Do not get in eyes, on skin, or on clothing. Do not breathe vapors. Use appropriate personal protective clothing and respiratory protection. Use only with adequate ventilation. Ventilation must be sufficient to limit employee exposure to this product below permissible exposure limits. Do not swallow. Wash thoroughly every day after work. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke in work area.

4. FIRST AID MEASURES

INHALATION: Remove from area to fresh air. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

EYE/SKIN CONTACT: EYE: Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. Contact a poison control center, emergency room or physician right away as further treatment will be necessary. SKIN: Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

INGESTION: Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do Not induce vomiting. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

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5. FIRE FIGHTING MEASURES

FLASH POINT: < 73 °F (< 23 °C)

FLAMMABLE LIMITS IN AIR - LOWER (%): 1.8 % (for tetrahydrofuran) or 6 % (for methanol)

FLAMMABLE LIMITS IN AIR - UPPER (%): 11.8 % (for tetrahydrofuran) or 36 % (for methanol)

EXTINGUISHING MEDIA: Carbon Dioxide. Dry Chemicals. Foam.

SPECIAL FIREFIGHTING PROCEDURES: Emits toxic fumes under fire conditions. Fire-fighters must wear NIOSH approved pressure demand, self-contained breathing apparatus and full protective clothing when fighting chemical fires. Cool exposed drums with water to avoid rupture and spread of fire. Vapors are heavier than air and may travel a considerable distance to source of ignition and flash back.

This product contains tetrahydrofuran which may form explosive organic peroxides when exposed to air, light, or with aging. These peroxides may cause a violent reaction, especially upon evaporation to dryness.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Provide maximum ventilation. Remove sources of ignition. Dike area to contain spill. Wear proper protective equipment. Maintain ventilation until all vapors have been eliminated. Recover spilled material on adsorbents, such as sand or vermiculite, and place in covered containers for reclamation or disposal. After all visible liquid has been removed, wash area of spill with plenty of soap and water and maintain ventilation until all vapors are eliminated. If area of spill is porous, remove as much earth and gravel, etc. as necessary and place in closed containers for disposal.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:
Store in a cool, dry, well-ventilated place. Store only in closed, properly labeled containers. Keep container closed when not in use. Keep away from heat, sparks, flames, direct sunlight, and other sources of heat. Do not ship in aluminum trailers. Do not use in poorly ventilated or confined spaces without proper respiratory protection. Wear appropriate personal protective equipment when handling this product. Electrically ground all containers, pumps and piping to avoid static electrical discharge. Vapors are heavier than air and will collect in low areas.

This product contains tetrahydrofuran which may form explosive organic peroxides upon standing. Do not allow to evaporate to near dryness unless the absence of peroxides has been demostrated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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Exposure Limits:
8-hour Time Weighted Average (TWA); 15-minute Short-Term Exposure Limit (STEL)

OSHA: The OSHA exposure limit for benzyl chloride is 1 ppm TWA. The OSHA exposure limit(s) for cyclohexanone is 25 ppm with a skin notation. Styrene are 50 ppm and 100 ppm STEL. The OSHA exposure limit for ethyl benzene is 100 ppm TWA and 125 ppm STEL. The OSHA exposure limit for xylene is 100 ppm TWA and 150 ppm STEL. Toluene are 100 ppm TWA. 150 ppm STEL. The OSHA exposure limit for methanol is 200 ppm TWA, 250 ppm STEL. (skin) The OSHA exposure limits for tetrahydrofuran are 200 ppm (590 mg/m3) TWA and 250 ppm (735 mg/m3)STEL The OSHA exposure limit for isopropanol is 400 ppm TWA; 500 ppm STEL. The OSHA exposure limit for n-heptane is 400 ppm TWA and 500 ppm STEL. The OSHA exposure limit for ethanol is 1000 ppm TWA.

ACGIH: The ACGIH exposure limit for benzyl chloride is 1 ppm TWA. The ACGIH exposure limit(s) for styrene is 20 ppm and 40 ppm STEL. These limits also include a Skin notation. Cyclohexanol is 20 ppm and 50 ppm STEL. These limits also include a Skin notation. Toluene is 50 ppm TWA - skin. The ACGIH exposure limit for ethyl benzene is 100 ppm TWA and 125 ppm STEL. The ACGIH exposure limit for xylene is 100 ppm TWA and 150 ppm STEL. The ACGIH exposure limits for methanol are 200 ppm (skin) TWA and 250 ppm (skin) STEL. The ACGIH exposure limit for tetrahydrofuran is 200 ppm TWA and 250 ppm STEL. The ACGIH exposure limits for isopropanol are 200 ppm TWA and 400 ppm STEL. The ACGIH exposure limit for n-heptane is 400 ppm TWA and 500 ppm STEL. The ACGIH exposure limit for ethanol is 1000 ppm TWA.

RESPIRATORY PROTECTION: Use NIOSH approved airline respirator with full facepiece or self-contained breathing apparatus operated in the pressure-demand mode for routine work purposes when the material is open to the atmosphere.

VENTILATION: Use local exhaust or general room/dilution ventilation sufficient to maintain employee exposure below permissible exposure limits.

EYE AND FACE PROTECTION: Chemical safety goggles.

PROTECTIVE GLOVES: Impervious gloves. Nitrile. Viton®.

OTHER PROTECTIVE EQUIPMENT: Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 281-286 °F (138-141°C) (for xylene)
150 - 152 °F (65.5 - 66.5 °C) (for tetrahydrofuran)
Vapor Density (Air=1): 3.7 (for xylene)
Specific Gravity (Water=1): <1.0
pH: 3 to 10
FREEZING/MELTING POINT: NA

SOLUBILITY (wt.% in water): NA
Bulk Density: NA
VOLUME % VOLATILE: NA
VAPOR PRESSURE: 173 mm Hg @ 20 °C (for tetrahydrofuran)
Evaporation Rate: 8 (for tetrahydrofuran) (Butyl Acetate = 1)
HEAT OF SOLUTION: NA
Physical State: liquid
Odor: Hydrocarbon
COLOR: Clear/Colorless to Yellow

10. STABILITY AND REACTIVITY

Stability: See "Incompatibility (Conditions to Avoid)"

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):
Contact with air. Avoid halogens. Avoid contact with strong oxidizing agents and acids. Avoid concentrating solutions, could cause spontaneous ignition. Solutions attack zinc, copper, aluminum and alloys of these metals. Alkali metals, alkaline metals, aluminum, oxidizers.

This product contains tetrahydrofuran which is stable when containers with oxygen and light are excluded. Possible formation of peroxides may cause violent reaction especially upon evaporation to dryness. Unstable peroxides may form upon aging, especially in contact with air. Test for peroxides prior to distillation.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide. Carbon dioxide. Oxides of nitrogen. Hydrogen cyanide. Hydrogen chloride gas.

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION LC50: 150 ppm (rat) (2 hour) High toxicity. (benzyl chloride)
ACUTE ORAL LD50: 636 mg/kg (rat) (LDLO 50 mg/kg human) (toluene) >500 mg/kg </= 2000 mg/kg = Moderate toxicity. 1231 mg/kg (rat) (benzyl chloride) Moderate toxicity.

CARCINOGENICITY STATUS: Benzyl chloride is listed as a carcinogen under IARC Group 2A (probably carcinogenic to humans), ACGIH A3 (confirmed animal carcinogen with unknown relavance to humans), and as a possible carcinogen by OSHA; but is not listed under NTP. This product contains ethylbenzene (CAS # 100-41-1) which is an IARC Group 2B carcinogen. This product contains styrene (CAS # 100-42-5) which is an IARC Group 2B carcinogen.

MEDICAL CONDITIONS AGGRAVATED: None known.

EFFECTS OF OVEREXPOSURE:

ACUTE:

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Eye: Eye contact with liquid or vapors may cause moderate to severe irritation, tearing, increased sensitivity to light, burning, and pain. This product contains a material which may cause irreversible eye damage. Skin: Causes severe skin irritation and may cause burns. May be harmful or fatal if absorbed through the skin. Contact with skin may cause an allergic skin reaction. Inhalation: Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headache, nausea, dizziness, and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Ingestion: Harmful or fatal if swallowed.

The following information is based upon toluene which is a major component.

ACUTE:

Eye/Skin: Eye or skin contact may cause mild irritation. Prolonged skin contact may result in dermatitis (dry, red skin). Inhalation: Breathing vapors or mists from this product may cause irritation to nose and throat, dizziness, and headache. In excessive or prolonged exposures, unconsciousness and death may result. Ingestion: Swallowing this product may cause irritation of the mouth and throat. Ingestion may also cause symptoms listed above for inhalation. This material may cause aspiration, which is the inhalation of the material into lungs during ingestion or vomiting. Severe lung irritation, damage to the lung tissues and death may result.

CHRONIC:

The reported effects of the solvent constituents from long-term exposures in excess of recommended limits include nerve, heart, liver, kidney, and blood abnormalities. Toluene inhalation in animals (greater than 1500 ppm) and intentional inhalation of toluene-containing products by humans (e.g. glue) has caused adverse fetal development effects. It is recommended that the potential for chronic effects be minimized through the prevention of acute effects listed above.

The following information is based upon tetrahydrofuran which is a major component.

ACUTE:

Inhalation: Tetrahydrofuran is primarily a central nervous system depressant. Principal symptoms of exposure include headache, dizziness, nausea, tingling or numbness of the extremities, sense of fullness in the head, sense of warmth, stupor or dullness, lethargy, drunkenness, and narcosis. Eye/Skin: Tetrahydrofuran is expected to be a skin and eye irritant. Ingestion: Acute oral toxicity is expected to be moderate due to the Tetrahydrofuran.

CARCINOGENICITY: NTP (National Toxicology Program) has concluded that Tetrahydrofuran show some evidence of carcinogenicity in male rate and clear evidence of carcingoencity in female mice.

The following information is for methanol:

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ACUTE:

Ingestion: May be fatal or cause blindness if swallowed. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.

Eye/Skin: Causes severe irritation to the eyes. Redness, itching, swelling, burning sensation and visual disturbances can result from excessive eye contact. May cause slight skin irritation. Skin contact may aggravate an existing dermatitis condition. May be absorbed through the skin.

Inhalation: Vapor and/or mists generated during application may be harmful if inhaled. Vapor irritates eyes, nose and throat. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headache, nausea, dizziness, and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

This product contains styrene which has been classified by the International Agency for Research on Cancer (IARC) as a Class 2B carcinogen. This classification is based on data obtained by exposing laboratory animals to styrene oxide.

This product contains cyclohexanone. Long-term inhalation studies with laboratory animals associate cyclohexanone with kidney and liver injury, effects on white blood cells, decreased lung ventilation and oxygen consumption.

This product contains xylene. High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo and fetus. These effects were often at levels toxic to the mother.

Ethylbenzene has been reported by NTP to cause cancer in laboratory animals following a chronic (2 year) inhalation exposure. Dose levels of 75, 250 and 750 ppm were used, with evidence of carcinogenicity found in the kidneys of rats and the lung and liver of mice at 750 ppm. The No Observed Effect Level (NOEL) was 75 ppm. The relevance of these findings to humans is uncertain, but appropriate safeguards should be employed to reduce or eliminate inhalation exposure to ethylbenzene.

Ethanol is slightly toxic by ingestion and inhalation. Contact may cause severe eye and skin irritation. Vapors may cause severe irritation of the nasal and respiratory tract. Allergic reactions to alcohols have been reported.

This product contains benzyl chloride which is a severe irritant to skin, eyes, and mucous membranes. It has caused pulmonary edema, cataracts, permanent eye damage and central nervous system depression. Additionally, it has been found to be a mutagen, fetotoxin, and reproductive toxin. The pungent odor and sensory irritation properties of benzyl chloride are apparent at extremely low levels.

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Venlafaxine Amine Acetate has been reported to cause severe eye irritation and allergic skin reactions in test animals.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:
The following information is for Tetrahydrofuran (CAS 109-99-9):
LC50: 2160 mg/L.(96 hr - fathead minnow) - Slight to very low toxicity.

The following data is for Toluene:
LC50: 31.7 mg/L (96-hour, flow-through, fathead minnow). Moderate toxicity.
LC50: 24 mg/L (96-hour, static, rainbow trout). Moderate toxicity.
LC50: 24 mg/L (96-hour, static, blue gill). Moderate toxicity.

The following data is for n-Heptane:
LC50: 4.0 mg/L (24-hour, goldfish). High toxicity.
LC50: 4900 mg/L (24-hour, mosquito fish). Slight to very low toxicity.
LC50: 375 mg/L (96-hour, cichlid fish). Slight to very low toxicity.

The following information is for Benzyl Chloride (CAS 100-44-7):
LC50:5.0 mg/L (96 hr; fathead minnow (static)) - High Toxicity
LC50: 240 mg/L (24 hr; mosquito fish) - Slight to very low toxicity.

The following information is for Methanol (CAS 67-56-1):
LC50: 29400 mg/L (96 hour - fathead minnow) - Slight to very low toxicity.
LC50: 13 mg/L (96 hour - fingerling rainbow trout) - Moderate toxicity.
LC50: 8000 mg/L (48 hour - trout) - Slight to very low toxicity.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

Proper Shipping Name: Flammable Liquid, Toxic, NOS
NOS Technical Name: Tetrahydrofuran , Benzyl chloride
Hazard Class: 3 (Flammable Liquid)
Subsidiary Risk: 6.1 (Toxic)
UN Number: UN1992
Packing Group: II
USA-RQ, Hazardous Substance and Quantity: (xylene) (benzyl chloride) 100 lbs./45.4 kg. (toluene) (ethylbenzene) (tetrahydrofuran) (styrene) 1000 lbs./454 kg
Marine Pollutant: None
Additional Information: USA Shipments Only - Hazardous Substances are

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regulated in the USA when shipped above their Reportable Quantity (RQ).

15. REGULATORY INFORMATION

USA TSCA: All components of this product are listed on the TSCA Inventory.
EUROPE EINECS: All components in this product are listed on EINECS.
CANADA DOMESTIC SUBSTANCES LIST (DSL): This product and/or all of its components are listed on the Canadian DSL.
AUSTRALIA AICS: All components of this product are listed on AICS.
KOREA ECL: All components in this product are listed on the Korean Existing Chemicals Inventory (KECI).
JAPAN MITI (ENCS): All components in this product are listed on the Japanese Existing and New Chemical Substances (ENCS) chemical inventory.
PHILIPPINES PICCS: All of the components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

SARA TITLE III:
SARA (311, 312) Hazard Class:
Acute Health Hazard. Chronic Health Hazard. Fire Hazard.
SARA (313) Chemicals:
This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirement of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
Toluene//108-88-3. Xylene//1330-20-7 ETHYL BENZENE//100-41-4 STYRENE//100-42-5 Benzyl Chloride//100-44-7 Methanol//67-56-1
SARA Extremely Hazardous Substance:
The following materials are listed as Extremely Hazardous Substances in 40 CFR Part 355:
CAS:100-44-7//Chemical Name: Benzyl Chloride///TPQ: 500 lbs./226.8 kg.

CERCLA Hazardous Substance:
The following materials are listed as CERCLA Hazardous Substances in Table 302.4 of 40 CFR Part 302: Benzyl Chloride (100-44-7) Xylene (1330-20-7) RQ = 100 lbs./45.4 kg. Toluene (108-88-3) Tetrahydrofuran (109-99-9) Ethyl benzene (100-41-4) Styrene (100-42-5) RQ = 1000 lbs./454 kg. Cyclohexanone (108-94-1) RQ = 5000 lbs./2270 kg. Methanol (67-56-1) RQ = 5000 lbs./2270 kg.

CALIFORNIA PROPOSITION 65: Warning: This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

CANADA REGULATIONS (WHMIS): Class B2 - Flammable Liquids. Class D1A - Very Toxic Materials. Class D2A - Very Toxic Materials. Class D1B - Toxic Materials. Class D2B - Toxic Materials. Class E - Corrosive Material.

16. OTHER INFORMATION

The following has been revised since the last issue of this MSDS:
Date. Edition. Section 1 has been updated. Section 2 has been updated. Section 3 has been

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updated. Section 4 has been updated. Section 5 has been updated. Section 6 has been updated. Section 7 has been updated. Section 8 has been updated. Section 11 has been updated. Section 12 has been updated. Section 14 has been updated. Section 15 has been updated. Section 16 has been updated.

Previous revision date: 03/10/2004
Previous edition number: 003

NA = Not Available

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Shimadzu Scientific Instruments, Inc.
7102 Riverwood Drive
Columbia, MD 21046
Telephone: 1-800-477-1227

Control No:
Date:

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT IDENTIFICATION

NAME: SODA LIME
SYNONYM: SODIUM HYDROXIDE
Catalog# 630-00999

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 80006-28-8

SECTION 3. PRODUCT USE

SPECIFICALLY FOR USE AS A CO_2 SCRUBBER IN THE SHIMADZU TOC 500, TOC 5,000, AND TOC 4,000 INSTRUMENTS. CONSULT THE APPROPRIATE INSTRUMENT MANUAL FOR PROPER USE.

SECTION 4. PHYSICAL DATA

MELTING POINT:N/A, BOILING POINT:N/A, DENSITY:N/A, VAPOR PRESSURE:N/A, COLOR:WHITE, PHASE:SOLID PELLETS, SOLUBILITY IN WATER:N/A

SECTION 5. HAZARDS IDENTIFICATION

CORROSIVE,CAUSES BURNS. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

SECTION 6. TOXICITY DATA

RAT/MOUSE LD50:N/A, RTECS# VX965000

SECTION 7.HEALTH HAZARD DATA

ACUTE EFFECTS:MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION. ***MAY BE FATAL IF SWALLOWED.*** MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN. INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 8. FIRST-AID MEASURES

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY. WASH CONTAMINATED CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES. IF INGESTED AND SUBJECT IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. ***GET MEDICAL ATTENTION. DO NOT INDUCE VOMITING .***

SECTION 9. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:DRY CHEMICAL POWDER.
SPECIAL FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. UNUSUAL FIRE AND EXPLOSION HAZARDS:EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 10. ACCIDENTAL RELEASE MEASURES

EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 11. STABILITY AND REACTIVITY

INCOMPATIBILITIES:STRONG ACIDS, ABSORBS CO2 FROM AIR.
AIR SENSITIVE, MOISTURE SENSITIVE, HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: CALCIUM OXIDE, SODIUM/SODIUM OXIDES
HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

SECTION 12. SPECIAL PRECAUTIONS AND COMMENTS

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE. IT SHALL SERVE ONLY AS A GUIDE. SHIMADZU SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR CONTACT WITH THE ABOVE PRODUCT. USERS SHOULD MAKE THEIR OWN DETERMINATIONS REGARDING THE SUITABILITY OF THIS INFORMATION FOR THEIR PARTICULAR PURPOSES.

100 ML

Adjust ph to 2

÷ ML of Acid by 100

X by to gallon in tank

.5 ML at a time

ALTIVIA

MATERIAL SAFETY DATA SHEET

Sodium Hypochlorite Solution 10-15%

ALTIVIA 24 Hour Emergency Phone Number: 713-636-3189
Transportation Emergencies CHEMTREC: 800-424-9300

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	**Sodium Hypochlorite Solution 10-15%**
CHEMICAL NAME/ FAMILY:	Sodium Hypochlorite
TRADE NAMES/ SYNONYMS:	Bleach; hypochlorous acid, sodium salt; soda bleach; sodium oxychloride
PRODUCT USE:	Bleaching agent, chemical intermediate, disinfectant.
MOLECULAR FORMULA:	NaOCl
MANUFACTURER:	ALTIVIA, 1100 Louisiana, Suite 3160, Houston, TX 77002

SECTION 2: COMPOSITION/ INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% RANGE
Sodium Hypochlorite	7681-52-9	9.5 – 16.5
Sodium Hydroxide	1310-73-2	0-1%
Water	7732-18-5	Balance

* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Danger! Corrosive. May cause skin and eye irritation or chemical burns to broken skin. Causes eye damage. Harmful if swallowed. Strong oxidizer. Does not burn. Decomposes when heated, during a fire or upon contact with acids releasing corrosive chlorine gas. During a fire corrosive hydrogen chloride gas may be generated.

POTENTIAL HEALTH EFFECTS

EYE
Liquid or mist contact can produce severe eye irritation and burns. Prolonged exposures may cause eye damage and blindness.

SKIN
Can cause irritation and burns. Liquid contact can cause blistering and eczema. Prolonged exposure may cause dermatitis.

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INGESTION
Oral or gastrointestinal irritation. Corrosion of mucous membranes, perforation of esophagus and stomach may follow.

INHALATION
Irritation of the respiratory system. Mist or fumes may cause bronchial irritation, coughing, difficult breathing, nausea and pulmonary edema.

SIGNS AND SYMPTOMS OF EXPOSURE
Irritation or burns to the eyes and skin. Inhalation may cause coughing, choking, irritation and pulmonary edema. Sodium hypochlorite solutions are corrosive following ingestion and may cause irritation, burns and vomiting.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None known.

EFFECTS FOLLOWING REPEATED EXPOSURE
Prolonged contact with sodium hypochlorite may cause dermatitis, permanent eye damage including blindness.

SECTION 4: FIRST AID MEASURES

EYES
Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention for irritation or any other symptom.

SKIN
Take off contaminated clothing and shoes. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention for irritation or burns. Wash clothing and thoroughly clean shoes before reuse.

INGESTION
Get immediate medical attention. Have person drink a glass of water immediately if able to swallow. **Do not induce vomiting** unless directed to do so by medical personnel. Do not give anything by mouth to an unconscious person.

INHALATION
Remove person from exposure to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration (CPR). If individual is breathing, but with difficulty, get immediate medical attention.

NOTES TO PHYSICIAN
The absence of visible signs or symptoms of burns does not reliably exclude the presence of actual tissue damage.

See Section 11 for Toxicological Information.

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT
Not combustible (does not burn)

AUTO IGNITION TEMPERATURE
Not Established

FLAMMABLE LIMITS IN AIR (% BY VOLUME)
Not Established

EXTINGUISHING MEDIA
Water, water mist, foam, carbon dioxide, dry powder.

HAZARDOUS COMBUSTION PRODUCTS
Thermal decomposition may release toxic gases such as chlorine and hydrogen chloride gas.

FIRE FIGHTING INSTRUCTIONS
Use extinguishing agents suitable for the surrounding fire and not contraindicated for use with sodium hypochlorite. Sodium Hypochlorite releases oxygen when heated, which may increase the severity of an existing fire. Use water spray to cool fire exposed surfaces and to protect personnel. Avoid inhalation of material or combustion by-products. Firefighters should wear full protective clothing and NIOSH approved positive pressure self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

WATER SPILL
Prevent additional discharge of material, if possible to do so without hazard.

LAND SPILL
Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, advise authorities.

GENERAL PROCEDURES
No smoking in spill areas. Isolate spill area and deny entry to unnecessary or unprotected personnel. Remove all sources of ignition, such as flames, hot glowing surfaces or electric arcs. Stop source of spill as soon as possible and notify appropriate personnel. Cleanup personnel must wear proper protective equipment (refer to Section 8). Decontaminate all clothing. Notify all downstream water users of possible contamination.

Create a dike or trench to contain all liquid material. Liquid material may be removed with a vacuum truck. Spill materials may also be absorbed using clay, soil or nonflammable commercial absorbents.

Do not place spill materials back in their original container. Containerize and label all spill materials properly.

RELEASE NOTES
Notify the National Response Center (800/424/8802) of uncontained releases to the environment in excess of the Reportable Quantity (RQ). See Section 15, Regulatory Information. Recycle or dispose of recovered material in accordance with all federal, state, and local, regulations.

For all transportation accidents, call CHEMTREC at 800/424-9300.

SECTION 7: HANDLING AND STORAGE

HANDLING

Do not get in eyes, or on skin, or clothing. Do not taste or swallow. Avoid breathing mists or fumes. Do not handle with bare hands.

Carefully monitor handling, use and storage to avoid spills and leaks. Follow protective controls set forth in Section 8 when handling this product. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom.

STORAGE

STORAGE CONDITIONS
Store in closed, properly labeled tanks or containers. Keep away from heat, direct sunlight and sources of ignition. Do not remove or deface labels or tags. Store in a cool, well ventilated place away from incompatible materials. Do

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not pressurize, cut, heat, or weld containers. Do not drop, roll or skid drums. Keep drums upright. Do not reuse empty containers without commercial cleaning or reconditioning.

STORAGE TEMPERATURE
Do not store above 35°C (95°F).

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT
Acids, ammonia compounds, oxidizing materials, peroxides, reducing agents and most metals.

SECTION 8: EXPOSURE CONTROLS PERSONAL PROTECTION

ENGINEERING CONTROLS

VENTILATION
Use closed systems when possible. Local exhaust ventilation is recommended if vapors, mists or aerosols are generated.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE AND FACE PROTECTION
Wear chemical goggles. A face shield should be worn in addition to goggles where splashing or spraying is possible.

SKIN PROTECTION
Wear chemical resistant clothing. Neoprene gloves, boots and apron or slicker suit.

RESPIRATORY PROTECTION
A NIOSH approved respirator with N95 (dust, fume, mist) filters may be permissible under certain circumstances where airborne concentrations are expected to exceeded exposure limits, or when symptoms have been observed that are indicative of overexposure.

When decomposition products exist, acid gas cartridges are also required.

A half face piece air-purifying respiratory may be used in concentrations up to 10X the acceptable exposure level and a full face piece air-purifying respirator may be used in concentrations up to 50X the acceptable exposure level.

Supplied air should be used when the level is expected to be above 50X the acceptable level, or when there is a potential for uncontrolled release.

A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

GENERAL
Safety shower and eye wash station must be provided in the immediate work area. Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer.

EXPOSURE GUIDELINES

Component Data:	Sodium Hypochlorite AIHA (STEL 15 minutes) - 2mg/m^3
Component Data:	Sodium Hydroxide OSHA (TWA) - 2mg/m^3
	Sodium Hydroxide ACGIH Ceiling - 2mg/m^3

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL FORMULA	NaOCl
MOLECULAR WEIGHT	74.4
APPEARANCE	Clear colorless to pale yellow liquid
ODOR	Characteristic bleach odor
pH @ 25°C	11.5-13.5
VAPOR PRESSURE	Not Established
VOLATILES, % BY VOLUME	Not Established
BOILING POINT	110°C (230°F)
FREEZING POINT	< -12°C (10°F)
SOLUBILITY IN WATER	Complete
EVAPORATION RATE	Not Established
SPECIFIC GRAVITY	1.13-1.27 @ 21°C (70°F)
DENSITY	9.42-10.58 @ 21°C (70°F)
VISCOSITY	Not Established

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable under normal use conditions. May decompose upon heating and exposure to sunlight.

CONDITIONS TO AVOID
Avoid heat, flames, sparks and other sources of ignition. Avoid direct sunlight, acidic conditions, the presence of metals and other impurities.

INCOMPATIBILITY WITH OTHER MATERIALS
Acids, ammonia compounds, oxidizing materials, peroxides, reducing agents and most metals.

HAZARDOUS DECOMPOSITION PRODUCTS
Thermal decomposition may release toxic gases such as chlorine and hydrogen chloride gas.

HAZARDOUS POLYMERIZATION
Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ANIMAL TOXICOLOGY

The toxicity and corrosivity of this material is a function of concentration and pH. This material is irritating and may be corrosive to all tissue.

EYES
Very dilute solutions have caused no irritation. More concentrated solutions have caused corrosive injury, which did not heal within 21 days.

SKIN
LD_{50} (Dermal, Rabbit): > 10,000 mg/m^3 (undiluted)

ACUTE ORAL EFFECTS
LC_{50} (Oral, Female Mouse): ~ 7,540 mg/kg; cited as 5.8 ml/kg (50% solution)

LC_{50} (Oral, Rat): 8,910 mg/kg (undiluted)

ACUTE INHALATION EFFECTS
No available data.

EFFECTS FOLLOWING PROLONGED OR REPEATED EXPOSURE
Dermatitis.

CARCINOGENICITY
This product (or any component at a concentration of 0.1% or greater) is not listed by NTP, IARC, OSHA EPA, or any other authority as a carcinogen.

MUTAGENICITY
No available data.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY
No available data.

SECTION 12: ECOLOGICAL INFORMATION

GENERAL COMMENT
This material is believed to be a moderate order of toxicity based on analogous material.

ENVIROMENTAL FATE
This material is inorganic and not subject to biodegradation. This material is believed not to persist in the environment. This material may be harmful to aquatic organisms in low concentrations.

SECTION 13: DISPOSAL CONSIDERATIONS

SPILL RESIDUES
Processing, use or contamination of this product may change the waste management options. All disposals of this material must be done in accordance with Federal, state and local regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator. If this product becomes a waste it may be subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.

SECTION 14: TRANSPORT INFORMATION

THIS MATERIAL IS A HAZARDOUS AS DEFINED BY 49 CFR 172.01 BY THE U.S DEPARTMENT OF TRANSPORTATION.

DOT IDENTIFICATION NO.: UN 1791

DOT SHIPPING DESCRIPTION (49 CFR 172.101): Hypochlorite solutions, Corrosive, 8

PACKAGING GROUP: III

PLACARD REQUIRED: Corrosive 8, UN 1791

LABEL REQUIRED: Corrosive 8. Label as required by EPA and by OSHA Hazard Communication Standard, and any applicable state and local regulations.

EMERGENCY RESPONSE GUIDE NUMBER: 154

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SECTION 15: REGULATORY INFORMATION

U S FEDERAL REGULATIONS

CERCLA REPORTABLE QUANTITY (RQ)

Ingredient	CAS NO.	RQ
Sodium Hypochlorite	7681-52-9	100 lbs
Sodium Hydroxide	1310-73-2	1000 lbs

TSCA (TOXIC SUBSTANCES CONTROL ACT)
All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III

SARA SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 302.4):
Not Applicable

SARA SECTION 311/312 HAZARD CATEGORIES (40 CFR 370.2):

Fire Hazard	Yes
Reactivity Hazard	No
Release of Pressure	No
Acute Health Hazard	Yes
Chronic Health Hazard	No

SARA SECTION 313 (40 CFR 372.65):
Components identified with an asterisk (*) in Section 2 are subject to the reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

OSHA PROCESS SAFETY (29 CFR 1910.119):
Not regulated.

OTHER U.S. REGUALATIONS
Federal Insecticide, Fugicide and Rodenticide Act (FIFRA): Registered pesticide (40 CFR 152.10)

INTERNATIONAL REGULATIONS

CANADA

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
DSL/ NDSL: This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

SECTION 16: OTHER INFORMATION

NFPA RATINGS	
HEALTH	3
FLAMMABILITY	0
INSTABILITY	1

HMIS CODES	
HEALTH	3
FLAMMABILITY	0
REACTIVITY	1
PROTECTION	C

RATING NOTES
Hazardous Materials Identification: 4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal.

MATERIAL SAFETY DATA SHEET – Sodium Hypochlorite 10-15%

Emergency Information:	**For Any Other Information Contact:**
Call toll free 24 hours a day: 713-636-3189	ALTIVIA, Technical Marketing, 1100 Louisiana, Suite 3160, Houston, TX 77002. Phone: 713-658-9000 8 AM – 5 PM CST, Monday through Friday

Revisions

12/28/2005: Revised to conform to ANSI Standard Z400.1-1998, replaces MSDS A2002-05/04.

Disclaimer of Warranty:
The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. ALTIVIA provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. ALTIVIA knows of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.

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Caustic Soda, Shipment Grade

Material Safety Data Sheet

Arkema Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Thio and Fine Chemicals
Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name	Caustic Soda, Shipment Grade
Product Synonym(s)	
Chemical Family	Alkali
Chemical Formula	NAOH
Chemical Name	Sodium Hydroxide
EPA Reg Num	
Product Use	

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
Carbon disulfide	75-15-0	<0.1%	Y
Sodium hydroxide	1310-73-2	10-15%	Y
Water	7732-18-5	85-90%	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview
Orange slightly turbid liquid with foul odor.
DANGER!
FLAMMABLE LIQUID AND VAPOR.
CAUSES EYE, SKIN AND RESPIRATORY TRACT BURNS. MAY CAUSE BLINDNESS.
CAUSES SEVERE DIGESTIVE TRACT BURNS.
EVEN DILUTE SOLUTIONS MAY CAUSE BURNS.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. This material is a strong alkali that can be destructive to tissue producing severe burns which are not immediately painful or visible. Contact with body tissues may produce deep ulceration, scarring or loss of sight. Concentrations as low as 2-3% can cause injury. Dermatitis (inflammation of the skin) and superficial skin damage can result from repeated or prolonged contact with very dilute solutions. High levels of dust or mist may be corrosive to mucous membranes producing eye or lung injury and chemical pneumonia. Lower concentrations may produce irritation of eyes, nose or upper respiratory tract with coughing, sore throat and shortness of breath. Prolonged exposure may result in ulceration of the nasal passages. If swallowed, this material may cause severe internal injury, characterized by pain in the mouth

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and stomach, vomiting, and breathing difficulties. Medical conditions which may be aggravated by exposure to this material include lung disease or limited respiratory capacity.

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	NE	
Flash Point	70 F - >150 F	Flash Point Method
Flammable Limits- Upper	NE	
Lower	NE	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

Contact with metal can form hydrogen gas. Hydrogen is extremely flammable and can form explosive mixtures with air. Closed containers may explode when heated or contents contaminated with water.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Contain, vacuum up, place in non-sparking container for disposal. Prevent waterway contamination. Construct a dike to prevent spreading. Collect run-off and transfer to drums or tanks for later disposal. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Do not get in eyes, on skin or clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. To avoid rapid temperature rise, violent spattering, or explosive eruptions: always add caustic to water when mixing. Never add water to a caustic when mixing. Heat water to 80-100 F before adding product. Add small amounts of product slowly and evenly over surface of water with constant stirring. Never increase concentration of product by more than 5% with any single

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7 HANDLING AND STORAGE

addition. Water should not exceed 160 F during addition.

Storage

Do NOT store near strong acids.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. Monitor carbon monoxide and oxygen levels in tanks and enclosed spaces.

Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit		Value
Sodium hydroxide		
ACGIH CEILING	-	2 mg/m3
OSHA TWA PEL	-	2 mg/m3
Carbon disulfide		
ACGIH Skin designator	-	Y
ACGIH TWA	-	1 ppm
OSHA Ceiling PEL	-	30 ppm
OSHA TWA PEL	-	20 ppm

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Orange slightly turbid liquid with foul odor.
pH	NE
Specific Gravity	1.073 @ 15 C
Vapor Pressure	30 @ 100 F
Vapor Density	NA
Melting Point	NA
Freezing Point	NE
Boiling Point	NE
Solubility In Water	99.98%

10 STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Reacts violently or explosively with water, acids and organic materials such as chlorinated hydrocarbons. Toxic carbon monoxide gas can form upon contact with food or beverage products.

Hazardous Decomposition Products

Will react with some metals such as aluminum, tin or zinc to generate hydrogen gas. Hydrogen gas can result in explosive hazards in confined spaces.

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide

Single exposure (acute) studies indicate that this material is slightly toxic if absorbed through the skin (rat LD50 1,350 mg/kg; dry sodium hydroxide) and corrosive to rabbit eyes and skin. Many publications in the scientific literature confirm that this material is corrosive to all tissues. Repeated inhalation resulted in lung damage in rats. No tumors were seen in long-term animal studies. No genetic changes were observed in tests using bacteria.

No significant increases in mortality in relation to duration or intensity of exposures were reported in an epidemiologic study of a small group of workers exposed to caustic dust for 30 years or more. Massive ingestion of this material has been implicated as causing esophageal cancer. Squamous cell carcinomas of the esophagus occurred approximately 12-42 years later in individuals who survived accidental childhood ingestion and are likely due to the tissue destruction and possible scarring of the esophagus rather than a direct effect of this material.

Carbon Disulfide

Single exposure (acute) studies indicate that this material is slightly toxic to rats if swallowed (LD50 3,188 mg/kg) or rabbits if absorbed through skin (LD50 2,025 mg/kg), practically non-toxic to rats if inhaled (1-hr LC50 40 mg/l), and severely irritating to rabbit skin and eyes. The neurological effects of long-term exposure have been documented in occupational populations who were generally exposed to levels of 20 ppm or more in viscose rayon production. Exposed workers have experienced headaches, nausea, dizziness, tiredness, memory loss, sleep disturbances, irritability and other psychological symptoms in the early stages of intoxication. Long- term exposure has resulted in decreased nerve conduction velocities, memory loss,

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11 TOXICOLOGICAL INFORMATION

peripheral neuropathy (numbness) in the lower legs and forearms, tremors, poor coordination and personality disorders. In addition, several studies have shown adverse effects on the heart including increases in atherosclerosis, death from coronary or ischemic heart disease and blood pressure. Other studies have indicated that long-term overexposure can cause adverse effects on the eyes including increased hemorrhages or microaneurysms of the retina. Studies of occupationally exposed workers have suggested that long-term exposure to higher levels may cause reproductive effects. Male workers had decreased libido, reduced sperm count and altered endocrine function and female workers reported menstrual irregularities. Sperm from exposed workers have shown alterations indicative of spermatogenic damage. There is conflicting evidence whether increased pregnancy complications and a higher frequency of spontaneous abortions are related to exposures in female workers.

Animal studies have confirmed neurological effects. Rats exposed for long periods to high levels showed decreased motor conduction velocity, hindlimb motor defects, peripheral nerve swelling and degeneration. Repeated exposure of monkeys has resulted in reduced visual acuity. Following inhalation exposure in male rats, minor reproductive effects such as decreased sperm counts and abnormal mating behavior, but no pathological changes were noted in testes. A two-generation reproduction study in exposed female rats showed no reduction in fertility, but mothers exposed to high dose levels had reduced pup viability. Multiple developmental toxicity studies in rats and rabbits have presented evidence of increased birth defects and embryotoxicity at high dose levels; however, exposures at levels that are not maternally toxic generally do not cause birth defects, although developmental effects have been observed. No genetic changes were observed in tests using bacteria, but have been observed in animal cells.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide
Data from several species of fish showed a range of tolerance (brook trout > spotfin and Lake Emerald shiners > minnows > mosquitofish > goldfish) that was most likely related to changes in the pH produced by addition of sodium hydroxide to the water. The minimum lethal concentration for minnows, Mayfly larvae and Daphnia was 100 ppm and for Chironomus larvae, 700 ppm.

Carbon Disulfide
This material is moderately toxic to Daphnia magna (LC50 2.1 mg/l). It is moderately toxic to guppies (LC50 4 mg/l) and slightly toxic to green algae (LC50 21 mg/l). It is practically non-toxic to mosquitofish (LC50 135 mg/l) and bacteria (LC50 341 mg/l).

Chemical Fate Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide
No data were available, but this material is a strong alkali that easily dissolves in water with resulting acid/base chemistry.

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13 DISPOSAL CONSIDERATIONS

Waste Disposal

Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14 TRANSPORT INFORMATION

DOT Name	Flammable Liquid, Corrosive, NOS
DOT Technical Name	(Sodium Hydroxide; Carbon Disulfide)
DOT Hazard Class	3, 8
UN Number	UN 2924
DOT Packing Group	PG II
RQ	Sodium Hydroxide 1000# (dry basis); Carbon Disulfide 100#
DOT Special Information	Subsidiary hazard: 8 Corrosive On a waste manifest, add the word "Waste"

15 REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Sodium hydroxide	1000 LBS	
Water	NE	
Carbon disulfide	100 LBS	10000 LBS

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. See Section 2

Carbon disulfide

SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Carbon disulfide

California Prop 65 - Developmental Toxin

This product does contain the following chemical(s), as indicated below, currently on the California List of Developmental Toxins.

Carbon disulfide

Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

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Massachusetts Right to Know
This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.
Carbon disulfide
Sodium hydroxide

New Jersey Right to Know
This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.
Carbon disulfide
Sodium hydroxide

Pennsylvania Environmental Hazard
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.
Carbon disulfide
Sodium hydroxide

Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.
Carbon disulfide
Sodium hydroxide

16 OTHER INFORMATION

Revision Information

Revision Date	23 FEB 2007	Revision Number 6
Supercedes Revision Dated	07-NOV-2006	

Revision Summary
Moved from Retired to Active 03.

Key
NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous
NOTE: Toxic carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and cause death.

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EPAHO114000162

0.74 x 60

14.5 ml

MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum M7188
Revision Date: 18Nov2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum M7188
Product Description: Petroleum Product Additive
Product Code: 80553101, 80553101
Intended Use: Lube oil additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
ALKOXYLATED ALKYL PHENOL

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Contact with hot material can cause thermal burns which may result in permanent damage. Contact with hot material can cause thermal burns which may result in permanent damage or blindness. Thermal burn hazard - contact with hot material may cause thermal burns.

POTENTIAL HEALTH EFFECTS
Irritating to skin. Corrosive to eyes. May cause permanent damage. Low order of toxicity. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

Target Organs: Skin | Eye |

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 3 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 3 Flammability: 1 Reactivity: 0

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Product Name: Infineum M7188
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NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Carbon dioxide

FLAMMABILITY PROPERTIES
Flash Point [Method]: >100C (212F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: >150°C (302°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Material will sink. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Remove debris in path of spill prior to oiling and remove contaminated debris from shoreline and water surface and dispose of according to local regulations. Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimize spreading.

SECTION 7 HANDLING AND STORAGE

HANDLING

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Product Name: Infineum M7188
Revision Date: 18Nov2008

Avoid contact with skin. Avoid contact with eyes. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]
Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Trucks; Drums; Tank Cars
Suitable Materials and Coatings: Carbon Steel; Stainless Steel; Epoxies
Unsuitable Containers/Packing: Natural and butyl rubbers; Butadiene and styrene rubbers
Unsuitable Materials and Coatings: Polyethylene; Rubber; Butadiene Rubber; Butyl Rubber; Styrene Rubber

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact with material may occur, safety glasses and face shield are recommended. Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Form: Clear
Color: Yellow
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

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Relative Density (at 15.6 C): 1.03 15.6°/15.6C
Density (at 15 °C): 1027 kg/m³ (8.57 lbs/gal, 1.03 kg/dm³)
Flash Point [Method]: >100C (212F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: >150°C (302°F)
Boiling Point / Range: > 300C (572F)
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | 350 cSt (350 mm2/sec) at 20C | 8 cSt (8 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D
Pour Point: -27°C (-17°F)
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00065 %

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. Elevated temperatures.

MATERIALS TO AVOID: Strong oxidizers, Strong Acids, Strong Bases

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation Toxicity: LC50 > 5 mg/l Irritation: No end point data.	Minimally Toxic. Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	

EPAHO114000169

Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/g	Minimally Toxic.
Irritation: No end point data.	Moderately irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	Corrosive to eyes. May cause permanent damage.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Material -- Has the potential to bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

EPAHO114000170

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl phenol ethoxylate)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl phenol ethoxylate), 9, PG III

AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl phenol ethoxylate)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl phenol ethoxylate), 9, PG III

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Product Name: Infineum M7188
Revision Date: 18Nov2008

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 06: Notification Procedures - Header was modified.
Section 11: Eye Irritation Conclusion was modified.
Section 01: Product Code was modified.
Section 13: Empty Container Warning was modified.
Section 08: Hand Protection was modified.

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Product Name: Infineum M7188
Revision Date: 18Nov2008

Section 05: Hazardous Combustion Products was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 14: Transport Document Name was modified.
Section 06: Notification Procedures was modified.
Section 14: Proper Shipping Name - Header was added.
Section 14: Proper Shipping Name was added.
Section 14: Hazard Class & Division - Header was added.
Section 14: Hazard Class was added.
Section 14: UN Number - Header was added.
Section 14: UN Number was added.
Section 14: Packing Group - Header was added.
Section 14: Packing Group was added.
Section 14: Label(s) - Header was added.
Section 14: Label(s) was added.
Section 14: EMS Number - Header was added.
Section 14: EMS Number was added.
Section 14: Transport Document Name - Header was added.
Section 14: Transport Document Name was added.
Section 14: LAND (TDG) - Header was added.
Section 14: LAND (TDG) Default was added.
Section 16: NA Contains was added.
Section 16: NA Contains - Header was added.
Section 14: IMO Technical Name - All was added.
Section 14: IMO Technical Name - Close parenthesis was added.
Section 14: IMO Technical Name - Open parenthesis was added.
Section 14: Sea (IMDG) - Default was deleted.

PRECAUTIONARY LABEL TEXT:
Contains: ALKOXYLATED ALKYL PHENOL
DANGER!
HEALTH HAZARDS
Irritating to skin. Corrosive to eyes. May cause permanent damage.
Target Organs: Skin | Eye |

PHYSICAL HAZARDS Contact with hot material can cause thermal burns which may result in permanent damage. Thermal burn hazard - contact with hot material may cause thermal burns.

PRECAUTIONS
Avoid contact with skin. Avoid contact with eyes.

FIRST AID
Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

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SPILL/LEAK
Land Spill: Stop leak if you can do it without risk. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.
Use
Not intended or suitable for use in or around a household or dwelling.

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MHC: 0, 0, 0, 2, 3, 1

DGN: 6030023 (1004065) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum R683
Revision Date: 17Jan2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum R683
Product Description: Petroleum Product Additive
Product Code: 72340100, 72340100
Intended Use: Fuel additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
LIGHT AROMATIC SOLVENT NAPTHA

Hazardous Constituent(s) Contained in Complex Substance(s)
1,3,5-TRIMETHYLBENZENE
CUMENE
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)
XYLENES

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Repeated exposure may cause skin dryness or cracking. Danger of adverse health effects by a single exposure. If swallowed, may be aspirated and cause lung damage. May be irritating to the respiratory tract - effects are reversible. May cause central nervous system depression. High-pressure injection under skin may cause serious damage.

Target Organs: Nervous system | Skin |

EPAHO114000175

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 2 Flammability: 2 Reactivity: 0
HMIS Hazard ID: Health: 2 Flammability: 2 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

NOTE TO PHYSICIAN
If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Flammable. Evacuate area. Prevent runoff from fire control or

EPAHQ114000176

dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Carbon dioxide

FLAMMABILITY PROPERTIES
Flash Point [Method]: <=40C (104F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to

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be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid breathing mists or vapors. Avoid contact with skin. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Products may load from Infineum manufacturing site above the standard loading/unloading range.

Loading/Unloading Temperature: -30°C (-22°F) - 33°C (91°F)

Transport Temperature: N/D
Transport Pressure: N/D

Static Accumulator: This material is a static accumulator.

STORAGE
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: -30°C (-22°F) - 33°C (91°F)
Storage Pressure: N/D
Suitable Materials and Coatings: Teflon; Viton; Stainless Steel; Carbon Steel
Unsuitable Materials and Coatings: Silicone Rubber; Styrene Rubber; Ethylene-proplyene-diene monomer (EPDM); High Density Polyethylene(HDPE); Polyethylene; Nitrile Rubber; Natural Rubber; Neoprene

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source 1,3,5-TRIMETHYLBENZENE N/A TWA 25 ppm N/A ACGIH CUMENE N/A TWA 245 mg/m3 50 ppm Skin OSHA Z1 CUMENE N/A TWA 50 ppm N/A ACGIH LIGHT AROMATIC SOLVENT NAPTHA Inhalable TWA 17 ppm 100 mg/m3 N/A Supplier PSEUDOCUMENE

EPAHO114000178

(1,2,4-TRIMETHYLBENZENE) N/A TWA 25 ppm N/A ACGIH XYLENES#N/A#TWA#435 mg/m3#100 ppm#N/A#OSHA Z1#XYLENES#N/A#STEL#150 ppm##N/A#ACGIH#XYLENES#N/A#TWA#100 ppm##N/A#ACGIH#

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

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Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: Clear and Bright
Odor: Mild Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density: 0.913
Density (at 15 °C): 913 kg/m³ (7.62 lbs/gal, 0.91 kg/dm³)
Flash Point [Method]: <=40C (104F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/A
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 7 cSt (7 mm2/sec) at 40 C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/A
Pour Point: <= -50°C (-58°F)
Coefficient of Thermal Expansion: 0.00074 V/VDEGC
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

EPAHO114000180

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources. Elevated temperatures.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data.	May cause central nervous system effects.
Irritation: No end point data.	May be irritating to the respiratory tract. The effects are reversible.
Ingestion	
Toxicity: No end point data.	Minimally Toxic.
Skin	
Toxicity: No end point data.	Minimally Toxic.
Irritation: No end point data.	May dry the skin leading to discomfort and dermatitis.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes.

CHRONIC/OTHER EFFECTS

For the product itself:

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Contains:

CUMENE: Repeated inhalation exposure of cumene vapor produced damage in the kidney of male rats only. These effects are believed to be species specific and are not relevant to humans.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

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Product Name: Infineum R683
Revision Date: 17Jan2008

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY Not determined.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates)
Hazard Class & Division: 3
ID Number: 1993

Packing Group: III
Product RQ: 5806.35 lbs - XYLENES
ERG Number: 128
Label(s): 3
Transport Document Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates), 3, UN1993, PG III, RQ Xylenes

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid.

LAND (TDG)
Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum DIstillates)
Hazard Class & Division: 3
UN Number: 1993
Packing Group: III
Special Provisions: 16
SEA (IMDG)
Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates)
Hazard Class & Division: 3
EMS Number: F-E,S-E
UN Number: 1993
Packing Group: III
Label(s): 3
Transport Document Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates), 3, UN1993, PG III, (41°C c.c.)

AIR (IATA)
Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates)
Hazard Class & Division: 3
UN Number: 1993
Packing Group: III
Label(s): 3
Transport Document Name: FLAMMABLE LIQUIDS, N.O.S. (Petroleum Distillates), 3, UN1993, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: IECSC, ENCS, TSCA, DSL, KECI, EINECS

EPCRA: This material contains no extremely hazardous substances.

CERCLA:
Chemical Name CAS Number Typical Value Component RQ Product RQ XYLENES 1330-20-7 1 - 4.9% 100 lbs 5806.35 lbs

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Product Name: Infineum R683
Revision Date: 17Jan2008

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY:
Chemical Name CAS Number Typical Value CUMENE 98-82-8 1 - 4.9% XYLENES 1330-20-7 1 - 4.9% PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 10 - 19.9%

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations 1,3,5-TRIMETHYLBENZENE 108-67-8 1, 13, 16, 17, 18, 19 CUMENE 98-82-8 1, 4, 13, 16, 17, 18, 19 PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1, 13, 16, 17, 18, 19 TRACE METAL IMPURITIES N/A 10, 11 TRACE REPORTABLE AROMATIC COMPOUNDS None 10, 11 XYLENES 1330-20-7 1, 4, 5, 13, 15, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 07: Loading/Unloading Temperature C(F) was modified.
Section 07: Transport Temperature C(F) was modified.
Section 07: Storage Temperature C(F) was modified.
Section 09: Flash Point C(F) was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 06: Protective Measures was modified.
Section 13: Empty Container Warning was modified.
Section 09: Density kg/m3(lbs/gal) was modified.
Section 08: Hand Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 15: TSCA Class 2 Statement was deleted.
Section 15: List Citation Table - Header was modified.
Section 16: Water Spill was modified.
Section 16: NA Contains was modified.
Section 06: Notification Procedures was modified.
Section 09: Decomposition Temperature was added.
Section 09: Decomposition Temp - Header was added.
Section 15: List Citations Table was modified.

Product Name: Infineum R683
Revision Date: 17Jan2008

PRECAUTIONARY LABEL TEXT:
Contains: PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE), 1,3,5-TRIMETHYLBENZENE, XYLENES, CUMENE, LIGHT AROMATIC SOLVENT NAPTHA
CAUTION!
HEALTH HAZARDS
Repeated exposure may cause skin dryness or cracking. Danger of adverse health effects by a single exposure. If swallowed, may be aspirated and cause lung damage.
Target Organs: Nervous system | Skin |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge. Flammable.

PRECAUTIONS
Avoid breathing mists or vapors. Avoid contact with skin. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures.

FIRST AID
Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Report spills as required to appropriate authorities. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Product Name: Infineum R683
Revision Date: 17Jan2008

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this information, in the absence of any overriding obligations arising under a specific contract, no representation, warranty (express or implied), or guarantee is made as to the suitability, accuracy, reliability or completeness of the information; nothing in this document shall reduce the user's responsibility to satisfy itself as to the suitability, accuracy, reliability, and completeness of such information for its particular use; there is no warranty against intellectual property infringement; and Infineum shall not be liable for any loss, damage or injury that may occur from the use of this information other than death or personal injury caused by its negligence. No statement shall be construed as an endorsement of any product or process. For greater certainty, before use of information contained in this document, particularly if the product is used for a purpose or under conditions which are abnormal or not reasonably foreseeable, this information must be reviewed with the supplier of such information.

Internal Use Only MHC: 2A, 0, 1, 0, 1, 2
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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum R541
Revision Date: 12Oct2006

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum R541
Product Description: Petroleum Product Additive
Product Code: 33599100, 33599100
Intended Use: Fuel additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
ALKYL PHENOL
HYDRODESULFURIZED KEROSINE (PETROLEUM)
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC

Hazardous Constituent(s) Contained in Complex Substance(s)
NAPHTHALENE
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Corrosive to eyes and skin. May cause permanent damage. Possible human cancer hazard. Low order of toxicity. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

Target Organs: Skin | Eye |

EPAHO114000187

Product Name: Infineum R541
Revision Date: 12Oct2006

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 3 Flammability: 2 Reactivity: 0
HMIS Hazard ID: Health: 3* Flammability: 2 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

INGESTION
Seek immediate medical attention. Do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

EPAHO114000188

Product Name: Infineum R541
Revision Date: 12Oct2006

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Smoke, Fume, Nitrogen oxides

FLAMMABILITY PROPERTIES
Flash Point [Method]: >62C (144F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See Section 3 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

EPAHO114000189

HANDLING
Avoid contact with eyes. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

Loading/Unloading Temperature: ND

Transport Temperature: N/D
Transport Pressure: N/D

Static Accumulator: This material is a static accumulator.

STORAGE
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: N/D
Suitable Materials and Coatings: Carbon Steel; Stainless Steel; Inorganic Zinc Coatings
Unsuitable Materials and Coatings: Vinyl Coatings; Polyethylene; Butadiene Rubber; Natural Rubber; Styrene Rubber

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source HYDRODESULFURIZED KEROSINE (PETROLEUM) [total hydrocarbon vapor] Non-Aerosol TWA 200 mg/m3 Skin ACGIH NAPHTHALENE N/A TWA 50 mg/m3 10 ppm N/A OSHA Z1 NAPHTHALENE Inhalable STEL 15 ppm 79 mg/m3 N/A Supplier NAPHTHALENE Inhalable TWA 10 ppm 52 mg/m3 N/A Supplier PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) N/A TWA 25 ppm N/A ACGIH SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#STEL#15 ppm#79 mg/m3#N/A#Supplier#SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#TWA#17 ppm#100 mg/m3#N/A#Supplier#SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#TWA#10 ppm#52 mg/m3#N/A#Supplier#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: Chemical goggles and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

EPAHO114000191

Product Name: Infineum R541
Revision Date: 12Oct2006

Physical State: Liquid
Color: Amber
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 0.918 15.6°/15.6C
Density (at 15 °C): 908 kg/m³ (7.58 lbs/gal, 0.91 kg/dm³)
Flash Point [Method]: >62C (144F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/A
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 30 cSt (30 mm2/sec) at 40 C | 145 cSt (145 mm2/sec) at 20C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/A
Pour Point: 1°C (34°F)
Coefficient of Thermal Expansion: 0.00086 V/VDEGC

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources. Elevated temperatures.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation Toxicity: LC50 > 5 mg/l Irritation: No end point data.	Minimally Toxic. Elevated temperatures or

	mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.
Eye	
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.

CHRONIC/OTHER EFFECTS
Contains:
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Expected to partition to water. Some partitioning to sediment and wastewater solids. Minimally volatile.

PERSISTENCE AND DEGRADABILITY
Biodegradation:

A component -- Expected to be readily biodegradable.

EPAHO114000193

Product Name: Infineum R541
Revision Date: 12Oct2006

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
ID Number: 1760
Packing Group: III
Marine Pollutant: Yes
Product RQ: 2162.27 lbs - NAPHTHALENE
ERG Number: 154
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III, MP, RQ NAPHTHALENE

LAND (TDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III

EPAHO114000194

Product Name: Infineum R541
Revision Date: 12Oct2006

Special Provisions: 16
SEA (IMDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
EMS Number: F-A, S-B
UN Number: 1760
Packing Group: III
Marine Pollutant: Yes
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III,

AIR (IATA)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: IECSC, DSL, EINECS, ENCS, KECI, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA:
Chemical Name CAS Number Typical Value Component RQ Product RQ NAPHTHALENE 91-20-3 0.1 - 0.9% 100 lbs 2162.27 lbs

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:
Chemical Name CAS Number Typical Value NAPHTHALENE 91-20-3 0.1 - 0.9% PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 0.1 - 0.9%

The Following Ingredients are Cited on the Lists Below:*
Chemical Name CAS Number List Citations HYDRODESULFURIZED KEROSINE (PETROLEUM) 64742-81-0 1 NAPHTHALENE 91-20-3 4, 5, 9, 10, 13, 16, 17, 18, 19 PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1, 13, 16, 17, 18, 19 SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC 64742-94-5 9 TRACE METAL IMPURITIES N/A 10, 11 TRACE REPORTABLE AROMATIC COMPOUNDS None 10, 11

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b

Product Name: Infineum R541
Revision Date: 12Oct2006

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10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 01: Product Code was modified.

PRECAUTIONARY LABEL TEXT:
Contains: PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE), NAPHTHALENE, HYDRODESULFURIZED KEROSINE (PETROLEUM), ALKYL PHENOL
DANGER!
HEALTH HAZARDS
Corrosive to eyes and skin. May cause permanent damage. Possible human cancer hazard.
Target Organs: Skin | Eye |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS
Avoid contact with eyes. Use proper bonding and/or grounding procedures.

FIRST AID
Eye: Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

Skin: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

EPAHQ114000196

Product Name: Infineum R541
Revision Date: 12Oct2006

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.
Use
Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this information, in the absence of any overriding obligations arising under a specific contract, no representation, warranty (express or implied), or guarantee is made as to the suitability, accuracy, reliability or completeness of the information; nothing in this document shall reduce the user's responsibility to satisfy itself as to the suitability, accuracy, reliability, and completeness of such information for its particular use; there is no warranty against intellectual property infringement; and Infineum shall not be liable for any loss, damage or injury that may occur from the use of this information other than death or personal injury caused by its negligence. No statement shall be construed as an endorsement of any product or process. For greater certainty, before use of information contained in this document, particularly if the product is used for a purpose or under conditions which are abnormal or not reasonably foreseeable, this information must be reviewed with the supplier of such information.

Internal Use Only MHC: 0, 0, 0, 5, 5, 1
DGN: 6003055 (1010542) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

REVISION: 12/12/03
MSDS No.: 80032100

Infineum C9404

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Infineum C9404
CHEMICAL FAMILY:
Petroleum Product Additive
PRODUCT DESCRIPTION:
Lube oil additive containing organic acid ester

CONTACT ADDRESS:
Infineum USA L.P.
P.O. Box CN 135, Linden NJ 07036

**	EMERGENCY TELEPHONE NUMBERS: (24 Hours)		**
**	CHEMTREC	(800) 424-9300	**
**	CHEMTREC outside USA	(703) 527-3887	**
**	Infineum USA L.P.	(800) 726-2015	**

NON EMERGENCY TELEPHONE NUMBER : (8am-5pm M-F)
FOR GENERAL PRODUCT INFORMATION CALL : (800) 654-1233

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.
This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Eye Irritant	Organic acid ester

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS
EYE CONTACT:
Irritating, and will injure eye tissue if not removed promptly.
SKIN CONTACT:
Low order of toxicity.
Frequent or prolonged contact may irritate.
INHALATION:
Negligible hazard at ambient (-18 to 38 Deg C; 0 to 100 Deg F) or recommended blending temperature.
Avoid breathing vapors or mists.
INGESTION:
Minimal toxicity.

Continues on page 2

SECTION 4 FIRST AID MEASURES

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

SKIN CONTACT:
Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:
DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

SECTION 5 FIRE-FIGHTING MEASURES

FLASH POINT: 265 Deg F. METHOD: PMCC ASTM D93 NOTE: Typical
FLAMMABLE LIMITS: NOTE: Not Available
AUTOIGNITION TEMP.: NOTE: Not Available

GENERAL HAZARD
Solid material, may burn at or above the flashpoint, and airborne dust may explode if ignited .
Toxic gases will form upon combustion.

FIRE FIGHTING
Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply to fire.
Extinguish the fire by cooling with water spray.
Respiratory and eye protection required for fire fighting personnel.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, oxides of sulfur and carbon monoxide

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL
Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY

Continues on page 3

INFORMATION) notify the National Response Center.
Recover spilled material and place in suitable containers for recycle or disposal.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Prevent additional discharge of material, if possible to do so without hazard. Advise authorities if floating material enters a watercourse or sewer. If possible, try to contain floating material .
Skim from surface.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:

No, but use proper bonding and/or grounding procedure.

STORAGE TEMPERATURE, Deg F:

104 to 140

LOADING/UNLOADING TEMPERATURE, Deg F:

140

STORAGE/TRANSPORT PRESSURE, mmHg:

Not available

LOADING/UNLOADING VISCOSITY, cSt:

Not available

STORAGE AND HANDLING:

Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials.
Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.
This material is not a static accumulator, but use proper bonding and/or grounding procedures.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

Ventilation should be provided to control worker exposures and prevent health risk.

PERSONAL PROTECTION

For open systems where contact is likely, wear long sleeves, chemical resistant gloves, and chemical goggles.
Where contact may occur, wear safety glasses with side shields.
Where overexposure by inhalation may occur and engineering, work practice or other means of exposure reduction are not adequate, approved respirators may be necessary.

Continues on page 4

EXPOSURE GUIDELINES:
No workplace exposure limits have been established for this product.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY at Deg F:	0.97 at 60 Typical
DENSITY at Deg F:	8.3 lbs/gal at 60 Typical
VAPOR PRESSURE, mmHg at Deg F:	Negligible at ambient
SOLUBILITY IN WATER, wt. % at Deg F:	Negligible
VISCOSITY OF LIQUID, cSt at Deg F:	90 at 212 Typical
SP. GRAV. OF VAPOR, at 1 atm (Air=1):	Greater than Air
FREEZING/MELTING POINT, Deg F:	91 Typical
EVAPORATION RATE, n-Bu Acetate=1:	Negligible
BOILING POINT, Deg F:	Not Available

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable
CONDITIONS TO AVOID INSTABILITY:
None
HAZARDOUS POLYMERIZATION:
Will not occur
CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
Not Applicable
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Strong oxidizing agents, particularly Hydrochloric acid and Halogen acids
HAZARDOUS DECOMPOSITION PRODUCTS:
Not Applicable

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information.

Continues on page 5

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):
This product is not DOT regulated.

SECTION 15 REGULATORY INFORMATION

TSCA:
All of the components of this product are listed on the TSCA Inventory.
CERCLA:
If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act. We recommend you contact local authorities to determine if there may be other local reporting requirements.
SARA TITLE III:
Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Immediate health.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product does not contain Section 313 Reportable Ingredients.

SECTION 16 OTHER INFORMATION

HAZARD RATING SYSTEMS:
This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	2	2	4 = Severe
FLAMMABILITY	1	1	3 = Serious
REACTIVITY	0	0	2 = Moderate
			1 = Slight
			0 = Minimal

CAUTION: HMIS ratings are based on a 0-4 rating scale with 1 representing minimal hazards or risks, and 4 representing significant hazards or risks. Recommended HMIS ratings should not be used in the absence of a fully implemented HMIS hazard communication program.

Continues on page 6

Infineum C9404

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REVISION SUMMARY:
Since July 2, 2002 this MSDS has been revised in Section(s):
1, 2, 9, 15

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REFERENCE NUMBER:	SUPERSEDES ISSUE DATE:
HDHA-B-10341	July 2, 2002

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This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

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LAST PAGE

MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum R541
Revision Date: 12Oct2006

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum R541
Product Description: Petroleum Product Additive
Product Code: 33599100, 33599100
Intended Use: Fuel additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
ALKYL PHENOL
HYDRODESULFURIZED KEROSINE (PETROLEUM)
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC

Hazardous Constituent(s) Contained in Complex Substance(s)
NAPHTHALENE
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Corrosive to eyes and skin. May cause permanent damage. Possible human cancer hazard. Low order of toxicity. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

Target Organs: Skin | Eye |

EPAHO114000204

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 3 Flammability: 2 Reactivity: 0
HMIS Hazard ID: Health: 3* Flammability: 2 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

INGESTION
Seek immediate medical attention. Do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

EPAHO114000205

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Smoke, Fume, Nitrogen oxides

FLAMMABILITY PROPERTIES
Flash Point [Method]: >62C (144F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See Section 3 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

EPAHO114000206

Product Name: Infineum R541
Revision Date: 12Oct2006

HANDLING
Avoid contact with eyes. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

Loading/Unloading Temperature: ND

Transport Temperature: N/D
Transport Pressure: N/D

Static Accumulator: This material is a static accumulator.

STORAGE
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: N/D
Suitable Materials and Coatings: Carbon Steel; Stainless Steel; Inorganic Zinc Coatings
Unsuitable Materials and Coatings: Vinyl Coatings; Polyethylene; Butadiene Rubber; Natural Rubber; Styrene Rubber

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source HYDRODESULFURIZED KEROSINE (PETROLEUM) [total hydrocarbon vapor] Non-Aerosol TWA 200 mg/m3 Skin ACGIH NAPHTHALENE N/A TWA 50 mg/m3 10 ppm N/A OSHA Z1 NAPHTHALENE Inhalable STEL 15 ppm 79 mg/m3 N/A Supplier NAPHTHALENE Inhalable TWA 10 ppm 52 mg/m3 N/A Supplier PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) N/A TWA 25 ppm N/A ACGIH SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#STEL#15 ppm#79 mg/m3#N/A#Supplier#SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#TWA#17 ppm#100 mg/m3#N/A#Supplier#SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#TWA#10 ppm#52 mg/m3#N/A#Supplier#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

EPAHO114000207

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: Chemical goggles and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

EPAHO114000208

Product Name: Infineum R541
Revision Date: 12Oct2006

Physical State: Liquid
Color: Amber
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 0.918 15.6°/15.6C
Density (at 15 °C): 908 kg/m³ (7.58 lbs/gal, 0.91 kg/dm³)
Flash Point [Method]: >62C (144F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/A
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 30 cSt (30 mm2/sec) at 40 C | 145 cSt (145 mm2/sec) at 20C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/A
Pour Point: 1°C (34°F)
Coefficient of Thermal Expansion: 0.00086 V/VDEGC

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources. Elevated temperatures.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or

	mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.
Eye	
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.

CHRONIC/OTHER EFFECTS
Contains:
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Expected to partition to water. Some partitioning to sediment and wastewater solids. Minimally volatile.

PERSISTENCE AND DEGRADABILITY
Biodegradation:

A component -- Expected to be readily biodegradable.

EPAHO114000210

Product Name: Infineum R541
Revision Date: 12Oct2006

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
ID Number: 1760
Packing Group: III
Marine Pollutant: Yes
Product RQ: 2162.27 lbs - NAPHTHALENE
ERG Number: 154
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III, MP, RQ NAPHTHALENE

LAND (TDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III

Product Name: Infineum R541
Revision Date: 12Oct2006

Special Provisions: 16
SEA (IMDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
EMS Number: F-A, S-B
UN Number: 1760
Packing Group: III
Marine Pollutant: Yes
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III,

AIR (IATA)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III
Label(s): 8
Transport Document Name: CORROSIVE LIQUIDS, N.O.S. (ALKYL PHENOL), 8, UN1760, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: IECSC, DSL, EINECS, ENCS, KECI, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA:
Chemical Name CAS Number Typical Value Component RQ Product RQ NAPHTHALENE 91-20-3 0.1 - 0.9% 100 lbs 2162.27 lbs

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:
Chemical Name CAS Number Typical Value NAPHTHALENE 91-20-3 0.1 - 0.9% PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 0.1 - 0.9%

The Following Ingredients are Cited on the Lists Below:*
Chemical Name CAS Number List Citations HYDRODESULFURIZED KEROSINE (PETROLEUM) 64742-81-0 1 NAPHTHALENE 91-20-3 4, 5, 9, 10, 13, 16, 17, 18, 19 PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1, 13, 16, 17, 18, 19 SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC 64742-94-5 9 TRACE METAL IMPURITIES N/A 10, 11 TRACE REPORTABLE AROMATIC COMPOUNDS None 10, 11

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b

Product Name: Infineum R541
Revision Date: 12Oct2006

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10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 01: Product Code was modified.

PRECAUTIONARY LABEL TEXT:
Contains: PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE), NAPHTHALENE, HYDRODESULFURIZED KEROSINE (PETROLEUM), ALKYL PHENOL
DANGER!
HEALTH HAZARDS
Corrosive to eyes and skin. May cause permanent damage. Possible human cancer hazard.
Target Organs: Skin | Eye |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS
Avoid contact with eyes. Use proper bonding and/or grounding procedures.

FIRST AID
Eye: Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

Skin: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

EPAHO114000213

Product Name: Infineum R541
Revision Date: 12Oct2006

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.
Use
Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this information, in the absence of any overriding obligations arising under a specific contract, no representation, warranty (express or implied), or guarantee is made as to the suitability, accuracy, reliability or completeness of the information; nothing in this document shall reduce the user's responsibility to satisfy itself as to the suitability, accuracy, reliability, and completeness of such information for its particular use; there is no warranty against intellectual property infringement; and Infineum shall not be liable for any loss, damage or injury that may occur from the use of this information other than death or personal injury caused by its negligence. No statement shall be construed as an endorsement of any product or process. For greater certainty, before use of information contained in this document, particularly if the product is used for a purpose or under conditions which are abnormal or not reasonably foreseeable, this information must be reviewed with the supplier of such information.

Internal Use Only MHC: 0, 0, 0, 5, 5, 1
DGN: 6003055 (1010542) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum F7589
Revision Date: 04Aug2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum F7589
Product Description: Petroleum Product Additive
Product Code: 33977100
Intended Use: Fuel additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
HEAVY AROMATIC SOLVENT
ALKYL ALCOHOL
KEROSENE

Hazardous Constituent(s) Contained in Complex Substance(s)
NAPHTHALENE
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Irritating to eyes. Irritating to skin. Possible human cancer hazard. Danger of adverse health effects by a single exposure. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression.

Target Organs: Nervous system | Lung | Skin | Eye |

EPAHO114000215

Product Name: Infineum F7589
Revision Date: 04Aug2008

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 2 Flammability: 2 Reactivity: 0
HMIS Hazard ID: Health: 2* Flammability: 2 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION
Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN
If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider

protective equipment indicated in Section 8.

Hazardous Combustion Products: Carbon monoxide, Nitrogen oxides, Smoke, Fume, Carbon dioxide

FLAMMABILITY PROPERTIES
Flash Point [Method]: 72C (162F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Prevent dust cloud. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

EPAHO114000217

Product Name: Infineum F7589
Revision Date: 04Aug2008

ENVIRONMENTAL PRECAUTIONS
Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimize spreading.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid contact with skin. Avoid contact with eyes. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

Loading/Unloading Temperature: -30°C (-22°F) - 54°C (129°F)

Transport Temperature: N/D
Transport Pressure: N/D

Static Accumulator: This material is a static accumulator.

STORAGE
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: -30°C (-22°F) - 54°C (129°F)
Storage Pressure: N/D

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source HEAVY AROMATIC SOLVENT Inhalable TWA 17 ppm 100 mg/m3 N/A Supplier ALKYL ALCOHOL N/A TWA 50 ppm N/A Supplier NAPHTHALENE N/A TWA 50 mg/m3 10 ppm N/A OSHA Z1 NAPHTHALENE Inhalable STEL 15 ppm 79 mg/m3 N/A Supplier NAPHTHALENE Inhalable TWA 10 ppm 52 mg/m3 N/A Supplier PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)#N/A#TWA#25 ppm##N/A#ACGIH#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

EPAHO114000218

Product Name: Infineum F7589
Revision Date: 04Aug2008

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Chemical resistant gloves are recommended.

Eye Protection: Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

EPAHO114000219

Product Name: Infineum F7589
Revision Date: 04Aug2008

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: Amber
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density: 0.909
Density (at 15 °C): 909 kg/m³ (7.59 lbs/gal, 0.91 kg/dm³)
Flash Point [Method]: 72C (162F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/A
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 7 cSt (7 mm2/sec) at 40 C | 18 cSt (18 mm2/sec) at 20C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/A
Pour Point: -48°C (-55°F)
Coefficient of Thermal Expansion: 0.00079 V/VDEGC
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources. Do not heat above flashpoint.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Product Name: Infineum F7589
Revision Date: 04Aug2008

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data.	May cause central nervous system effects.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes whi
Ingestion	
Toxicity: No end point data.	Minimally Toxic.
Skin	
Toxicity: No end point data.	Minimally Toxic.
Irritation: No end point data.	Irritating to the skin.
Eye	
Irritation: No end point data.	Irritating and will injure eye tissue.

CHRONIC/OTHER EFFECTS
Contains:
Kerosene: Carcinogenic in animal tests. Lifetime skin painting tests produced tumors, but the mechanism is due to repeated cycles of skin damage and restorative hyperplasia. This mechanism is considered unlikely in humans where such prolonged skin irritation would not be tolerated. Did not cause mutations In vitro. Inhalation of vapors did not result in reproductive or developmental effects in laboratory animals. Inhalation of high concentrations in animals resulted in respiratory tract irritation, lung changes and some reduction in lung function. Non-sensitizing in animal tests.
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	5

--REGULATORY LISTS SEARCHED--
1 = NTP CARC 2 = NTP SUS 3 = IARC 1
4 = IARC 2A 5 = IARC 2B 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

EPAHO114000221

ECOTOXICITY Not determined.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: COMBUSTIBLE LIQUID, N.O.S. (PETROLEUM DISTILLATES)
Hazard Class & Division: COMBUSTIBLE LIQUID
ID Number: NA1993
Packing Group: III
Marine Pollutant: Yes
ERG Number: 128
Label(s): NONE
Transport Document Name: NA1993, COMBUSTIBLE LIQUID, N.O.S. (PETROLEUM DISTILLATES),

EPAHO114000222

COMBUSTIBLE LIQUID, PG III, MARINE POLLUTANT,
RQ NAPTHALENE

Footnote: This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by land, as long as the material is not a hazardous waste, a marine pollutant, or specifically listed as a hazardous substance.
LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl (C3-C5) Benzenes)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Marine Pollutant: Yes
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl (C3-C5) Benzenes), 9, PG III, MARINE POLLUTANT

AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl (C3-C5) Benzenes)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl (C3-C5) Benzenes), 9, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, KECI, EINECS, ENCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:

EPAHO114000223

Product Name: Infineum F7589
Revision Date: 04Aug2008

Chemical Name CAS Number Typical Value NAPHTHALENE 91-20-3 5 - 9.9% PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1 - 4.9%

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations ALKYL ALCOHOL 68526-85-2 17 KEROSENE 8008-20-6 17, 19 NAPHTHALENE 91-20-3 4, 5, 10, 13, 16, 17, 18, 19 PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1, 13, 16, 17, 18, 19 TRACE METAL IMPURITIES N/A 10, 11 TRACE REPORTABLE AROMATIC COMPOUNDS None 10, 11

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 14: Transport Document Name was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 16: NA Contains was modified.
Section 14: Proper Shipping Name - Header was added.
Section 11: Chronic Tox - Component - U.S. Infineum was modified.
Section 14: Hazard Class & Division - Header was added.
Section 14: Hazard Class was added.
Section 14: UN Number - Header was added.
Section 14: UN Number was added.
Section 14: Packing Group - Header was added.
Section 14: Packing Group was added.
Section 14: Label(s) - Header was added.
Section 14: Label(s) was added.
Section 14: EMS Number - Header was added.
Section 14: EMS Number was added.
Section 14: Transport Document Name - Header was added.
Section 14: Transport Document Name was added.
Section 14: Marine Pollutant - Header was added.
Section 14: Marine Pollutant was added.
Section 14: Sea (IMDG) - Default was deleted.
Section 14: IMO Technical Name - All was added.
Section 14: IMO Technical Name - Close parenthesis was added.
Section 14: IMO Technical Name - Open parenthesis was added.

EPAHO114000224

Product Name: Infineum F7589
Revision Date: 04Aug2008

Section 06: Notification Procedures was modified.
Section 14: Proper Shipping Name was added.

PRECAUTIONARY LABEL TEXT:
Contains: KEROSENE, NAPHTHALENE, HEAVY AROMATIC SOLVENT, PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE), ALKYL ALCOHOL
WARNING!
HEALTH HAZARDS
Irritating to eyes. Irritating to skin. Possible human cancer hazard. Danger of adverse health effects by a single exposure.
Target Organs: Nervous system | Lung | Skin | Eye |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS
Avoid contact with skin. Avoid contact with eyes. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures.

FIRST AID
Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Prevent dust cloud. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a

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specialist before using dispersants.
Use
Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this information, in the absence of any overriding obligations arising under a specific contract, no representation, warranty (express or implied), or guarantee is made as to the suitability, accuracy, reliability or completeness of the information; nothing in this document shall reduce the user's responsibility to satisfy itself as to the suitability, accuracy, reliability, and completeness of such information for its particular use; there is no warranty against intellectual property infringement; and Infineum shall not be liable for any loss, damage or injury that may occur from the use of this information other than death or personal injury caused by its negligence. No statement shall be construed as an endorsement of any product or process. For greater certainty, before use of information contained in this document, particularly if the product is used for a purpose or under conditions which are abnormal or not reasonably foreseeable, this information must be reviewed with the supplier of such information.

Internal Use Only

MHC: 0, 0, 1, 2, 4, 1

DGN: 6003565 (1013117) (NA Core)

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LAB
T-20
CE
8/4/09

MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum T4448
Revision Date: 25Nov2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum T4448
Product Description: Petroleum Product Additive
Product Code: 82284100
Intended Use: Gear oil additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
ALKYLATED TALLOW AMINES
DIBUTYL HYDROGEN PHOSPHITE
Long Chain Alkenyl Amine
SULFURISED ISOBUTYLENE

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Irritating to eyes. Irritating to skin. Low order of toxicity. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

Target Organs: Skin | Eye |

ENVIRONMENTAL HAZARDS
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EPAHO114000228

Product Name: Infineum T4448
Revision Date: 25Nov2008

NFPA Hazard ID: Health: 2 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 2 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Hydrogen sulfide, Carbon monoxide, Sulfur oxides, Phosphorus oxides, Nitrogen oxides

Product Name: Infineum T4448
Revision Date: 25Nov2008

FLAMMABILITY PROPERTIES
Flash Point [Method]: 107C (225F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Water Spill: Stop leak if you can do it without risk. Material will sink. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Remove debris in path of spill prior to oiling and remove contaminated debris from shoreline and water surface and dispose of according to local regulations. Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

EPAHO114000230

Product Name: Infineum T4448
Revision Date: 25Nov2008

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid contact with skin. Avoid contact with eyes. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Products may load from Infineum manufacturing site above the standard loading/unloading range.

Loading/Unloading Temperature: 20°C (68°F) - 40°C (104°F)

Transport Temperature: 50°C (122°F)
Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator.

STORAGE
Do not store in open or unlabelled containers.
Storage Temperature: 40°C (104°F)
Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Trucks; Tank Cars
Suitable Materials and Coatings: Stainless Steel; Carbon Steel
Unsuitable Containers/Packing: Natural and butyl rubbers; PVC
Unsuitable Materials and Coatings: Rubber; Butyl Rubber; PVC

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source Hydrogen sulfide N/A Ceiling 20 ppm N/A OSHA Z2 Hydrogen sulfide N/A Maximum concentration 50 ppm N/A OSHA Z2 Hydrogen sulfide N/A STEL 15 ppm N/A ACGIH Hydrogen sulfide N/A TWA 10 ppm N/A ACGIH Sulfur oxides N/A TWA 13 mg/m3 5 ppm N/A OSHA Z1 Sulfur oxides#N/A#STEL#5 ppm##N/A#ACGIH#Sulfur oxides#N/A#TWA#2 ppm##N/A#ACGIH#

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential

exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Chemical resistant gloves are recommended.

Eye Protection: Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

EPAHO114000232

Product Name: Infineum T4448
Revision Date: 25Nov2008

GENERAL INFORMATION
Physical State: Liquid
Color: Amber
Odor: Strong
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 1.05 15.6°/15.6C
Density (at 15 °C): 1050 kg/m³ (8.76 lbs/gal, 1.05 kg/dm³)
Flash Point [Method]: 107C (225F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 260C (500F)
Vapor Density (Air = 1): N/D
Vapor Pressure: < 1 kPa (7.5 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): [Negligible]
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 80 cSt (80 mm2/sec) at 40 C | 9.3 cSt (9.3 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00065 V/VDEGC

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. Elevated temperatures.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen sulfide, Carbon monoxide, Nitrogen oxides, Phosphorus oxides, Sulfur oxides

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
Route of Exposure Conclusion / Remarks

Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Irritating to the skin.
Eye	
Irritation: No end point data.	Irritating and will injure eye tissue.

CHRONIC/OTHER EFFECTS
Contains:
Sulfurized isobutylene (SIB): Repeated dermal exposures included localized skin irritation, decreased weight gain, and enlarged liver in laboratory animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY
Material -- Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
A component -- Expected to be inherently biodegradable

EPAHO114000234

Product Name: Infineum T4448
Revision Date: 25Nov2008

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: COMBUSTIBLE LIQUID, N.O.S. (SULFURIZED OLEFIN)
Hazard Class & Division: COMBUSTIBLE LIQUID
ID Number: NA1993
Packing Group: III
Marine Pollutant: Yes
ERG Number: 128
Label(s): NONE
Transport Document Name: NA1993, COMBUSTIBLE LIQUID, N.O.S. (SULFURIZED OLEFIN), {\uc0{C}OMBUSTIBLE LIQUID}, PG III, MARINE POLLUTANT

Footnote: This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (OLEYL AMINE)

EPAHO114000235

Product Name: Infineum T4448
Revision Date: 25Nov2008

Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (OLEYL AMINE), 9, PG III

AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (OLEYL AMINE)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (OLEYL AMINE), 9, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations DIBUTYL HYDROGEN PHOSPHITE 1809-19-4 18

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

EPAHO114000236

Product Name: Infineum T4448
Revision Date: 25Nov2008

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 04: First Aid Inhalation - Header was modified.
Section 04: First Aid Skin - Header was modified.
Section 04: First Aid Eye - Header was modified.
Section 04: First Aid Ingestion - Header was modified.
Section 06: Notification Procedures - Header was modified.
Section 06: Spill Management - Header was modified.
Section 10: Stability - Header was modified.
Section 10: Conditions to Avoid - Header was modified.
Section 10: Materials To Avoid - Header was modified.
Section 10: Decompostion Products - Header was modified.
Section 06: Accidental Release - Protective Measures - Header was modified.
Section 13: Disposal Recommendations - Header was modified.
Section 12: Ecotoxicity - Header was modified.
Section 12: Persistence and Degradability- Header was modified.
Section 09: General Information - Header was modified.
Section 09: Important Health, Saferty and Environmental Information - Header was modified.
Section 09: Other Information - Header was modified.
Section 09: Density - Header was modified.
Section 09: Density kg/m3(lbs/gal) was modified.
Section 08: Exposure Controls - Header was modified.
Section 08: Personal Protection - Header was modified.
Section 08: Environmental Controls - Header was modified.
Section 07: Handling and Storage - Storage was modified.
Section 07: Loading/Unloading Temperature C(F) was modified.
Section 07: Transport Temperature C(F) was modified.
Section 07: Storage Temperature C(F) was modified.
Section 07: Handling and Storage - Header was modified.
Section 05: Hazardous Combustion Products was modified.
Section 06: Accidental Release - Spill Management - Land was modified.
Section 14: Transport Document Name was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 16: Land Spill was modified.
Section 08: Exposure limits/standards was modified.
Section 06: Notification Procedures was modified.
Section 14: Proper Shipping Name - Header was added.
Section 14: Proper Shipping Name was added.
Section 14: Hazard Class & Division - Header was added.
Section 14: Hazard Class was added.
Section 14: UN Number - Header was added.
Section 14: UN Number was added.
Section 14: Packing Group - Header was added.
Section 14: Packing Group was added.
Section 14: Label(s) - Header was added.
Section 14: Label(s) was added.

Section 14: EMS Number - Header was added.
Section 14: EMS Number was added.
Section 14: Transport Document Name - Header was added.
Section 14: Transport Document Name was added.
Section 14: IMO Technical Name - All was added.
Section 14: IMO Technical Name - Close parenthesis was added.
Section 14: IMO Technical Name - Open parenthesis was added.
Section 14: Proper Shipping Name - Header was deleted.
Section 14: Proper Shipping Name was deleted.
Section 14: Hazard Class & Division - Header was deleted.
Section 14: Hazard Class & Division was deleted.
Section 14: UN Number - Header was deleted.
Section 14: UN Number was deleted.
Section 14: Packing Group - Header was deleted.
Section 14: Packing Group was deleted.
Section 14: LAND (TDG) - Header was deleted.
Section 14: Sea (IMDG) - Default was deleted.
Section 14: TDG Technical Name - All was deleted.
Section 14: TDG Technical Name - Close parenthesis was deleted.
Section 14: TDG Technical Name - Open parenthesis was deleted.

PRECAUTIONARY LABEL TEXT:
Contains: OLEYL AMINE
WARNING!
HEALTH HAZARDS
Irritating to eyes. Irritating to skin.
Target Organs: Skin | Eye |

PHYSICAL HAZARDS
Combustible. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS
Avoid contact with skin. Avoid contact with eyes.

FIRST AID
Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Small Spills: Absorb with earth, sand or other non-combustible material and

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transfer to containers for later disposal. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.

Use

Not intended or suitable for use in or around a household or dwelling.

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Internal Use Only MHC: 0, 0, 0, 2, 4, 1
DGN: 6035341 (1011095) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum C9463
Revision Date: 27Oct2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum C9463
Product Description: Petroleum Product Additive
Product Code: 33239100
Intended Use: Lube oil additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
ALKYL PHOSPHITES

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

POTENTIAL HEALTH EFFECTS
Corrosive to eyes and skin. May cause permanent damage. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

Target Organs: Skin | Eye |

ENVIRONMENTAL HAZARDS
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 3 Flammability: 2 Reactivity: 2
HMIS Hazard ID: Health: 3 Flammability: 2 Reactivity: 2

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Product Name: Infineum C9463
Revision Date: 27Oct2008

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
At ambient/normal handling temperatures, minimal or no irritation due to inhalation of vapor/mist is expected. Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Immediately remove contaminated clothing under a shower and wash exposed areas with soap and large quantities of water. Wash carefully behind ears, under nails and in skin folds. Get immediate medical assistance. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

INGESTION
Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN
If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible. Hazardous material. Firefighters should consider

protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Sulfur oxides, Phosphorus oxides

FLAMMABILITY PROPERTIES
Flash Point [Method]: >90C (194F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Material will sink. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Remove debris in path of spill prior to oiling and remove contaminated debris from shoreline and water surface and dispose of according to local regulations. Prevent entry into waterways, sewers, basements or confined areas.

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Product Name: Infineum C9463
Revision Date: 27Oct2008

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid contact with eyes. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Products may load from Infineum manufacturing site above the standard loading/unloading range.

Loading/Unloading Temperature: 60°C (140°F)

Transport Temperature: 60°C (140°F)
Transport Pressure: N/D

Static Accumulator: This material is not a static accumulator.

STORAGE
Nitrogen blanketing of containers is required. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: 25°C (77°F)
Storage Pressure: N/D

Suitable Containers/Packing: Drums; Tank Cars; Tank Trucks
Suitable Materials and Coatings: Stainless Steel
Unsuitable Materials and Coatings: Polyethylene; Natural Rubber; Butyl Rubber; Butadiene Rubber; Carbon steel

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: Chemical goggles and face shield are recommended. Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

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GENERAL INFORMATION
Physical State: Liquid
Color: Pale Yellow
Odor: Mild Sweet
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density: 1.005
Density (at 15 °C): 1005 kg/m³ (8.39 lbs/gal, 1 kg/dm³)
Flash Point [Method]: >90C (194F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 0.5 kPa (3.75 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Slight
Viscosity: 9.3 cSt (9.3 mm2/sec) at 40 C | 2.7 cSt (2.7 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/D
Pour Point: -12°C (10°F)
Coefficient of Thermal Expansion: 0.00081 V/VDEGC
Decomposition Temperature: N/A

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources. Contact of hot product with water.

MATERIALS TO AVOID: Strong oxidizers, Plastics

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
Route of Exposure Conclusion / Remarks

EPAHO114000245

Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Slightly toxic.
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.
Eye	
Irritation: No end point data.	Corrosive to eyes and skin. May cause permanent damage.

CHRONIC/OTHER EFFECTS

For the product itself:

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be persistent.

BIOACCUMULATION POTENTIAL

Material -- Has the potential to bioaccumulate.

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Product Name: Infineum C9463
Revision Date: 27Oct2008

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites)
Hazard Class & Division: 8
ID Number: 1760
Packing Group: III
ERG Number: 154
Label(s): 8
Transport Document Name: UN1760, CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites), 8, PG III

LAND (TDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III

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Special Provisions: 16

SEA (IMDG)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites)
Hazard Class & Division: 8
EMS Number: F-A, S-B
UN Number: 1760
Packing Group: III
Label(s): 8
Transport Document Name: UN1760, CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites), 8, PG III

AIR (IATA)
Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites)
Hazard Class & Division: 8
UN Number: 1760
Packing Group: III
Label(s): 8
Transport Document Name: UN1760, CORROSIVE LIQUIDS, N.O.S. (Alkyl phosphites), 8, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING:
Special Cases:

Inventory Status ELINCS Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

EPAHO114000248

Product Name: Infineum C9463
Revision Date: 27Oct2008

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 06: Notification Procedures - Header was modified.
Section 13: Empty Container Warning was modified.
Section 09: Boiling Point C(F) was modified.
Section 09: Density kg/m3(lbs/gal) was modified.
Section 08: Hand Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 05: Hazardous Combustion Products was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Flash Point C(F) was modified.
Section 14: Sea (IMDG) - Header was modified.
Section 15: List Citation Table - Header was modified.
Section 09: Relative Density was modified.
Section 06: Notification Procedures was modified.
Section 09: Pour Point C(F) was added.
Section 09: Viscosity was added.
Section 09: Viscosity was added.
Section 14: Transport Document Name was added.
Section 14: Transport Document Name was added.
Section 14: Transport Document Name was added.
Section 16: Standard phrases for California Proposition 65 was deleted.

PRECAUTIONARY LABEL TEXT:
DANGER!
HEALTH HAZARDS
Corrosive to eyes and skin. May cause permanent damage. If swallowed, may be aspirated and cause lung damage.
Target Organs: Skin | Eye |

PHYSICAL HAZARDS
Combustible.
PRECAUTIONS
Avoid contact with eyes. Use proper bonding and/or grounding procedures.

FIRST AID
Inhalation: Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped,

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assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye: Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Immediately remove contaminated clothing under a shower and wash exposed areas with soap and large quantities of water. Wash carefully behind ears, under nails and in skin folds. Get immediate medical assistance. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.
Use
Not intended or suitable for use in or around a household or dwelling.

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EPAHO114000250

Product Name: Infineum C9463
Revision Date: 27Oct2008

Internal Use Only

MHC: 2A, 1, 0, 5, 5, 1

DGN: 6002893 (1003946) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum R185
Revision Date: 03Nov2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum R185
Product Description: Petroleum Product Additive
Product Code: 83610100, 83610100
Intended Use: Fuel additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
HEAVY AROMATIC PETROLEUM SOLVENT
HYDRODESULFURIZED KEROSINE (PETROLEUM)

Hazardous Constituent(s) Contained in Complex Substance(s)
NAPHTHALENE
PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE)

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Thermal burn hazard - contact with hot material may cause thermal burns. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS
Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. Danger of adverse health effects by a single exposure. Low order of toxicity. May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression.

Target Organs: Nervous system | Skin |

EPAHO114000252

Product Name: Infineum R185
Revision Date: 03Nov2008

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 2 Flammability: 2 Reactivity: 0
HMIS Hazard ID: Health: 2* Flammability: 2 Reactivity: 0
NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Carbon dioxide

FLAMMABILITY PROPERTIES
Flash Point [Method]: >62C (144F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.8 %V UEL: 6 %V
Autoignition Temperature: >200°C (392°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Prevent dust cloud. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimize spreading.

EPAHO114000254

Product Name: Infineum R185
Revision Date: 03Nov2008

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid contact with skin. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Products may load from Infineum manufacturing site above the standard loading/unloading range.

Loading/Unloading Temperature: 50°C (122°F) - 60°C (140°F)

Transport Temperature: N/D
Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator.

STORAGE
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.
Storage Temperature: 50°C (122°F) - 60°C (140°F)
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Cars; Tank Trucks; Drums; Bulk Containers
Suitable Materials and Coatings: Carbon Steel; Stainless Steel
Unsuitable Containers/Packing: Natural and butyl rubbers; Butadiene and styrene rubbers
Unsuitable Materials and Coatings: Polyethylene; Rubber; Butadiene Rubber; Butyl Rubber; Styrene Rubber

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source NAPHTHALENE N/A TWA 50 mg/m3 10 ppm N/A OSHA Z1 NAPHTHALENE Inhalable STEL 15 ppm 79 mg/m3 N/A Supplier NAPHTHALENE Inhalable TWA 10 ppm 52 mg/m3 N/A Supplier PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) N/A TWA 25 ppm N/A ACGIH SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC Inhalable STEL 15 ppm 79 mg/m3 N/A Supplier SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC#Inhalable#TWA#10 ppm#52 mg/m3#N/A#Supplier#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended. If contact with material may occur, safety glasses and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

EPAHO114000256

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: White
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 0.89 15.6°/15.6C
Density (at 15 °C): 886 kg/m³ (7.39 lbs/gal, 0.89 kg/dm³)
Flash Point [Method]: >62C (144F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 0.8 %V UEL: 6 %V
Autoignition Temperature: >200°C (392°F)
Boiling Point / Range: 171C (340F)
Vapor Density (Air = 1): N/D
Vapor Pressure: 0.045 kPa (0.34 mm Hg) at 20 C | 0.13 kPa (0.98 mm Hg) at 38C
Evaporation Rate (n-butyl acetate = 1): < 0.05
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 65 cSt (65 mm2/sec) at 40 C | 15 cSt (15 mm2/sec) at 100C | 50 cSt (50 mm2/sec) at 50C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/A
Melting Point: N/A
Pour Point: 33°C (91°F)
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00081 %

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Open flames and high energy ignition sources.

MATERIALS TO AVOID: None

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

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HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	May dry the skin leading to discomfort and dermatitis.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes.

CHRONIC/OTHER EFFECTS
Contains:
NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Expected to partition to water. Some partitioning to sediment and wastewater solids. Minimally volatile.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

A component -- Expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Petroleum Distillates)

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Hazard Class & Division: 3
ID Number: 3256
Packing Group: III
Product RQ: 2284.41 lbs - NAPHTHALENE
ERG Number: 128
Label(s): 3
Transport Document Name: UN3256, ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Petroleum Distillates), 3, PG III

Footnote: If the product is offered for transport below the flashpoint, the conditions of Combustible liquid, NA 1993, PG III, apply instead of the classification given above.

LAND (TDG)
Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Alkyl (C3-C5) benzenes)
Hazard Class & Division: 3
UN Number: 3256
Packing Group: III

Footnote: The above classification applies if the product is offered for transport at a temperature equal or greater than its flashpoint. If the product is offered for transport below the flashpoint, the conditions of UN 3082, Class 9, PG III apply instead of the classification given above.

SEA (IMDG)
Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Alkyl (C3-C5) benzenes)
Hazard Class & Division: 3
EMS Number: F-E, S-D
UN Number: 3256
Packing Group: III
Label(s): 3
Transport Document Name: UN3256, ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Alkyl (C3-C5) benzenes), 3, PG III

Footnote: The above classification applies if the product is offered for transport at a temperature equal or greater than its flashpoint. If the product is offered for transport below the flashpoint, the conditions of UN 3082, Class 9, PG III apply instead of the classification given above.

AIR (IATA)
Proper Shipping Name: FORBIDDEN (Alkyl (C3-C5) benzenes)

[Footnote: If the product is offered for transport below the flashpoint, the conditions of UN 3082, Class 9, PG III apply instead of the classification given above. Product classified as UN 3256 is forbidden by air transport but the product may be transported by air if its temperature is less than its flashpoint.]

SECTION 15 REGULATORY INFORMATION

EPAHO114000260

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA:
Chemical Name CAS Number Typical Value Component RQ Product RQ NAPHTHALENE 91-20-3 1.0 - 4.9% 100 lbs 2284.41 lbs

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Immediate Health. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:
Chemical Name CAS Number Typical Value NAPHTHALENE 91-20-3 1.0 - 4.9% PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1.0 - 4.9%

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations NAPHTHALENE 91-20-3 4, 5, 10, 13, 16, 17, 18, 19 PSEUDOCUMENE (1,2,4-TRIMETHYLBENZENE) 95-63-6 1, 13, 16, 17, 18, 19 TRACE METAL IMPURITIES N/A 10, 11 TRACE REPORTABLE AROMATIC COMPOUNDS None 10, 11

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

PRECAUTIONARY LABEL TEXT:
Contains: NAPHTHALENE, HEAVY AROMATIC PETROLEUM SOLVENT
WARNING!
HEALTH HAZARDS
Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. Danger of adverse health effects by a single exposure.

Target Organs: Nervous system | Skin |

PHYSICAL HAZARDS
Combustible. Contact with hot material can cause thermal burns which may result in permanent damage. Thermal burn hazard - contact with hot material may cause thermal burns. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS
Avoid contact with skin. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures.

FIRST AID
Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Prevent dust cloud. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.
Use
Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this

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Internal Use Only MHC: 0, 0, 0, 0, 1, 1
DGN: 6001225 (1006256) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum C9208
Revision Date: 14Apr2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum C9208
Product Description: Petroleum Product Additive
Product Code: 31227100
Intended Use: Lube oil additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Contact with hot material can cause thermal burns which may result in permanent damage. Thermal burn hazard - contact with hot material may cause thermal burns.

POTENTIAL HEALTH EFFECTS
May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

NFPA Hazard ID: Health: 1 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 1 Flammability: 1 Reactivity: 0
NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

EPAHO114000264

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
Give one or two glasses of water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Nitrogen oxides, Carbon monoxide

FLAMMABILITY PROPERTIES
Flash Point [Method]: 237C (459F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with

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all applicable regulations. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do it without risk. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid all personal contact. Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: 60°C (140°F) - 65°C (149°F)

Transport Temperature: 55°C (131°F) - 60°C (140°F)
Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.
Storage Temperature: 80°C (176°F)
Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Cars; Tank Trucks; Bulk Containers
Suitable Materials and Coatings: Carbon Steel; Stainless Steel; Zinc; Epoxies
Unsuitable Materials and Coatings: Rubber; Butadiene Rubber; Butyl Rubber; Polyethylene;

EPAHO114000266

Product Name: Infineum C9208
Revision Date: 14Apr2008

Styrene Rubber

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended. If contact with material may occur, safety glasses and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Form: Clear
Color: N/D
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 0.941 15.6°/15.6C
Density (at 15 °C): 939 kg/m³ (7.84 lbs/gal, 0.94 kg/dm³)
Flash Point [Method]: 237C (459F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 100C (212F)
Vapor Density (Air = 1): N/D
Vapor Pressure: 0.09 kPa (0.68 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): [Negligible]
pH: N/D
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 3365 cSt (3365 mm2/sec) at 40 C | 93 cSt (93 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

EPAHO114000268

Freezing Point: N/D
Melting Point: N/D
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00068 %
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Mildly irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

EPAHO114000269

Product Name: Infineum C9208
Revision Date: 14Apr2008

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: CORROSIVITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

EPAHO114000270

Product Name: Infineum C9208
Revision Date: 14Apr2008

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: KECI, DSL, PICCS, AICS, IECSC, ENCS, TSCA, EINECS

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

EPAHO114000271

Product Name: Infineum C9208
Revision Date: 14Apr2008

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

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Internal Use Only MHC: 0, 0, 0, 0, 2, 1
DGN: 6001249 (1003768) (NA Core)

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MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum P5169
Revision Date: 07May2007

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum P5169
Product Description: Petroleum Product Additive
Product Code: 34712102
Intended Use: Seal swell agent

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
SULFUR DIOXIDE

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS
Irritating to eyes. Irritating to respiratory system. Low order of toxicity.

Target Organs: Lung | Eye |

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 2 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 2 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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Product Name: Infineum P5169
Revision Date: 07May2007

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Carbon monoxide, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES
Flash Point [Method]: 110C (230F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See Section 3 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Remove debris in path of spill prior to oiling and remove contaminated debris from shoreline and water surface and dispose of according to local regulations. Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimize spreading.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid breathing mists or vapors. Avoid contact with skin. Avoid contact with eyes. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: 45°C (113°F)

Transport Temperature: 45°C (113°F)
Transport Pressure: [Ambient]

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Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.
Storage Temperature: 25°C (77°F) [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Trucks; Tankers; Tank Cars
Suitable Materials and Coatings: Carbon Steel; Stainless Steel

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source SULFUR DIOXIDE N/A TWA 13 mg/m3 5 ppm N/A OSHA Z1 SULFUR DIOXIDE N/A STEL 5 ppm N/A ACGIH SULFUR DIOXIDE N/A TWA 2 ppm N/A ACGIH Sulfur oxides N/A TWA 13 mg/m3 5 ppm N/A OSHA Z1 Sulfur oxides N/A STEL 5 ppm N/A ACGIH Sulfur oxides#N/A#TWA#2 ppm##N/A#ACGIH#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying

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filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: N/D
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 1.03 15.6°/15.6C
Flash Point [Method]: 110C (230F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible

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Viscosity: 25 cSt (25 mm2/sec) at 40 C | 4.2 cSt (4.2 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D
Pour Point: 0°C (32°F)
Hygroscopic: No
Coefficient of Thermal Expansion: 0.001 %
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. Elevated temperatures.

MATERIALS TO AVOID: N/D

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur oxides

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	May be irritating to the respiratory tract. The effects are reversible.
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Mildly irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	Moderately irritating to the eyes.

Additional information is available by request.

EPAHO114000278

Product Name: Infineum P5169
Revision Date: 07May2007

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and

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promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
ID Number: 3082
Packing Group: III
Marine Pollutant: Yes
ERG Number: 171
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III

Footnote: This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by air or land transportation.

SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Marine Pollutant: Yes
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III MARINE POLLUTANT

AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

EPAHO114000280

Product Name: Infineum P5169
Revision Date: 07May2007

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations SULFUR DIOXIDE 7446-09-5 1, 4

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 09: Decomposition Temperature was added.
Section 09: Decomposition Temp - Header was added.

PRECAUTIONARY LABEL TEXT:
Contains: SULFUR DIOXIDE
WARNING!
HEALTH HAZARDS
Irritating to eyes. Irritating to respiratory system.
Target Organs: Lung | Eye |

PRECAUTIONS
Avoid breathing mists or vapors. Avoid contact with skin. Avoid contact with eyes.

EPAHO114000281

Product Name: Infineum P5169
Revision Date: 07May2007

FIRST AID
Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Stop leak if you can do it without risk. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.
Use
Not intended or suitable for use in or around a household or dwelling.

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Internal Use Only MHC: 0, 0, 0, 1, 2, 2
DGN: 6020688 (1004054) (NA Core)

EPAHO114000282

Product Name: Infineum P5169
Revision Date: 07May2007

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MATERIAL SAFETY DATA SHEET
Infineum

PAGE: 1
REVISION: 11/28/02
MSDS No.: 81810100

Infineum C9018

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Infineum C9018
CHEMICAL FAMILY:
Petroleum Product Additive
PRODUCT DESCRIPTION:
Lube oil additive containing phosphosulfurized hydrocarbon in oil

CONTACT ADDRESS:
Infineum USA L.P.
P.O. Box CN 135, Linden NJ 07036

** EMERGENCY TELEPHONE NUMBERS: (24 Hours)		**
** CHEMTREC	(800) 424-9300	**
** CHEMTREC outside USA	(703) 527-3887	**
** Infineum USA L.P.	(800) 726-2015	**

NON EMERGENCY TELEPHONE NUMBER : (8am-5pm M-F)
FOR GENERAL PRODUCT INFORMATION CALL : (800) 654-1233

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.
This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Combustible Liquid	Residual hydrocarbon

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS
EYE CONTACT:
Will cause slight eye discomfort, but will not injure eye tissue.
SKIN CONTACT:
Low order of toxicity.
Frequent or prolonged contact may irritate.
INHALATION:
Low order of toxicity.
Warning if this product is overheated, especially in the presence of water, hydrogen sulfide may be released; this can cause respiratory collapse, coma and death without necessarily any warning odor being sensed
Negligible hazard at ambient (-18 to 38 Deg C; 0 to 100 Deg F) or recommended blending temperature.
Avoid breathing vapors or mists.

Continues on page 2

INGESTION:
Minimal toxicity.

SECTION 4 FIRST AID MEASURES

EYE CONTACT:
Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:
Flush with large amounts of water; use soap if available.
Remove grossly contaminated clothing, including shoes, and launder before reuse.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:
DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

SECTION 5 FIRE-FIGHTING MEASURES

FLASH POINT: 170 Deg F. METHOD: PMCC ASTM D93 NOTE: Minimum
FLAMMABLE LIMITS: NOTE: Not Available
AUTOIGNITION TEMP.: NOTE: Not available

GENERAL HAZARD
Combustible Liquid, can form combustible mixtures at temperatures at or above the flashpoint.
If thermally decomposed, flammable/toxic gases may be released.
Toxic gases will form upon combustion.
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.
Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING
Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.

Continues on page 3

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fume, smoke, Carbon Monoxide (CO) and Oxides of Sulfur (Toxic)

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL
Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL
Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.
Remove from surface by skimming or with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:
No, but use proper bonding and/or grounding procedure.

STORAGE TEMPERATURE, Deg F:
140 Maximum

LOADING/UNLOADING TEMPERATURE, Deg F:
140 Maximum

STORAGE/TRANSPORT PRESSURE, mmHg:
Not available

LOADING/UNLOADING VISCOSITY, cSt:
Not available

STORAGE AND HANDLING:
Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials.
Extreme caution must be used in tank gauging or similar operations because

Continues on page 4

overheating could cause lethal concentrations of hydrogen sulfide to accumulate in the head space of containers.
Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.
This material is not a static accumulator, but use proper bonding and/or grounding procedures.
Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Ventilation should be provided to control worker exposures and prevent health risk.
PERSONAL PROTECTION
For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves.
Where contact may occur, wear safety glasses with side shields.
Where overexposure by inhalation may occur and engineering, work practice or other means of exposure reduction are not adequate, approved respirators may be necessary.
EXPOSURE GUIDELINES:
No workplace exposure limits have been established for this product.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY at Deg F:	1.02 at 60 Typical
DENSITY at Deg F:	8.5 lbs/gal at 60
VAPOR PRESSURE, mmHg at Deg F:	Negligible at ambient
SOLUBILITY IN WATER, wt. % at Deg F:	Negligible
VISCOSITY OF LIQUID, cSt at Deg F:	27 at 212 Typical
SP. GRAV. OF VAPOR, at 1 atm (Air=1):	Greater than air
FREEZING/MELTING POINT, Deg F:	Less than ambient
EVAPORATION RATE, n-Bu Acetate=1:	Negligible
BOILING POINT, Deg F:	500 IBP oil minimum

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable
CONDITIONS TO AVOID INSTABILITY:
Do not heat over 140 Deg F (60 Deg C)
to avoid possible release of
hydrogen sulfide.

Continues on page 5

HAZARDOUS POLYMERIZATION:
Will not occur
CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
Not applicable
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Strong oxidizing agents, water. Contact with water will result in evolution of toxic hydrogen sulfide gas. Protect from moisture.
HAZARDOUS DECOMPOSITION PRODUCTS:
Hydrogen Sulfide (H2S) (Toxic and Explosive)

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information.

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):
DOT SHIPPING DESCRIPTION: COMBUSTIBLE LIQUID N.O.S.,(PINENE) NA1993, III
NOTE: In containers less than 119 gallons, this product is not regulated by DOT.

SECTION 15 REGULATORY INFORMATION

TSCA:
All of the components of this product are listed on the TSCA Inventory.
CERCLA:
If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act. We recommend you contact local authorities to determine if there may be other local reporting requirements.

Continues on page 6

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SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Fire.

This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.

This product does not contain Section 313 Reportable Ingredients.

SECTION 16 OTHER INFORMATION

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	1	2	4 = Severe
FLAMMABILITY	2	2	3 = Serious
REACTIVITY	2	2	2 = Moderate
			1 = Slight
			0 = Minimal

CAUTION: HMIS ratings are based on a 0-4 rating scale with 1 representing minimal hazards or risks, and 4 representing significant hazards or risks. Recommended HMIS ratings should not be used in the absence of a fully implemented HMIS hazard communication program.

Continues on page 7

Infineum C9018

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REVISION SUMMARY:
Since April 2, 1999 this MSDS has been revised in Section(s):
7

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REFERENCE NUMBER:	SUPERSEDES ISSUE DATE:
HDHA-B-10087	May 18, 2000

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This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

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LAST PAGE

MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum T4180
Revision Date: 07May2007

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum T4180
Product Description: Petroleum Product Additive
Product Code: 34712103
Intended Use: Seal swell agent

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)
SULFUR DIOXIDE

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS
Irritating to eyes. Irritating to respiratory system. Low order of toxicity.

Target Organs: Lung | Eye |

ENVIRONMENTAL HAZARDS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID: Health: 2 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 2 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

EPAHO114000291

Product Name: Infineum T4180
Revision Date: 07May2007

SECTION 4 FIRST AID MEASURES

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT
Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Carbon monoxide, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES
Flash Point [Method]: 110C (230F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See Section 3 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Remove debris in path of spill prior to oiling and remove contaminated debris from shoreline and water surface and dispose of according to local regulations. Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimize spreading.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid breathing mists or vapors. Avoid contact with skin. Avoid contact with eyes. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: 45°C (113°F)

Transport Temperature: 45°C (113°F)
Transport Pressure: [Ambient]

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Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.
Storage Temperature: 25°C (77°F) [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Trucks; Tankers; Tank Cars
Suitable Materials and Coatings: Carbon Steel; Stainless Steel

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source Form Limit / Standard Note Source SULFUR DIOXIDE N/A TWA 13 mg/m3 5 ppm N/A OSHA Z1 SULFUR DIOXIDE N/A STEL 5 ppm N/A ACGIH SULFUR DIOXIDE N/A TWA 2 ppm N/A ACGIH Sulfur oxides N/A TWA 13 mg/m3 5 ppm N/A OSHA Z1 Sulfur oxides N/A STEL 5 ppm N/A ACGIH Sulfur oxides#N/A#TWA#2 ppm##N/A#ACGIH#

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying

EPAHO114000294

filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: N/D
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 1.03 15.6°/15.6C
Flash Point [Method]: 110C (230F)
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: [Negligible]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible

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Viscosity: 25 cSt (25 mm2/sec) at 40 C | 4.2 cSt (4.2 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D
Pour Point: 0°C (32°F)
Hygroscopic: No
Coefficient of Thermal Expansion: 0.001 %
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. Elevated temperatures.

MATERIALS TO AVOID: N/D

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur oxides

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	May be irritating to the respiratory tract. The effects are reversible.
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Mildly irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	Moderately irritating to the eyes.

Additional information is available by request.

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Product Name: Infineum T4180
Revision Date: 07May2007

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	2 = NTP SUS	3 = IARC 1
4 = IARC 2A	5 = IARC 2B	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and

promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
ID Number: 3082
Packing Group: III
Marine Pollutant: Yes
ERG Number: 171
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III

Footnote: This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by air or land transportation.

SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III
Marine Pollutant: Yes
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III MARINE POLLUTANT

AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Label(s): 9
Transport Document Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkoxy heterocyclic ether), 9, UN3082, PG III

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

EPAHO114000298

Product Name: Infineum T4180
Revision Date: 07May2007

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Immediate Health.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:
Chemical Name CAS Number List Citations SULFUR DIOXIDE 7446-09-5 1, 4

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 09: Decomposition Temperature was added.
Section 09: Decomposition Temp - Header was added.

PRECAUTIONARY LABEL TEXT:
Contains: SULFUR DIOXIDE
WARNING!
HEALTH HAZARDS
Irritating to eyes. Irritating to respiratory system.
Target Organs: Lung | Eye |

PRECAUTIONS
Avoid breathing mists or vapors. Avoid contact with skin. Avoid contact with eyes.

Product Name: Infineum T4180
Revision Date: 07May2007

FIRST AID
Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Stop leak if you can do it without risk. Prevent dust cloud. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Report spills as required to appropriate authorities. Material will sink. Remove material, as much as possible, using mechanical equipment.
Use
Not intended or suitable for use in or around a household or dwelling.

The information contained in this document is based upon data believed to be reliable at the time of going to press and relates only to the matters specifically mentioned in this document. Although Infineum has used reasonable skill and care in the preparation of this information, in the absence of any overriding obligations arising under a specific contract, no representation, warranty (express or implied), or guarantee is made as to the suitability, accuracy, reliability or completeness of the information; nothing in this document shall reduce the user's responsibility to satisfy itself as to the suitability, accuracy, reliability, and completeness of such information for its particular use; there is no warranty against intellectual property infringement; and Infineum shall not be liable for any loss, damage or injury that may occur from the use of this information other than death or personal injury caused by its negligence. No statement shall be construed as an endorsement of any product or process. For greater certainty, before use of information contained in this document, particularly if the product is used for a purpose or under conditions which are abnormal or not reasonably foreseeable, this information must be reviewed with the supplier of such information.

Internal Use Only MHC: 0, 0, 0, 1, 2, 2
DGN: 6023916 (1004054) (NA Core)

Product Name: Infineum T4180
Revision Date: 07May2007

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MATERIAL SAFETY DATA SHEET

Infineum

REVISION: 04/13/04
MSDS No.: 32678100

Vektron 6901

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Vektron 6901

CHEMICAL FAMILY:
Petroleum Product Additive

PRODUCT DESCRIPTION:
Fuel additive containing polyamine condensation product based dispersant, middle distillate solvent in solvent dewaxed mineral oil and other components judged not to affect the potential health or environmental impact of the product.

CONTACT ADDRESS:
Infineum USA L.P.
P.O. Box CN 135, Linden NJ 07036

** EMERGENCY TELEPHONE NUMBERS: (24 Hours)		**
** CHEMTREC	(800) 424-9300	**
** CHEMTREC outside USA	(703) 527-3887	**
** Infineum USA L.P.	(800) 726-2015	**

NON EMERGENCY TELEPHONE NUMBER : (8am-5pm M-F)
FOR GENERAL PRODUCT INFORMATION CALL : (800) 654-1233

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse.
This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Eye Irritant	Paraffinic hydrocarbon, Polybutene amine
Skin Irritant	Kerosene
ACGIH TLV / OSHA PEL	Naphthalene, Mineral oil mist
Combustible Liquid	Paraffinic hydrocarbon, Aromatic solvent

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS
EYE CONTACT:
Irritating, and will injure eye tissue if not removed promptly.
SKIN CONTACT:
Occasional brief contact with the liquid will not result in significant irritation unless evaporation is impeded.
Low order of toxicity.
Irritating.

Continues on page 2

INHALATION:
Negligible hazard at ambient (-18 to 38 Deg C; 0 to 100 Deg F) or recommended blending temperature.
High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.
Avoid breathing vapors or mists.
Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.
INGESTION:
Minimal toxicity.

SECTION 4 FIRST AID MEASURES

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.
SKIN CONTACT:
Immediately flush with large amounts of water; use soap if available.
Remove contaminated clothing, including shoes, after flushing has begun.
If irritation persists, seek medical attention.
INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.
INGESTION:
DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

SECTION 5 FIRE-FIGHTING MEASURES

FLASH POINT: 111 Deg F. METHOD: PMCC ASTM D93 NOTE: Typical
FLAMMABLE LIMITS: LEL: 0.7 UEL: 6.0 NOTE: Typical
Based on solvent.
AUTOIGNITION TEMP.: 444 Deg F. NOTE: Typical for solvent
GENERAL HAZARD
Combustible Liquid, can form combustible mixtures at temperatures at or above the flashpoint.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge .
"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Continues on page 3

Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING

Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply from fire.
Use foam, dry chemical, or water spray to extinguish fire.
Avoid spraying water directly into storage containers due to danger of boilover.
This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

No unusual

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.
Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.
If liquid is too viscous for pumping, scrape up.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.
Remove from surface with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

Continues on page 4

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:
Yes, use proper bonding and/or grounding procedure.

STORAGE TEMPERATURE, Deg F:
Ambient

LOADING/UNLOADING TEMPERATURE, Deg F:
Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:
Atmospheric

LOADING/UNLOADING VISCOSITY, cSt:
Not available

STORAGE AND HANDLING:
Keep container closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials.
Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.
Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures.
Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a lab hood. Provide mechanical ventilation of confined spaces.
See respiratory protection recommendations.

PERSONAL PROTECTION
For open systems where contact is likely, wear long sleeves, chemical resistant gloves, and chemical goggles.
Where contact may occur, wear long sleeves and safety glasses with side shields.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.

WORKPLACE EXPOSURE GUIDELINES
OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:
A TWA of 10 ppm (50 mg/m3) and a STEL of 15 ppm (75 mg/m3) for Naphthalene.
A TWA of 5 mg/m3 for Oil Mists, mineral.

Continues on page 5

The recommended permissible exposure levels indicated above reflect the levels revised by OSHA in 1989 or in subsequent regulatory activity. Although the 1989 levels have since been vacated by the 11th Circuit Court of Appeals, a supplier recommends that the lower exposure levels be observed as reasonable worker protection.
THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:
A TWA of 10 ppm (52 mg/m3) and a STEL of 15 ppm (79 mg/m3) for Naphthalene, with an A4 designation.
A TWA of 5 mg/m3 and a STEL of 10 mg/m3 for Mineral Oil Mist.
A SUPPLIER RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMITS:
100 ppm total organic vapor based on Heavy Aromatic Naphtha (HAN).

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY at Deg F:	0.87 at 60 Typical
DENSITY at Deg F:	7.3 lbs/gal at 60
VAPOR PRESSURE, mmHg at Deg F:	< 4.988 at 100
SOLUBILITY IN WATER, wt. % at Deg F:	Insoluble
VISCOSITY OF LIQUID, cSt at Deg F:	183 at 68 Typical
	62 at 104 Typical
SP. GRAV. OF VAPOR, at 1 atm (Air=1):	4.50
FREEZING/MELTING POINT, Deg F:	Not Applicable
EVAPORATION RATE, n-Bu Acetate=1:	Not Available
BOILING POINT, Deg F:	347 to 617

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable
CONDITIONS TO AVOID INSTABILITY:
None
HAZARDOUS POLYMERIZATION:
Will not occur
CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
None
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS:
None

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

Continues on page 6

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information.

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):
DOT SHIPPING DESCRIPTION: KEROSENE SOLUTION, 3, UN1223, III

SECTION 15 REGULATORY INFORMATION

TSCA:
All of the components of this product are listed on the TSCA Inventory.
Clean Water Act/Oil Pollution Act:
This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.
CERCLA:
If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.
The reportable spill quantity of this product is 8,333 pounds.
It contains:
Naphthalene.
SARA TITLE III:
Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Immediate health, Delayed Health, Fire.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS #	MAX. %
Naphthalene	91-20-3	1.2

Continues on page 7

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SECTION 16 OTHER INFORMATION

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NOTES:

This product has been registered with the U.S. EPA for use only as an Aftermarket Fuel Additive, and has not been registered or certified for use as a Deposit Control Gasoline Additive for bulk fuels.

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	2	2	4 = Severe
FLAMMABILITY	2	2	3 = Serious
REACTIVITY	0	0	2 = Moderate
			1 = Slight
			0 = Minimal

CAUTION: HMIS ratings are based on a 0-4 rating scale with 1 representing minimal hazards or risks, and 4 representing significant hazards or risks. Recommended HMIS ratings should not be used in the absence of a fully implemented HMIS hazard communication program.

REVISION SUMMARY:

Since April 1, 2004 this MSDS has been revised in Section(s):
2, 3, 5, 8

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REFERENCE NUMBER:	SUPERSEDES ISSUE DATE:
HDHA-B-11454	April 1, 2004

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This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

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LAST PAGE

MATERIAL SAFETY DATA SHEET
Infineum

Product Name: Infineum C9402
Revision Date: 25Jul2006

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Infineum C9402
Product Description: Petroleum Product Additive
Product Code: 32432100
Intended Use: Lube oil additive

COMPANY IDENTIFICATION
Supplier: INFINEUM USA L.P.
P.O. Box CN 135
Linden, NJ. 07036 USA

24 Hour Health Emergency 800-726-2015
Transportation Emergency Phone 800-424-9300
Product Technical Information 800-654-1233

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS
Contact with hot material can cause thermal burns which may result in permanent damage. Thermal burn hazard - contact with hot material may cause thermal burns.

POTENTIAL HEALTH EFFECTS
May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

NFPA Hazard ID: Health: 1 Flammability: 1 Reactivity: 0
HMIS Hazard ID: Health: 1 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

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INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
Give one or two glasses of water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Carbon monoxide, Sulfur oxides, Smoke, Fume

FLAMMABILITY PROPERTIES
Flash Point [Method]: 150C (302F) [Typical ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with

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all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT
Land Spill: Stop leak if you can do it without risk. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. If liquid is too viscous for pumping, scrape it up with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING
Avoid all personal contact. Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: 60°C (140°F) - 70°C (158°F)

Transport Temperature: 60°C (140°F) - 70°C (158°F)
Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

STORAGE
Nitrogen blanketing of containers is required. Do not store in open or unlabelled containers.
Storage Temperature: 60°C (140°F) - 70°C (158°F)
Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Trucks; Tank Cars; Bulk Containers
Suitable Materials and Coatings: Carbon Steel; Stainless Steel; Zinc; Epoxies

Product Name: Infineum C9402
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Unsuitable Materials and Coatings: Butadiene Rubber; Butyl Rubber; Rubber; Polyethylene; Styrene Rubber

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SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended. If contact with material may occur, safety glasses and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Color: N/D
Odor: N/D
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15.6 C): 0.943 15.6°/15.6C
Density (at 15.6 °C): 942 kg/m³ (7.86 lbs/gal, 0.94 kg/dm³)
Flash Point [Method]: 150C (302F) [Typical ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: 260C (500F)
Vapor Density (Air = 1): N/D
Vapor Pressure:
Evaporation Rate (n-butyl acetate = 1): [Negligible]
pH: N/D
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 5700 cSt (5700 mm2/sec) at 40 C | 70 cSt (70 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D

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Melting Point: N/D
Hygroscopic: Yes
Coefficient of Thermal Expansion: 0.00058 %

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the ey
Ingestion	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Mildly irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--
1 = NTP CARC 2 = NTP SUS 3 = IARC 1

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4 = IARC 2A 5 = IARC 2B 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: CORROSIVITY.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT) : Not Regulated for Land Transport

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Product Name: Infineum C9402
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LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	2 = ACGIH A1	3 = ACGIH A2
4 = OSHA Z	5 = TSCA 4	6 = TSCA 5a2
7 = TSCA 5e	8 = TSCA 6	9 = TSCA 12b
10 = CA P65 CARC	11 = CA P65 REPRO	12 = CA RTK
13 = IL RTK	14 = LA RTK	15 = MI 293
16 = MN RTK	17 = NJ RTK	18 = PA RTK
19 = RI RTK		

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

EPAHO114000316

Product Name: Infineum C9402
Revision Date: 25Jul2006

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 15: National Chemical Inventory Listing was added.
Section 15: National Chemical Inventory Listing - Header was added.

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Internal Use Only MHC: 0, 0, 0, 0, 2, 1
DGN: 6004723 (1003770) (NA Core)

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EMULSIONS CONTROL INC.

MATERIAL SAFETY DATA SHEET

PRODUCT/MATERIAL:	ECO 53BC	**EMERGENCY PHONE NO.**	
MANUFACUTURER:	EMULSIONS CONTROL, INC. 925 Hale Place, Suite A-7 Chula Vista, CA 91914	**SPILL:** **OFFICE:**	800-633-8253 619-656-8899

SECTION I – MATERIAL IDENTIFICATION

TRADE NAME:	ECO 53BC	**PRODUCT CODE NO:**	ECO 53BC
GENERIC NAME:	Oil based demulsifier	**MSDS CODE NO:**	ECO 53BC
CHEMICAL NAME:	Solvent blend of surface active organic compounds	**CAS REGISTRY NO:**	Not registered
SYNONYMS:	Emulsion breaker	**NOISH REGISTRY NO:**	Not registered
CHEMICAL FAMILY:	Hydrocarbon solvents, organic acids and resins	**CHEMICAL FORMULA:**	Mixture/ liquid/ organic compounds

SECTION II – HAZARD IDENTIFICATION

HEALTH/PHYSICAL HAZARDS: This material is a flammable liquid, a severe eye and skin irritant. Material similar to a major component have been shown to cause skin cancer in laboratory animals.

HAZARD LISTING: Flammable Liquid, n.o.s. (Isopropanol)

OTHER: Warning Label "Flammable Liquid"

Tanks, pipes and containers retain material or material residue. Failure to exercise caution during cleaning, maintenance, repair or sampling operations can be hazardous and lead to injury. Read sections V, VIII & X.

SECTION III – HAZARDOUS INGREDIENTS & RECOMMENDED EXPOSURE LIMITS

HAZARDOUS INGREDIENTS:	**RECOMMENDED EXPOSURE LIMITS**		
	LIMIT TYPE	**AMOUNT**	**AGENCY***
1) Alcohols, ketones, esters, aliphatic and aromatic solvents	8-hr TWA	400 ppm	X(I)
2) Surface active organic compounds (Proprietary)	None established		

(i) Recommended by manufacturer

- A = ACGIH; C = CAL/OSHA; M = MSHA; O= OSHA; X = OTHER

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SECTION IV – HEALTH HAZARD INFORMATION

GENERAL: This material is a moderate eye and skin irritant.

OCULAR/EYE: This material is a moderate eye irritant. Contact with the liquid may cause burning, redness, swelling, eye burns and eye damage.

DERMAL/SKIN: This material is a skin irritant. Prolonged or repeated contact may cause burning, redness, dermatitis, blistering and skin damage.

INHALATION/BREATHING: Exposure to mists or to excessive concentrations of vapors generated when this material is heated may cause irritation of nose, throat and respiratory tract and signs of central nervous system depression; i.e., headache, nausea, drowsiness and dizziness.

INGESTION/SWALLNG: Accidentally swallowing this material may cause irritation and burning of the mouth, throat, esophagus and gastrointestinal (GI) tract.

CHRONIC/OTHER:

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin, liver, kidney & respiratory disorders.

SECTION V – SEPCIAL HAZARDS & PRECAUTIONS

HAZAROUS DURING HON-ROUTINE OPERATIONS: Tank, pipes and containers contain material or material residue and may contain toxic, irritating, flammable or explosive vapors of high concentrations and pressures. Exposure to these vapors can cause serious physical harm or injury.

SPECIAL PRECAUTIONS & COMMENTS: Enclosed or head spaces in material tanks, pipes or containers may contain hazardous concentrations of fumes or vapors. Exercise caution and wear recommended protective equipment and clothing when opening valves or tank and container lids, entering empty tanks or during any operations such as cleaning, repair, maintenance or sampling where there is a potential for exposure to these fumes or vapors

SECTION VI – EMERGENCY & FIRST AID PROCEDURES

ATTENTION: IF VICTIM IS NOT BREATHING OR IF BREATHING DIFFICULTIES DEVELOP, ARTIFICIAL RESPIRATION OR OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL.

OCULAR/EYE CONTACT: Immediately flush affected eye(s) with clean water for at least 30 minutes, washing under the eyelids. Seek immediate medical assistance.

DERMAL/SKIN CONTACT: Immediately remove contaminated clothing. Flush contact areas with water and then thoroughly cleanse the skin by washing with soap and water. If irritation or redness develop and persist, seek medical assistance.

INHALATION/BREATHING: If symptoms of exposure develop, move away from source of exposure to vapors or mists. If symptoms of exposure persist, seek medical assistance.

INGESTION/SWALLING: If victim is conscious and alert, have them rinse mouth with water and then drink milk or water. Seek medical assistance.

COMMENTS/PHYSICIAN INFO: This material is a viscous petroleum solvent-based mixture of organics, acids, resins and amines which is moderately to severely irritating to the skin, eyes and mucous membranes.

EPAHO114000319

PRODUCT/MATERIAL: ECO 53BC

SECTION VII – CHEMICAL REACTIVITY INFORMATION

STABILITY: Stable under normal conditions of storage and handling.

REACTIVITY: Reacts with strong oxidizing agents and alkaline materials.

INCOMPATIBILITY: Strong oxidizing agents, alkaline materials

HAZARDOUS REACTION/DECOMPOSITION PRODUCTS: Carbon dioxide and carbon monoxide, oxides of sulfur and nitrogen.

SECTION VIII – FIRE & EXPLOSION HAZARD INFORMATION

NFPA RATING: **HEALTH:** 2 **FLAMMABILITY:** 3 **REACTIVITY:** 0

FLASH POINT (METHOND): <70° F (PMCC) **FIRE POINT/AUTOIGNITION TEMP:** No data
FLAMMABLE LIMITS (% BY VOLUME/AIR): **LOWER** 1 **UPPER** 4%

FIRE/EXPLOSION HAZARDS: This material is a moderate fire and explosion hazard and may be ignited by an ignition source above its flash point. Vapors may travel to ignition source and flash back. Containers may explode in fire. A vapor explosion hazard indoors, outdoors or in sewers. Empty containers retain material residue and may generate vapors which can ignite and explode.

CUMBUSTION PRODUCT: Carbon dioxide, carbon monoxide and water vapor. Oxides of sulfur and nitrogen.

EXTINGUISHING MEDIA: Carbon dioxide and dry chemical. Do not use water.

FIRE FIGHTING PROCEDURES: Fire fighters should wear full protective clothing and equipment, including self-contained breathing apparatus when fighting fires in enclosed spaces. Use water spray to cool containers, to dilute and disperse vapors, protect personnel, and to flush unignited spills from fire.

SECTION IX – PERSONAL PROTECTION & ENGINEERING CONTROLS

EYE & FACIAL PROTECTION: Chemical goggles are recommended to prevent eye contact. In situations where splashing may occur, splash goggles and a face shield should be worn.

SKIN PROTECTION: Impervious protective glove, long-sleeve clothing and a chemical apron are recommended to prevent skin contact (Butyl rubber or polyethylene are recommended!). Wear protective boots in situations where splashing may occur.

RESPIRATORY PROTECTION: In situations where vapor concentrations exceed the recommended exposure limits, a NIOSH-approved organic vapor cartridge respirator should be worn.

VENTILATION: Explosion-proof general mechanical ventilation or local exhaust is recommended to maintain vapor concentrations below the recommended exposure limits

OTHER: An eye wash and source of running water should be available to flush or wash the eyes and skin.

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SECTION X – HANDLING DURING ROUTINE & NON-ROUTINE OPERATIONS

STORAGE: Store in closed containers in a cool, dry, well-ventilated area away from sources of heat and ignition and strong oxidizing agents. Containers should be electrically bonded and grounded when transferring material.

HANDLING: Use in a well-ventilated area and recommended protective equipment and clothing. Use explosion-proof tools and equipment. Avoid breathing vapors or mists and prolonged or repeated skin contact. Avoid heating above 70° F. Label all unattended containers.

MISUSE OF EMPTY CONTAINERS CAN BE HAZARDOUS. COMPLETELY DRAIN AND HAVE COMMERCIALLY CLEANED BEFORE ANY REUSE. KEEP CONTAINERS CLOSED AND DO NOT USE TO STORE OR MIX ANY OTHER MATERIALS BEFORE THEY HAVE BEEN COMMERCIALLY CLEANED. DO NOT CUT, WELD, DRILL, OR SUBJECT EMPTY CONTAINERS TO HEAT OR FLAMES. VAPORS MAY IGNITE AND EXPLODE.

SECTION XI – SPILL, LEAK & DISPOSAL PROCEDURES

SPILL OR LEAK PROCEDURES: Evacuate area for large spills. Remove all ignition sources and provide explosion-proof ventilation. Wear recommended protective clothing and equipment. Do not allow spills to enter sewers, streams or surface waters. Dike and contain spill. Use inert absorbent to reduce fumes and to pick up. Collect for later disposal.

DISPOSAL PROCEDURES: *DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.* Empty containers should be commercially cleaned and reconditioned before reuse.

SECTION XII – PHYSICAL DESCRIPTION & PROPERTIES

DESCRIPTION: A brown or red colored liquid with a slightly pungent odor.

MELTING POINT:	N/A	**SOLUBILITY (WATER):**	Negligible
BOILING POING/RANGE:	133-760° F	**pH:**	N/A
OVERPOINT:	N/A	**SPECIFIC GRAVITY:**	0.90-0.93
VAPOR PRESSURE:	65-75 mm of Hg @ 20° C	**API GRAVITY:**	N/A
% VOLATILE BY VOLUME:	30-50%	**VISCOSITY:**	N/A
VAPOR DENSITY:	Heavier than air	**POUR POINT:**	N/A
EVAPORATION RATE:	2.5-4 (N-Butyl Acetate=1)	**OTHER:**	None

MSDS CODE NO:	ECO 53BC	**NEW/REVISION DATE:**	February 13, 2006
PREPARED BY:	Sam Delchad, Ph.D.	**DATE:**	2-13-06

BJ SERVICES COMPANY MATERIAL SAFETY DATA SHEET

Region USA

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: **GasFlo**
Item Number: 423908, 488411
Product Use: Surface tension reducer
Supplier: BJ Services Company
11211 FM 2920
Tomball, Texas 77375
(281)351-8131

IN CASE OF EMERGENCY CALL: (800) 424-9300 for CHEMTREC
(703) 527-3887 for International

HMIS HAZARD INDEX

HEALTH:	1
FLAMMABILITY:	2
REACTIVITY:	0
PERSONAL PROTECTION:	g

2 COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS#	Percent	Hazard
Surfactants	-	20-60	Irritant
2-Butoxyethanol	000111-76-2	3-20	Irritant
Methanol	000067-56-1	10-30	Flammable toxic

3 HAZARDS IDENTIFICATION

PRIMARY ROUTES OF EXPOSURE: Eye contact. Ingestion. Inhalation. Skin absorption. Skin contact.

ACUTE OVEREXPOSURE EFFECTS:

INHALATION: Harmful if inhaled. May cause headache, dizziness, nausea and incoordination. May cause respiratory tract irritation.

INGESTION: Harmful if swallowed. May cause nausea, dizziness or loss of coordination. May affect the blood and blood system.

EYE CONTACT: May cause eye irritation. Prolonged contact may cause severe irritation.

SKIN CONTACT: May be absorbed through the skin and contribute to the symptoms listed under Ingestion. May cause skin irritation.

EXPOSURE LIMITS:

HAZARDOUS COMPONENT	ACGIH TLV	OSHA PEL	LC50 (inhalation)	LD50 (oral)

Surfactants	NA	NA	NA	NA
2-Butoxyethanol	20 ppm	50 ppm	450 ppm/4 rat	250 mg/kg rat
Methanol	200 ppm, skin	200 ppm TWA	64000 ppm/4 rat	5600 mg/kg rat

4 FIRST AID MEASURES

INHALATION:
If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Only trained personnel should administer oxygen. Get medical attention.
INGESTION:
DO NOT induce vomiting. If victim is conscious give 1 to 2 glasses of water. Never give anything by mouth to an unconscious person. Obtain medical assistance immediately.
EYES:
Flush eyes immediately with large amounts of water for at least 15 minutes. Lift upper and lower lids occasionally. Get medical attention.
SKIN:
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and launder before reuse. Seek medical attention.

5 FIRE FIGHTING MEASURES

FLASHPOINT (METHOD): 104°F(CC)
LOWER EXPLOSION LIMIT (% v/v): Not available
UPPER EXPLOSION LIMIT (% v/v): Not available
AUTO-IGNITION TEMPERATURE: Not available
SPECIAL HAZARDS:
Product will burn in fire situation.
EXTINGUISHING MEDIA:
Carbon dioxide, dry chemical, foam.
SPECIAL FIREFIGHTING PROCEDURES:
Fire-fighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires.
HAZARDOUS COMBUSTION PRODUCTS:
See Hazardous Thermal Decomposition Products.

6 ACCIDENTAL RELEASE MEASURES

Wear specified protective equipment. Remove sources of ignition. Small spills - Cover spill with absorbent material. Scoop absorbed material into a suitable container for disposal. Large spills - Dike to contain. Prevent from entering sewers or waterways. Recover product to suitable containers or vessel for reuse, if possible, or for disposal. Use only explosion proof transfer equipment.

7 HANDLING AND STORAGE

HANDLING:
Avoid breathing vapors. If exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Wash hands before eating and smoking.

STORAGE REQUIREMENTS:
Keep container tightly closed, in a cool, well ventilated place. Keep away from ignition sources. Keep away from incompatible materials.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

SPECIFIC ENGINEERING CONTROLS:
Adequate ventilation should be provided to keep concentrations below acceptable exposure limits. Local exhaust.

PERSONAL PROTECTIVE EQUIPMENT:
Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect

against inhalation exposure. (Cartridge respirator) Chemical resistant goggles. Chemical resistant gloves. Coveralls.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Clear, yellow
ODOR:	Not available
ODOR THRESHOLD:	Not available
SPECIFIC GRAVITY:	Not available
VAPOR PRESSURE:	< 0.4 mm Hg @ 68° F
VAPOR DENSITY (air = 1):	Not available
EVAPORATION RATE:	Not available
BOILING POINT:	Not available
FREEZING POINT:	Not available
pH:	8-11 @ 1% solution @ 68° F
VISCOSITY (F):	Not available
SOLUBILITY IN WATER:	Soluble

10 STABILITY AND REACTIVITY

STABILITY:
Stable under normal conditions of use.
INCOMPATIBILITY/CONDITIONS OF REACTIVITY:
Strong reducing agents. May react violently with strong oxidizers or acids.
HAZARDOUS THERMAL DECOMPOSITION PRODUCTS:
Oxides of carbon and nitrogen.
HAZARDOUS POLYMERIZATION:
Will not occur.

11 TOXICOLOGICAL PROPERTIES

CHRONIC EFFECTS:
Prolonged or repeated over exposure may cause central nervous system depression. May cause liver and kidney damage. Dermatitis.

SENSITIZATION:
Not known.
CARCINOGENICITY:
None of the components of this product have been listed as carcinogenic by IARC, NTP or OSHA. (IARC- International Agency for Research on Cancer) (NTP - National Toxicology Program) (OSHA - Occupational Safety & Health Administration (US)).
MUTAGENICITY:
Not known.
REPRODUCTIVE TOXICITY:
Not known.

12 ECOLOGICAL INFORMATION

No specific information available.

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
Disposal should be made in accordance with national and local regulations. Consult local waste authorities for direction and/or approvals prior to disposal.

14 TRANSPORT INFORMATION

LAND TRANSPORT (DOT)

Proper Shipping Name:	Combustible liquid, n.o.s.
Technical Name(s):	Methanol
Hazard Class - Primary:	Combustible
UN/ID No.:	NA 1993
Packing Group:	III
Subsidiary Risk:	
Reportable Quantity (RQ):	5000 lbs (Methanol)
Emergency Response Guide #:	128

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name:	Combustible liquid, n.o.s.
Technical Name(s):	Methanol
Hazard Class - Primary:	Combustible
UN/ID No.:	NA 1993
Packing Group:	III

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name:	Combustible liquid, n.o.s.
Technical Name(s):	Methanol
Hazard Class - Primary:	Combustible
Packing Group:	III
EmS:	

15 REGULATORY INFORMATION

SARA TITLE III:

SECTION 302/304 This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.
SECTION 311/312 Immediate, Fire
SECTION 313 This product contains the following substance(s) which appear on the List of Toxic Chemicals:, Methanol CAS # 67-56-1

TSCA INVENTORY: The substances in this product are included on or exempted from the TSCA 8(b) inventory (40 CFR 710).
CALIFORNIA PROP 65: This product does not contain substances which require warning under California Proposition 65.
PRIORITY POLLUTANTS:

16 OTHER INFORMATION

ISSUE DATE: 06/05/2008
PREPARED BY: BJ Services Environmental Group

REFERENCES:
CCINFO Web Information Service, Canadian Centre for Occupational Health and Safety, 2008.
Dangerous Goods Regulations, 49th ed., International Air Transport Association, 2008.
Guide to Occupational Exposure Values - 2007, American Conference of Governmental Industrial Hygienists, 2007.
SAX's Dangerous Properties of Industrial Materials
Supplier's Literature.

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety

EPAHQ114000325

ALTIVIA

MATERIAL SAFETY DATA SHEET

Acid Alum

ALTIVIA 24 Hour Emergency Phone Number: 713-636-3189
Transportation Emergencies CHEMTREC: 800-424-9300

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Acid Alum
CHEMICAL NAME/ FAMILY:	Metal Salts/ Coagulant
TRADE NAMES/ SYNONYMS:	AQUALUM™; Acidified Aluminum Sulfate Solution; Sulfuric Acid, Aluminum Salt
MOLECULAR FORMULA:	$Al_2(SO_4)_3.14H_2O/ H_2SO_4$
MANUFACTURER:	ALTIVIA, 1100 Louisiana, Suite 3160, Houston, TX 77002

SECTION 2: COMPOSITION/ INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% RANGE
Aluminum Sulfate	10043-01-3 (anhydrous)	32-38%
Sulfuric Acid*	7664-93-9	6.5-7.5%
Water	7732-18-5	Balance

* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER! Causes skin and eye irritation or burns. Do not get in eyes, on skin or on clothing. May be harmful if inhaled, do not breathe mist. May be fatal if swallowed. Not flammable but may release toxic vapors if decomposed in a fire.

POTENTIAL HEALTH EFFECTS

EYE
May cause corneal burns or severe irritation in eyes.

SKIN
Fumes or mists may cause irritation or burns to skin.

INGESTION
Oral and gastrointestinal irritation. Local tissue damage. Nausea, vomiting, diarrhea, and gastrointestinal bleeding may follow. **Can be fatal if swallowed.**

EPAHO114000326

INHALATION
Irritation of the respiratory system.

SIGNS AND SYMPTOMS OF EXPOSURE
Irritation and or burns to exposed tissue, respiratory distress, nausea, vomiting or diarrhea.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Acute or chronic respiratory diseases. Dermatitis.

EFFECTS FOLLOWING REPEATED EXPOSURE
Long term exposure if inhaled may cause bronchial irritation, coughing, and bronchial pneumonia. Prolonged contact with eyes or skin may result in corneal burns, skin sensitization and burns. If ingested large doses may result in kidney/ liver and blood damage.

SECTION 4: FIRST AID MEASURES

EYES
Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention for irritation or any other symptom.

SKIN
Take off contaminated clothing and shoes. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention for irritation or burns. Wash clothing and thoroughly clean shoes before reuse.

INGESTION
Call a poison control center or doctor for immediate advice. Have person drink a glass of water immediately if able to swallow. **Do not induce vomiting** unless directed to do so by medical personnel. Do not give anything by mouth to an unconscious person.

INHALATION
Remove person from exposure to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration (CPR). If individual is breathing, but with difficulty, get immediate medical attention.

NOTES TO PHYSICIAN
All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents.

See Section 11 for Toxicological Information.

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT
Not Applicable

AUTOIGNITION TEMPERATURE
Not Applicable

FLAMMABLE LIMITS IN AIR (% BY VOLUME)
Not Applicable

FLAMABLE PROPERTIES
Will not burn

EXTINGUISHING MEDIA
Choose extinguishing media suitable for surrounding materials.

HAZARDOUS COMBUSTION PRODUCTS
Thermal decomposition may release toxic and/ or hazardous gases such as oxides of sulfur.

FIRE FIGHTING INSTRUCTIONS
Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in a fire. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Move container from fire area if it can be done without risk. Water spray may be ineffective on fire but can protect fire-fighters and cool closed containers. Do not release runoff from fire control methods to sewers or waterways. Dike area to prevent runoff and water source contamination.

SECTION 6: ACCIDENTAL RELEASE MEASURES

WATER SPILL
Prevent additional discharge of material, if possible to do so without hazard.

LAND SPILL
Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, advise authorities.

GENERAL PROCEDURES
No smoking in spill areas. Isolate spill area and deny entry to unnecessary or unprotected personnel. Remove all sources of ignition, such as flames, hot glowing surfaces or electric arcs. Stop source of spill as soon as possible and notify appropriate personnel. Cleanup personnel must wear proper protective equipment (refer to Section 8). Decontaminate all clothing. Notify all downstream water users of possible contamination.

Create a dike or trench to contain all liquid material. **Acid Alum** can be carefully neutralized with Soda Ash or Lime. Spill materials may also be absorbed using clay, soil or nonflammable commercial absorbents. **Do not** place spill materials back in their original container. Containerize and label all spill materials properly.

RELEASE NOTES
Notify the National Response Center (800/424/8802) of uncontained releases to the environment in excess of the Reportable Quantity (RQ). See Section 15, Regulatory Information. Recycle or dispose of recovered material in accordance with all federal, state, and local, regulations.

For all transportation accidents, call CHEMTREC at 800/424-9300.

SECTION 7: HANDLING AND STORAGE

HANDLING

Do not get in eyes, or on skin, or clothing. Do not taste or swallow. Avoid breathing mists or fumes. Do not handle with bare hands. Carefully monitor handling, use and storage to avoid spills and leaks. Follow protective controls set forth in Section 8 when handling this product. **Do not eat, drink, or smoke in work area.** Wash hands prior to eating, drinking, or using restroom.

STORAGE

STORAGE CONDITIONS
Stainless steel or fiberglass tanks are recommended. Do not put concentrate or dilutions of concentrate on food or drink containers. Store in closed, properly labeled tanks or containers. Do not remove or deface labels or tags. Store in a cool, well ventilated place away heat sources direct sunlight and incompatible materials. Keep drums upright. Do not reuse empty containers without commercial cleaning or reconditioning.

STORAGE TEMPERATURE
Do not allow product to freeze. Do not store above 49°C (120°F).

SECTION 8: EXPOSURE CONTROLS PERSONAL PROTECTION

ENGINEERING CONTROLS

VENTILATION
Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE AND FACE PROTECTION
Wear chemical goggles. A face shield should be worn in addition to goggles where splashing or spraying is possible.

SKIN PROTECTION
Wear chemical resistant clothing. Neoprene gloves, boots and apron or slicker suit.

RESPIRATORY PROTECTION
If airborne exposures exceed 1.0 mg/m^3, a negative pressure air-purifying respirator is recommended. Cartridges must be NIOSH/MSHA approved against dusts and mists having TWA than 0.05 mg/m^3.

GENERAL
Safety shower and eye wash station must be provided in the immediate work area. Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer.

EXPOSURE GUIDELINES

Component Data: Aluminum Sulfate (10043-01-3)
PEL (OSHA): 2.0 mg/m^3 soluble salts as Al
TLV (ACGIH): 2.0 mg/m^3 soluble salts as Al

Component Data: Sulfuric Acid (7664-93-9)
PEL (OSHA): 1.0mg/m^3, 8 Hr. TWA
TLV (ACGIH): 1.0 mg/m^3, 8 Hr. TWA A2 (Sulfuric acid contained in strong inorganic acid mists)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL FORMULA	$Al_2(SO_4)_3.14H_2O$/ H_2SO_4
MOLECULAR WEIGHT	Mixture
APPEARANCE	Colorless to amber liquid
ODOR	None
pH @ 25°C	<1
VAPOR PRESSURE	Not Established
VOLATILES, % BY VOLUME	Not Established
BOILING POINT	Not Established
CRYSTALLIZATION POINT	Not Established
SOLUBILITY IN WATER	Complete
SPECIFIC GRAVITY	1.29-1.32 @ 25°C (77°F)
DENSITY	10.75-11.00 lbs./gal @ 25°C (77°F)
VISCOSITY	Not Established

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Heat

INCOMPATIBILITY WITH OTHER MATERIALS
Strong oxidizers such as permanganate, sodium chlorite, chromates and peroxides. Corrosive to some metals.

HAZARDOUS DECOMPOSITION PRODUCTS
Aluminum oxides. Toxic and corrosive oxides of sulfur may be formed when heated to decomposition. At decomposition temperatures of 650°C (1200°F) and above, the sulfur trioxide formed is an oxidizing agent and may cause a combustion reaction.

HAZARDOUS POLYMERIZATION
Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ANIMAL TOXICOLOGY

EYE
May cause corneal burns or severe irritation in eyes.

SKIN
Fumes or mists may cause irritation or burns to skin.

ACUTE ORAL EFFECTS
Component Data: Aluminum Sulfate (10043-01-3) LD_{50} (oral, mouse) > 5,000 mg/kg
Aluminum Sulfate (10043-01-3) LD_{50} (oral, rat): 1930 mg/kg

Component Data: Sulfuric Acid (7664-93-9) LD_{50} is > 2,140 mg/kg

ACUTE INHALATION EFFECTS
Component Data: Sulfuric Acid (7664-93-9) 8 hour, LC_{50} (guinea pigs) 30 mg/m^3.

EFFECTS FOLLOWING PROLONGED OR REPEATED EXPOSURE
No available data for product.

CARCINOGENICITY
This product (or any component at a concentration of 0.1% or greater) is not listed by NTP, IARC, OSHA, EPA, or any other authority as a carcinogen.

MUTAGENICITY
Component Data: Aluminum Sulfate (10043-01-3), investigated as a mutagen.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY
No available data for product.

SECTION 12: ECOLOGICAL INFORMATION

GENERAL COMMENT
No available data for product.
AQUATIC TOXICITY
Component Data: Sulfuric Acid (7664-93-9) Slightly to moderately toxic.
96 hour LC_{50} – Bluegill sunfish: 10.5 ppm
48 hour TLm – Flounder: 100-300 ppm

SECTION 13: DISPOSAL CONSIDERATIONS

SPILL RESIDUES
Processing, use or contamination of this product may change the waste management options. All disposals of this material must be done in accordance with Federal, state and local regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.

SECTION 14: TRANSPORT INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.01 BY THE U.S DEPARTMENT OF TRANSPORTATION.

DOT IDENTIFICATION NO.: UN 1760

DOT SHIPPING DESCRIPTION (49 CFR 172.101): Corrosive liquid, N.O.S (Contains Aluminum Sulfate)

PACKAGING GROUP: III

PLACARD REQUIRED: Corrosive, 1760, Class 8

LABEL REQUIRED: Corrosive, Class 8

Label as required by EPA and by OSHA Hazard Communication Standard, and any applicable state and local regulations.

EMERGENCY RESPONSE GUIDE NUMBER: 154

SECTION 15: REGULATORY INFORMATION

U S FEDERAL REGULATIONS

CERCLA REPORTABLE QUANTITY (RQ)

Ingredient	CAS NO.	RQ
Aluminum Sulfate	10043-01-3 (anhydrous)	5,000 lbs.
Sulfuric Acid	7664-93-9	1,000 lbs.

TSCA (TOXIC SUBSTANCES CONTROL ACT)
All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III

SARA SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 302.4):

Ingredient	CAS NO.	RQ
Sulfuric Acid	7664-93-9	1,000 lbs.

SARA SECTION 311/312 HAZARD CATEGORIES (40 CFR 370.2):

Fire Hazard	No
Reactivity Hazard	No
Release of Pressure	No
Acute Health Hazard	Yes
Chronic Health Hazard	No

SARA SECTION 313 (40 CFR 372.65):
Components identified with an asterisk (*) in Section 2 are subject to the reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

INTERNATIONAL REGULATIONS

CANADA

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

SECTION 16: OTHER INFORMATION

NFPA RATINGS	
HEALTH	3
FLAMMABILITY	0
INSTABILITY	0

HMIS CODES	
HEALTH	3
FLAMMABILITY	0
REACTIVITY	0
PROTECTION	C

RATING NOTES
Hazardous Materials Identification: 4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal.

ALTIVIA

MATERIAL SAFETY DATA SHEET – Acid Alum

Emergency Information:	For Any Other Information Contact:
Call toll free 24 hours a day: 713-636-3189	ALTIVIA, Technical Marketing, 1100 Louisiana, Suite 3160, Houston, TX 77002. Phone: 713-658-9000 8 AM – 5 PM CST, Monday through Friday

Revisions

9/27/2004: This MSDS conforms to ANSI Standard Z400.1-1998.

12/21/2004: Update to DOT shipping name.

12/13/2005: Update to Emergency Response telephone number. Minor edits.

Disclaimer of Warranty:
The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. ALTIVIA provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. ALTIVIA knows of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.

EPAHO114000333

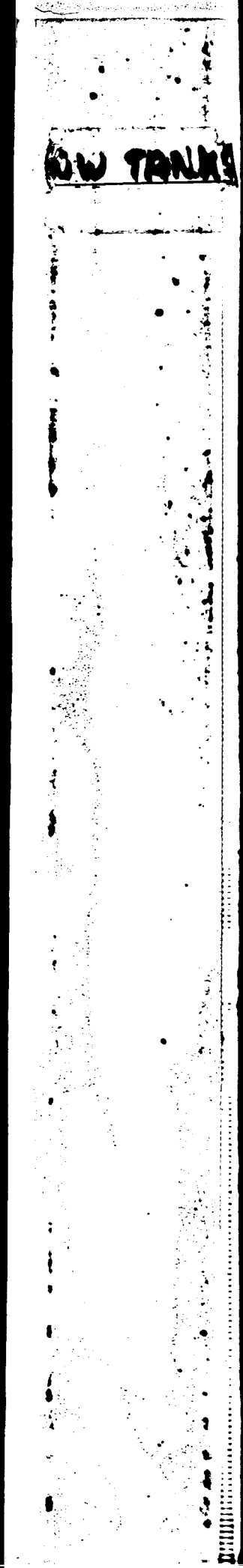
12-28-07

CES Environmental Services, Inc.

DATA LOG SHEET

WW TREATMENT TANK TESTING

EPAHO11400334


TRUNK

8/4/09
LAB
T-15
CR

WWTS
up Front
B
TANKS

EPAHO114000337

Sparco

BRAND

PRESENTATION BINDERS
1" ROUND RING

BLACK	19000
WHITE	19001
BLUE	19002

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
8-3	435	MR	T-6				~~2.0~~ 4.954	1,891	21,220	pH= 10 phenol= 10 treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
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										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

WW TANK Testing Data Log Sheet. 7-21-2008. ACTIVE

EPAHO114000339

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
7-31	8Am	MR	CITY				0.216	0.808	TOC	pH= 8 phenol= 9 treated sample YES NO	—
↓	↓	MR	T-9				1.433	0.412	DOWN	pH= 8 phenol= 4 treated sample YES NO	✓
↓	9Am	MR	T-4				0.168	0.048	↓	pH= 8 phenol= 15 treated sample YES NO	✓
↓	9:30	MR	T-5				0.149	0.549	↓	pH= 9 phenol= 30 treated sample YES NO	✓
↓	10:35	SB	T-6				.228	.533	↓	pH= 10 phenol= 100 BLEACH ADDITION treated sample YES NO	
8/1	9:10	CRH	T-6				0.330	0.102	26380	pH= 10.7 phenol= 50 * ADD BLEACH treated sample YES NO	
↓		CRH	OP TK #4				1.121	6.26		pH= 10 phenol= 5 treated sample YES —	
		CRH	OP TK #6				2.951	0.607		pH= 10 phenol= 5 treated sample YES —	
↓		CRH	BT 408				—	—		pH= 8 phenol= FP 113° treated sample YES NO	
8/1	1235	CRH	TK 9				3.762	1.879	20590	pH= 10 phenol= 8 treated sample YES NO RETREAT	
8:3	7:30	MR	SOP				11.076	17.696	16,670	pH= 3 phenol= 10 treated sample YES NO MSR TREATED	
↓	8:30	MR	CITY 080309				0.481	0.833	13690	pH= 7 phenol= 25 treated sample YES NO	
↓	9:30	MR	TW				0.121	0.824	1847	pH= 10 phenol= 3 treated sample YES NO	
	2:05	SB	T6				4.215	.837	24690	pH= 10 phenol= 5 treated sample YES NO	
↓	↓	↓	T 8				.302	.127	14920	pH= 10 phenol= 0 treated sample YES NO FP° 138	
			BT 12				.858	1.050	5651	pH= 10 phenol= 20 treated sample YES NO	

EPAHO1140000340

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
7-29	1000	MR	5 OP				7.248	6.232	8127	pH= 3 phenol= 5 treated sample YES NO	
↓	↓	↓	7 OP				3.087	9.248	10,330	pH= 5 phenol= 5 treated sample YES NO	
↓	1020	↓	CITY				0.312	0.400	8604	pH= 9 phenol= 30 treated sample YES NO	—
7-30	800	MR	CITY				0.155	0.163	16,850	pH= 8 phenol= 15 treated sample YES NO	—
			T-6				0.205	12.768	56,830	pH= 9 phenol= 15 treated sample YES NO HOLD	✓
			T-9				0.050	0.152	2585	pH= 9 phenol= 0 treated sample YES NO	✓
		↓	T-12				0.323	0.143	4807	pH= 10 phenol= 10 treated sample YES NO	✓
			5 OP				9.514	1.017	8021	pH= - phenol= 5 treated sample YES NO HOLD	✓
↓	↓	↓	6 OP				0.744	1.873	10,820	pH= - phenol= 30 treated sample YES NO	✓
7-30	1115	SB	T6				.885	.864	5178	pH= 10 phenol= 15 treated sample YES NO Retreat	
↓	↓	↓	T12				.668	.820	1217	pH= 10 phenol= 20 treated sample YES NO	
↓	↓	↓	T4				0.928	1.371	13,180	pH= 11 phenol= 35 treated sample YES NO	
7-30	320	MR	T-6				0.612	3.577	TOC DOWN	pH= 10 phenol= 175 treated sample YES NO	
↓	↓	↓	T-8				0.672	0.054	↓	pH= 10 phenol= 15 treated sample YES NO	
↓	620	SB	222				.000	.066		pH= 10 phenol= 4 treated sample YES NO RP 90 untreat	
	"		223				.423	.972	↓	pH= 10 phenol= 3 treated sample YES NO RP 132 untreat	

EPAHO114000341

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
7-27	2:05	MR	7				0.427	1.649	14,630	pH=9 phenol= 10 treated sample YES NO	
7-28	8[illegible]	MR	3 [illegible]				1.842	~~5.684~~	5.898 11,340	pH= phenol= 200 treated sample YES NO	
			5 OP				5.400	~~2.700~~	1.665 8643	pH= phenol= 5 treated sample YES NO	
			6 OP				0.377	~~0.377~~	2,091 13090	pH= phenol= 75 treated sample YES NO	
	10:00	SB	City				.165	1.481	13190	pH= phenol= 15 treated sample YES NO	
			T 8				.142	.406	8749	pH= 10 phenol= 4 treated sample YES NO	
			T 10				.050	.003	2132	pH= 10 phenol= 0 treated sample YES NO	
			T 12				.372	.181	4578	pH= 11 phenol= 25 treated sample YES NO	
	12:15	SB	T6				.393	1.037	12430	pH= 10 phenol= 25 treated sample YES NO	
	1:30	MR	T7				0.519	0.797	11,830	pH= 11 phenol= 58 treated sample YES NO	
	1:45		T12				0.463	1.392	4460	pH= 10 phenol= 50 Add bleach treated sample YES NO	
	2:30		T9				0.706	1.827	3384	pH= 10 phenol= 3 treated sample YES NO	
7-29	7AM	MR	T-6				0.087			pH= phenol= treated sample YES NO	
			T-9				0.278			pH= phenol= treated sample YES NO	
			T-12				0.765			pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000342

CES Environmental Services, Inc.

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Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
7-23	2:50	MR	10				0.55	0.013	2609	pH= 5 phenol= <5 treated sample YES NO	✓
7-24	7:00	MR	6				0.310	1.126	5618	pH= 10 phenol= 15 treated sample YES NO	✓
↓	↓	↓	7				0.056	0.037	21,020	pH= 11 phenol= 75 treated sample YES NO ADD 50 GAL BLEACH	✓
↓	↓	↓	8				0.262	0.611	4156	pH= 11 phenol= 10 treated sample YES NO	✓
↓	8:20	↓	CITY 7-24				0.503	1.126 ~~0.644~~	22180	pH= 8 phenol= 20 treated sample YES NO	—
↓	9:15	MR	6				0.322	0.544	16890	pH= 8 phenol= 15 treated sample YES NO	✓
↓	10:40	MR	5 OP				0.355	1.424	17,220	pH= — phenol= 10 treated sample YES NO TREAT BY MJR	✓
↓	2:50	MR	7 OP				0.019	0.050	17,830	pH= — phenol= 15 treated sample YES NO MJR TREAT	
7-27	8:30	SB	City				.162	.165	31530	pH= 7 phenol= 10 treated sample YES NO	✓
↓	↓	↓	Tk 9				.276	1.543	30490	pH= 10 phenol= 0 treated sample YES NO	✓
↓	↓	↓	Tk 7				.011	.406	3759	pH= 10 phenol= 8 treated sample YES NO	✓
↓	↓	↓	BT 4 OP				.000	.416	21970	pH= 11 phenol= 0 treated sample YES NO	✓
" "	" "	" "	Tk 5 OP				.239	.441	8741	pH= 11 phenol= 4 treated sample YES NO	✓
↓	11:40	↓	Tk 10				.351	282	3576	pH= 10 phenol= 4 treated sample YES NO	✓
↓	↓	↓	Tk 6				.186	.813	18470	pH= 10 phenol= 2 treated sample YES NO	✓
7-27	1:20	MR	Tk 12				.553	15.07	5100	pH= 10 phenol= 20 treated sample YES NO Retreat	✓

1.5 ← RETREAT

WW TANK Testing Data Log Sheet, 7-21-2008, ACTIVE

EPAHO114000343

CES Environmental Services, Inc.

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Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
7-22	9:40	MR	T-6				0.122	.120	3188	pH= 7 phenol= 3 treated sample YES NO	✓
↓	10⁰⁰	MR	CITY				0.532	.078	3745	pH= 5.5 phenol= 10 treated sample YES NO	→
↓	10³⁰	MR	T-4				0.992	.112	2672	pH= 9 phenol= 5 treated sample YES NO	✓
↓	11³⁰	SB	10				0.44	0.13	2446	pH= 9 phenol= 3 treated sample YES NO	✓
↓	1:15	MR	8				.137	0.045	82,700	pH= 11 phenol= 2 treated sample YES NO	✓
↓	1:30	MR	BT 468				—	—	36790	pH= phenol= treated sample YES NO FP- <110°F	—
↓	4:00	SD	9				2.58	.814	11470	pH= 10 phenol= 75 treated sample YES NO	✓
7-23	7³⁰	MR	5 OP				0.139	1.456	9167	pH= — phenol= 15 treated sample YES NO	✓
↓	↓	↓	10 OP				1.482	5.5	16,930	pH= — phenol= 100 treated sample YES NO	✓
↓	↓	↓	CITY				.763	0.915	12640	pH= 8.58 phenol= 15 treated sample YES NO	—
↓	↓	↓	T-7				.151	.055	3889	pH= 11.5 phenol= 5 treated sample YES NO	✓
↓	8¹⁵	~~BK~~ 8	T-8				.053	.018	111800	pH= 11.6 phenol= 0 treated sample YES NO	✓
7-23	10³⁰	MR	T-4				0.913	12.56	11,260	pH= 9 phenol= 35 treated sample YES NO	
↓	↓	↓	T-6				0.121	7.116	10700	pH= 11 phenol= 10 treated sample YES NO	
↓	11³⁰	MR	T-7				0.035	0.191	29940	pH= 11 phenol= 4 treated sample YES NO	✓
↓	11⁵⁵	MR	T-9				0.117	0.054	3614	pH= 11 phenol= 5 treated sample YES NO	✓

EPAHO114000344

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WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
7/21	720	AL	TK 7	/	/	/	0.413	.451	16590	pH= 7.48 phenol= 25 treated sample YES (NO)	✓
7/21	720	AL	TK 9	/	/	/	0.324	.000	2003	pH= 9.23 phenol= 0 treated sample YES (NO)	✓
7/21	720	AL	OT 4OP	/	/	/	0.204	0.507	7393	pH= phenol= 0 treated sample (YES) NO FP 7145	✓
7/21	720	AL	TK 8 OP	/	/	/	10.11	12.17	22100	pH= 9.96 phenol= 0 treated sample (YES) NO	—
7/21	720	AL	TK 7 OP	/	/	/	2.755	7.04	9207	pH= 10.01 phenol= 0 treated sample (YES) NO	
7/21	720	AL	CTY AM	/	/	/	0.241	0.034	2330	pH= 7.48 phenol= 0 treated sample YES (NO)	✓
7/21	720	AL	CTY PM	/	/	/	0.141	2.456	5145	pH= 7.48 phenol= 0 treated sample YES (NO)	✓
7/21	1020	AL	TK 6	/	/	/	.078	0	1536	pH= 7.48 phenol= 0 treated sample YES NO	✓
7/21	1020	AL	TK 12	/	/	/	.324	.043	4968	pH= 8.8 phenol= 25 treated sample YES (NO)	✓
7/21	1020	AL	LOU 1	/	/	/	18.48	1.320	13210	pH= 10 phenol= 35 treated sample (YES) NO	—
7/21	1020	AL	LOU 2	/	/	/	2.550	17.85	15140	pH= 10 phenol= 150 treated sample (YES) NO	—
7/21	1330	JP	TK 4	/	/	/	0.31	0.38	12220	pH= 8 phenol= 5 treated sample YES NO	
7/21	1330	JP	TK 7	/	/	/	0.19	14.1	15810	pH= 8 phenol= 15 treated sample YES NO	
7/21	1330	JP	TK 10	/	/	/	1.50	1.56	1647	pH= 4 phenol= 3 treated sample YES NO	
7/21	1545	AL	TK 7	/	/	/	.677	5.273	—	pH= 10 phenol= 0 treated sample YES NO	
7/21	1545	AL	TK 9	/	/	/	1.317	.213	—	pH= 9 phenol= 75 treated sample YES NO	

EPAHO114000345

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WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
7/17	1900	JP	TK10	/	/	/	0.13	0.79	—	pH= 6 phenol= 1 treated sample YES NO	
7/20	720	AL	TK2 OP	/	/	/	0,561	2.119	17360	pH= 10.2 phenol= 25 treated sample (YES) NO	✓
7/20	720		TK5 OP	/	/	/	24,12	36,76	21650	pH= 10.1 phenol= 0 treated sample (YES) NO	—
7/20	720		DT 405	/	/	/	0.433	2.279	7561	pH= 10.5 phenol= 0 treated sample (YES) NO	✓
7/20	720		TK7 OP	/	/	/	3.357	10,45	8313	pH= 10.2 phenol= 0 treated sample (YES) NO	—
7/20	720		TK12	/	/	/	0.047	,160	1755	pH= 6.51 phenol= 0 treated sample YES (NO)	✓
7/20	720		CTY AM	/	/	/	,404	0.636	14820	pH= 7 phenol= 0 treated sample YES (NO)	✓
7/20	720	↓	CTY PM	/	/	/	,297	0.069	9409	pH= 7 phenol= 25 treated sample YES (NO)	✓
7/20	1300	JP	TK6	/	/	/	0.28	0.25	—	pH= 9 phenol= 15 treated sample YES NO Paces	
7/20	1300	JP	TK10	/	/	/	0.87	0.09	—	pH= 5 phenol= 2 treated sample YES NO LaBarge	
7/20	1300	JP	TK9	/	/	/	0.02	0.26	—	pH= 7 phenol= 8 treated sample YES NO	
7/20	1630	AL	TK40	/	/		,216	,016	—	pH= 6 phenol= 0 treated sample YES (NO)	✓
7/20	1700	JP	20P	/	/	/	5.03	4.24	—	pH= 4.5 phenol= 15 treated sample (YES) NO	
7/20	1830	JP	TK6	/	/	/	0.11	0.03	—	pH= 10 phenol= 4 treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000346

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WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
7/15	7:45	AL	CTY An	/	/	/	1.030	1.165	9720	pH= 10.05 phenol= 8 treated sample YES (NO)	
7/15	7:05	AL	CTY pl	/	/	/	.916	.651	7968	pH= 10.27 phenol= 8 treated sample YES (NO)	
7/15	7:05	AL	TK7 OP WW	/	/	/	1.5	3.446	13110	pH= 1.23 phenol= 20 10.4 treated sample YES (NO) treated	
7/15	7:05	AL	TK 4,5,6	/	/	/	.181	3.448	30450	pH= 10.8 phenol= 8 treated sample (YES) NO FP 101	
7/15	7:05	AL	0.35 WW	/	/	/	/	/	18160	pH= — phenol= — treated sample YES (NO) FP 110	
7/15	7:45	AL	TK 8	/	/	/	6.54	5.4	—	pH= 9.8 phenol= — treated sample YES (NO)	
7/15	1645	P	TK6	/	/	/	2.27	6.45	—	pH= 10 phenol= 7 TK7 OP treated sample YES NO	
7/15	1645	P	TK4	/	/	/	1.79	2.28	—	pH= 10.5 phenol= 10 treated sample YES NO	
7/16	725	AL	CTY An	/	/	/	.809	1.442	4898	pH= 9.65 phenol= 0 treated sample YES (NO)	
7/16	725	AL	CTY pl	/	/	/	.201	.325	11130	pH= 7.50 phenol= 0 treated sample YES (NO)	
7/17	813	AL	CTY An	/	/	/	1.158	.201	19020	pH= 7.08 phenol= 0 treated sample YES NO	
7/17	813	AL	CTY pl	/	/	/	.348	1.148	15280	pH= 7.56 phenol= 0 treated sample YES NO	
7/17	813	AL	BT 4,5,6	/	/	/	.260	4.660	13520	pH= 10.09 phenol= 0 treated sample (YES) NO FP 120	
7/17	1300	P	TK6	/	/	/	0.90	4.36	—	pH= 8 phenol= 5 treated sample YES NO	
7/17	1545	A	TK4	/	/	/	0.58	6.2	23790	pH= 11 phenol= 0 treated sample YES (NO)	
7/17	1545	A	TK12	/	/	/	0.98	0.02	1563	pH= 4 phenol= 0 treated sample YES (NO)	

EPAHO114000347

CES Environmental Services, Inc.

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Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
7/13	6:30	AL	CTY Am	/	/	/	0	0.091	19640	pH= 11.16 phenol= 0 treated sample YES (NO)	✓
7/13	6:30	AL	CTY pm	/	/	/	1.888	8.52	22010	pH= 11.34 phenol= 0 treated sample YES (NO)	✓
7/13	6:30	AL	TK 5	/	/	/	1.470	9.29	27780	pH= 12.21 phenol= 250 treated sample YES (NO)	✓
7/13	6:30	AL	TK 8 OP	/	/	/	19.88	51.95	17520	pH= 10.12 phenol= 175 treated sample (YES) NO	✓
7/13	6:30	AL	TK 1 OP	/	/	/	2.305	1.318	15110	pH= 11.26 phenol= 225 treated sample (YES) NO High Solids	✓
7/13	6:30	AL	TK 7 OP	/	/	/	2.899	0.820	20320	pH= 9.99 phenol= 0 treated sample (YES) NO	✓
7-13	8:00	MR	T-7	—	—	—	0.8	0.261	—	pH= phenol= treated sample YES NO LAB TRENDED 3X TO pH 10.5 - WAS AT ~6	
7-13	1130	AL	TK 4	/	/	/	2.478	15.81	18360	pH= 9.53 phenol= 0 treated sample YES (NO)	✓
7-13	1130	AL	TK 9	/	/	/	.267	.619	3345	pH= 10.9 phenol= 0 treated sample YES (NO)	✓
7-13	1130	AL	TK 6	/	/	/	.188	1.175	2492	pH= 11.51 phenol= 0 treated sample YES (NO)	✓
7-14	7:30	AL	TK 6 OP	/	/	/	.217	15.57	12610	pH= 10.5 phenol= 125 treated sample (YES) NO yes	
7-14	7:30	AL	CTY Am	/	/	/	1.269	3.583	10120	pH= 11 phenol= 0 treated sample YES (NO)	
7-14	7:30	AL	CTY pm	/	/	/	.465	2.855	7629	pH= 10 phenol= 0 treated sample YES (NO)	
7-14	850	AL	TW	/	/	/	.102	.591	2029	pH= phenol= 0 treated sample YES (NO)	
7/14	12:00	JP	TK 12	/	/	/	2.81	3.80	—	pH= 9 phenol= 15 treated sample YES (NO)	
7/14	13:00	JP	TK 4	/	/	/	3.07	2.15	—	pH= 10 phenol= 15 treated sample YES (NO)	
7/14	1300	JP	TK 12	/	/	/	0.01	0.03	—	pH 8 Phenol 3	

EPAHO114000348

CES Environmental Services, Inc.

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Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
7/9	7	AL	TK 7 OP	/	/	/	2.141	5.13	10590	pH= 10.3 phenol= 0 treated sample (YES) NO	✓
7/9	7	AL	TK 5 OP	/	/	/	9.23	5.05	20490	pH=9.71 phenol= 0 treated sample (YES) NO	✓
7/9	930	AL	TW WW	/	/	/	.000	.000		pH= 12 phenol= 0 treated sample (YES) NO	✓
7/9	930	AL	TK 5 WW	/	/	/	.589	10.43		pH= 6 phenol= 0 treated sample YES (NO)	✓
7/9	1230	P	TK4	/	/	/	0.47	1.19	4348	pH=12 phenol= 0 treated sample YES NO TK wash	✓
7/9	1230	P	TK12	/	/	/	0.11	0.08	1914	pH=11.5 phenol= 0 treated sample YES NO TK wash	✓
7/9	1900	P	TK9	/	/	/	0.02	0.10	—	pH=11.5 phenol=0 treated sample YES NO TK wash	✓
7/10	630	AL	TK1 NP	/	/	/	4.187	11.12	15040	pH= 9.88 phenol= 0 treated sample (YES) NO	✓
7/10	630	AL	TK 5 OP	/	/	/	9.65	7.74	20570	pH= 10.52 phenol= 0 treated sample (YES) NO	✓
7/10	630	AL	CITY A	/	/	/	.171	.195	12370	pH= 11 phenol= 0 treated sample YES (NO)	✓
7/10	630	AL	CITY P	/	/	/	.312	.342	4289	pH= 11 phenol= 0 treated sample YES (NO)	✓
7/10	830	AL	TK 12	/	/	/	1.958	2229	9658	pH= 9.47 phenol= 0 treated sample YES NO	✓
7/10	730	AL	TK 12	/	/	/	1.493	4.65	—	pH= 10.31 phenol= — treated sample (YES) NO	✓
7/10	930	AL	TK4	/	/	/	/	6.53	—	pH= — phenol= — treated sample YES NO	✓
7/10	1105	AL	TW	/	/	/	.061	.814	—	pH= 6.9 phenol= 4 treated sample YES (NO)	✓
7/10	1200	AL	TK 12	/	/	/	1.859	9.09	—	pH= 10.2 phenol= 0 treated sample YES NO	✓

EPAHQ1140000349

CES Environmental Services, Inc.

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WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
				Cd	Cr	Cu	Ni	Zn			
7/7	6:45	AL	408	/	/	/	0	0	20170	pH=8.7 phenol= 175 treated sample (YES) NO FP 100	
7/7	6:45	AL	TK5 OP	/	/	/	4.001	4.746	33200	pH=11.50 phenol= 0 treated sample (YES) NO	
7/7	6:45	AL	TK10 OP	/	/	/	2.020	5.180	16420	pH= 9.3 phenol= 0 treated sample (YES) NO	
7/7	6:45	AL	TK8	/	/	/	4.870	30.93	41750	pH=9.9 phenol= 0 treated sample YES (NO)	
7/7	6:45	AL	TK10	/	/	/	5.343	35.70	40280	pH= 12 phenol= 0 treated sample YES (NO)	
7/7	6:45	AL	CTY AM	/	/	/	.232	.771	8741	pH= 11 phenol= 0 treated sample YES (NO)	
7/7	6:45	AL	CTY PM	/	/	/	3.502	17.51	14920	pH= 11 phenol= 0 treated sample YES (NO)	
7/7	1240	AC	TK4	/	/	/	.696	.608	43810	pH= 10 phenol= 0 treated sample YES (NO)	
7/7	1240	AC	1502	/	/	/	3.555	19.10	14110	pH= 8 phenol= 125 treated sample (YES) NO FP 110	
7/7	1330	JP	TK12	/	/	/	0.78	0.11	2619	pH= 6 phenol= / treated sample YES NO	
7/8	7:00	AL	CTY AM	/	/	/	.377	.602	9275	pH= 8 phenol= 0 treated sample YES (NO)	
7/8	1135	AL	TK6	/	/	/	6.82	14.57	26130	pH= 11.8 phenol= 25 treated sample YES (NO)	
7/8	1135	AL	TK5	/	/	/	.433	10.59	556050	pH= 12.51 phenol= 0 treated sample YES (NO)	
7/9	650	AL	CTY AM	/	/	/	.088	.078	4124	pH=7.82 phenol= 0 treated sample YES (NO)	✓
7/9	650	AL	CTY PM	/	/	/	.000	.067	13330	pH=8.50 phenol= 0 treated sample YES (NO)	
7/9	650	AL	BT 408	/	/	/	.628	8.25	3020	pH=10.80 phenol= 0 treated sample (YES) NO FP 105	

EPAHQ1140035

CES Environmental Services, Inc.

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Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
				Cd	Cr	Cu	Ni	Zn			
7/6	6:40	AL	TK4 NP	/	/	/	1.803	18.32	9095	pH=8.51 phenol=0 treated sample (YES) NO	✓
7/6	6:40	AL	408	/	/	/	.410	.217	74220	pH=9.48 phenol=0 treated sample (YES) NO FP 100	✓
7/6	6:40	AL	TK7 OP	/	/	/	7.75	5.73	40840	pH=8.65 phenol=0 treated sample (YES) NO	✓
7/6	6:40	AL	TK6 OP	/	/	/	1.004	1.026	22040	pH=11.80 phenol=300 treated sample (YES) NO Loaded in 238	✓
7/6	6:40	AL	TK8 OP	/	/	/	30.8	13.26	19960	pH=7.95 phenol=175 treated sample (YES) NO	✓
7/6	6:40	AL	407	/	/	/	—	—	—	pH=— phenol=— treated sample (YES) NO —	—
7/6	6:40	AL	CTY AM	/	/	/	.414	.304	25300	pH=7 phenol=0 treated sample YES (NO)	✓
7/6	6:40	AL	CTY PM	/	/	/	.809	.752	20830	pH=9.85 phenol=25 treated sample YES (NO)	✓
7/6	7:25	AL	1001	/	/	/	2329	2508	12630	pH= phenol=50 treated sample (YES) NO	✓
7/6	7:50	AL	TK6	/	/	/	.036	.046	3365	pH=11.88 phenol=0 treated sample YES (NO)	✓
7/6	7:50	AL	TK5	/	/	/	.920	.785	16550	pH=10 phenol=10 treated sample YES (NO)	✓
7/6	1230	J	TK10	/	/	/	0.15	0.08	3863	pH=11 phenol=0 treated sample YES NO	
7/6	1330	J	TK8	/	/	/	0.31	2.61	41380	pH=11.5 phenol=5 treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000351

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
7/1	6:20	AL	TK 8	/	/	/	.015	0	1182	pH= 10.9 phenol= 0 treated sample YES NO	✓
7/1	11:00	P	TK 6	/	/	/	1.42	1.63	16890	pH= 11 phenol= 25 treated sample YES NO back	
7/1	11:00	P	TK 10	/	/	/	0.38	0.18	25970	pH= 8 phenol= 25 treated sample YES NO back	
7/2	6:45	A	TK 9 GP	/	/	/	1.011	3.057	18430	pH= 9.47 phenol= 300 treated sample YES NO	
7/2	6:45	A	TK 9 NP	/	/	/	1.242	16.64	12310	pH= 8.61 phenol= 25 treated sample YES NO	
7/2	6:45	A	408	/	/	/	.585	.700	21850	pH= 10.8 phenol= 25 treated sample YES NO FP 105	
7/2	6:45	A	TK 7 GP	/	/	/	.298	1.09	22050	pH= 10.2 phenol= 10 treated sample YES NO	✓
7/2	6:45	A	CTY Am	/	/	/	.372	.400	9297	pH= 8.89 phenol= 10 treated sample YES NO	
7/2	6:45	A	CTY Pm	/	/	/	1.382	1.182	8604	pH= 7.31 phenol= 35 treated sample YES NO	
7/2	7:00	A	TK 9	/	/	/	.264	8.50	—	pH= — phenol= — treated sample ~~YES NO~~	
7/2	10:30	P	TK 5	/	/	/	0.34	2.13	12170	pH= 11 phenol= 10 treated sample YES NO Back TK Wsh	
7/2	10:30	P	TK 12	/	/	/	0.49	5.41	30780	pH= 9 phenol= 15 treated sample YES NO Back	
9/2	12:00	A	DIST WW	/	/	/	/	/	105,400	pH= — phenol= — treated sample YES NO FP 110	✓
7/2	13:00	P	TK 6	/	/	/	2.27	7.53	16830	pH= 11 phenol= 100 treated sample YES NO Frac TK 1001	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000352

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION
6/30	630	AL	TK 6 OP	/	/	/	1.19	4.457	21750	pH= 10.8 phenol= treated sample (YES) NO 300
6/30	630	AL	TK 1 NP	/	/	/	1.065	1133	14150	pH= 11.00 phenol= 25 treated sample (YES) NO
6/30	630	AL	40P	/	/	/	0	.061	39060	pH= 11.00 phenol= 25 FP=94° treated sample (YES) NO
6/30	630	AL	TK5 OP	/	/	/	.560	.707	5225	pH= 11.14 phenol= 125 treated sample (YES) NO
6/30	630	AL	CTY Am	/	/	/	.486	3.007	5854	pH= 8.00 phenol= 25 treated sample YES (NO)
6/30	630	AL	CTY pm	/	/	/	.363	.177	10960	pH= 6.6 phenol= 25 treated sample YES (NO)
6/30	630	AL	TK7	/	/	/	—	—	—	pH= — phenol= 250 treated sample YES (NO)
6/30	1100	CPH	TANK WASH	/	/	/				pH= phenol= 6 treated sample YES NO
6/25	1530	AL	TK 6	/	/	/	2.24	.829	19780	pH= 8 phenol= 20 treated sample YES (NO) FP 149
6/30	1930	JP	3NP	/	/	/			—	pH= 3.5 phenol= 160 treated sample YES NO
7/1	0620	AL	TK3 OP	/	/	/	—	—	—	pH= — phenol= — treated sample (YES) NO
7/1	0620	AL	TK7 OP	/	/	/	.103	.242	22280	pH= 11.47 phenol= 10 treated sample (YES) NO
7/1	0620	AL	40P	/	/	/	.110	.011	25550	pH= 11.42 phenol= 10 FP 95 treated sample (YES) NO
7/1	0620	AL	TK5 OP	/	/	/	(2.25)	.374	13250	pH= 9.66 phenol= 50 treated sample (YES) NO
7/1	0620	AL	CTY Am	/	/	/	2.275	1.026	6584	pH= 6.5 phenol= 10 treated sample YES (NO)
7/1	0620	AL	CTY pm	/	/	/	2.278	.956	6539	pH= 7.2 phenol= 0 treated sample YES (NO)

EPAHO114000353

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

3.71
7.42

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/27	1200	P	TK4	~	~	~	0.23	3.52	—	pH= 11 phenol= 15 treated sample YES NO BT408	
"	"	"	TK10	~	~	~	0.82	8.8	—	pH= 11 phenol= 45 treated sample YES NO	
"	1400	"	TK9	~	~	~	1.08	9.8	—	pH= 11 phenol= 70 treated sample YES NO	
"	"	"	TK5	~	~	~	1.18	10.8	—	pH= 11 phenol= 45 treated sample YES NO	
6/29	645	A	TK8 OP	~	~	~	3.138	4.974	14650	pH= 10 phenol= [redacted] 300 treated sample YES NO	~
	645		408	~	~	~	.020	.017	34800	pH= 11.2 phenol= 10 treated sample YES NO FP 102	~
	645		TK10 OP	~	~	~	4.074	4.048	18120	pH= 12.2 phenol= 250 treated sample YES NO	~
	645		CTY AM	~	~	~	.280	1.013	4001	pH= 7.36 phenol= 0 treated sample YES NO	~
	648		CTY PM	~	~	~	.224	1.566	11430	pH= 9.5 phenol= 25 treated sample YES NO	~
6/29	1230	J	3NP	~	~	~	1.17	4.17	—	pH= 3 phenol= 150 treated sample YES NO	
			TK4	~	~	~	3.70	7.42	—	pH= 9 phenol= 225 treated sample YES NO	
			TK12	~	~	~	0.86	0.01	—	pH= 5 phenol= 5 treated sample YES NO	
			1001	~	~	~	1.53	5.13	—	pH= 2 phenol= 80 treated sample YES (NO)	
			1004	~	~	~	3.79	2.71	—	pH= 4 phenol= 175 treated sample YES (NO)	
			DF	~	~	~	0.56	0.43	—	pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000354

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
6/26	6:45	AL	409	/	/	/	.257	.402	58840	pH= 11.5 phenol= 135 FP 85 treated sample YES NO	✓
		AL	5OP	/	/	/	.537	1.250	14720	pH= 11.6 phenol= 250 treated sample YES NO	✓
		AL	6OP	/	/	/	.648	5.425	18320	pH= 11.5 phenol= 250 treated sample YES NO	✓
		AL	407	—	—	—	—	—	—	pH= phenol= FP treated sample YES NO	—
		AL	4 OP	—	—	—	—	—	—	pH= phenol= treated sample YES NO	—
		AL	TK 5	/	/	/	.737	3.581	20400	pH= 9.21 phenol= 150 treated sample YES NO	✓
		AL	CITY AM	/	/	/	.665	1.112	3767	pH= 9.64 phenol= 10 treated sample YES NO	✓
		AL	CITY PM	/	/	/	.604	.600	2138	pH= 7.8 phenol= 10 treated sample YES NO	✓
↓	↓	AL	—	—	—	—	—	—	—	pH= phenol= treated sample YES NO	—
6/26	7:44	AL	TK 4 LO	/	/	/	1.654	3.732		pH= 11.26 phenol= 8 treated sample YES NO	
6/26	9:10	AL	TK 6 OP	/	/	/	4.405	3.785	12080	pH= 12 phenol= 200 treated sample YES NO	
6/27	8:00	B	4NP	/	/	/	1.03	10.0	—	pH= 6 phenol= 25 treated sample YES NO	
"	"		5OP	/	/	/	1.41	10.4	—	pH= 5 phenol= 125 treated sample YES NO	
"			7OP	/	/	/	0.71	5.39	—	pH= 4 phenol= 35 treated sample YES NO	
"			TK5	/	/	/	0.32	3.63	—	pH= 11.5 phenol= 70 treated sample YES NO	
"			408	/	/	/	0	0.01	—	pH= 5 phenol= 15 FP >160 treated sample YES NO	

EPAHQ1140000355

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/25	6:45	AL	TK7 OP	/	/	/	.678	11.47	20830	pH= 9.33 phenol= 25 treated sample (YES) NO	✓
			TK10	/	/	/	.709	13.37	13120	pH= 11.2 phenol= 25 treated sample YES (NO)	✓
			TK5 OP	/	/	/	.931	6.48	25790	pH= 11.22 phenol= 300 treated sample (YES) NO	✓
			TK6 OP	/	/	/	.696	6.42	18320	pH= 11.57 phenol= 250 treated sample YES (NO)	✓
			BT 408	/	/	/	.091	2.085	2401	pH= 10.8 phenol= 12 treated sample (YES) NO FP 100°F	✓
			TK4 NP	/	/	/	.930	5.476	14020	pH= 10.62 phenol= 12 treated sample (YES) NO	✓
			TK9	/	/	/	.443	10.72	15810	pH= 8.9 phenol= 75 treated sample YES (NO)	✓
			TK10	/	/	/	.120	2.57	3015	pH= 9.92 phenol= 0 treated sample YES (NO)	✓
			CTY AM	/	/	/	.021	.322	1954	pH= 9.5 phenol= 0 treated sample YES (NO)	✓
↓	↓	↓	CTY PM	/	/	/	.030	.016	1096	pH= 6.88 phenol= 0 treated sample YES (NO)	✓
6/25	10:00	AL	TK6	/	/	/	.655	5.088	6961	pH= 10.22 phenol= 20 treated sample YES (NO) gone	✓
6/25	11:00	AL	4/4	/	/	/	.783	5.386	23820	pH= 11 phenol= 125 treated sample (YES) NO TK 4 3/4 Full	
6/25	1330		TK12	/	/	/			1159	pH= 11 phenol= 3 treated sample YES NO Bider	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000356

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	CHECK
				Cd	Cr	Cu	Ni	Zn			
6/23	1230	AL	TK6	/	/	/	1.013	1.005	26440	pH=9.2 phenol= 30 treated sample YES (NO)	✓
6/23	1230	AL	TK9	/	/	/	.033	.090	6325	pH= 9.52 phenol= 4 treated sample YES (NO)	✓
6/23	1230	AL	CTYAM	/	/	/	.518	.317	9678	pH=7.87 phenol= 50 treated sample YES (NO)	✓
6/23	1230	AL	TK 12	/	/	/	.007	.003	1828	pH= 9 phenol= 0 treated sample YES (NO)	✓
6/23	1450	AL	TK4	/	/	/	.994	7.66	14290	pH= 6 phenol= 0 treated sample YES (NO)	✓
6/23	1815	J	TK5	/	/	/	.615	.637	—	pH= 9 phenol= 25 treated sample YES NO	
6/23	1815	J	TK9	/	/	/	0	0	—	pH= 10 phenol= 20 treated sample YES NO	
6/24	630	AL	TK7 OP	/	/	/	.623	26.97	15230	pH= 9.48 phenol= 75 (TRL222) treated sample YES NO	
	630	A	TK1 NP	/	/	/	.648	16.39	12930	pH= 9.6 phenol= 25 treated sample YES NO	
	630	A	TK6 OP	/	/	/	.646	7.14	6611	pH= 11.8 phenol= 300 * TRICHLOR 600 LBS treated sample YES NO	
	630	A	TK5 OP	/	/	/	.752	2.59	27090	pH= 12.08 phenol= 300 * TRICHLOR 600 LBS treated sample YES NO	
	630	A	TK 5 SWW	/	/	/	.308	2.298	7353	pH= 9.3 phenol= 25 treated sample YES NO	✓
	630	A	CTY PM	/	/	/	.120	.236	3321	pH= 9.13 phenol= 25 treated sample YES NO	
	630	A	CTY AM	/	/	/	.074	.143	4841	pH= 9.4 phenol= 8 treated sample YES NO	
6/24	1730	J	TK12	/	/	/	0.60	0	—	pH= 5 phenol= ~~25~~ 5 Lafarge treated sample YES NO	
6/24	2030	J	TK222	/	/	/	0.50	8.47	—	pH= phenol= treated sample YES NO	

EPAHO114000357

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
6/22	6:30	AL	TK10				.784	1.859	12680	pH= 11.18 phenol= 10 treated sample (YES) NO	✓
6/22			TK7				.825	10	15900	pH= 10.2 phenol= 800 treated sample (YES) NO	✓
6/22			TK5				1.169	3.23	29090	pH= 11.26 phenol= 10 treated sample YES NO	✓
6/22			TK4				1.089	8.01	16580	pH= 12.14 phenol= 0 treated sample YES NO	✓
6/22			TK6				1.956	4.142	15130	pH= 12.2 phenol= 15 treated sample YES NO	✓
6/22	↓	↓	408				.089	.111	—	pH= 11.8 phenol= 4 treated sample YES NO / Flash 160	✓
6/22	10:00	AL	TK7 c/u				1.830	8.8	20200	pH= 11 phenol= 800 treated sample YES NO	✓
6/22	10:35	AL	TK9				1.938	4.507	—	pH=11 phenol= 800 treated sample YES NO	✓
6/22	13:00	JP	TK5				0.30	0.25	19920	pH= 9 phenol= 50 treated sample YES NO Back/Bigler	✓
6/22	1430	AL	TK9				0	.031	1154	pH= 10 phenol= 4 treated sample YES (NO)	✓
6/23	645	AL	TK10 op				.052	0	24110	pH= 12.07 phenol= 4 treated sample (YES) NO	✓
↓	↓	↓	408				.526	.064	39200	pH= 12.3 phenol= 2 FP 125F treated sample (YES) NO	✓
↓	↓	↓	TK5 op				3.094	11.46	17120	pH= 11.9 phenol= 0 treated sample (YES) NO	✓
↓	↓	↓	TK10				1.020	.530	3147	pH= 11.48 phenol= 3 treated sample YES (NO)	✓
6/23	1040	AL	TK6				1.013	6.005		pH= 9.2 phenol= treated sample YES (NO)	
6/23	1040	AL	TK9				.033	.020		pH= 9.52 phenol= treated sample YES (NO)	

EPAHO114000358

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK ↓
6/18	20:30	P	1004	/	/	/	3.39	4.52	—	pH= 4 phenol= 125 treated sample YES NO	
6/18	12:30 AM	C	TK7	/	/	/	1.176	0.609	—	pH= 10 phenol= 75 treated sample YES NO	
6/19	6:45	AL	TK1 NP	/	/	/	.305	10.84	15270	pH= 10.55 phenol= 0 treated sample YES NO	
6/19	↓	AL	TK6 OP	/	/	/	2006	9.85	16000	pH= 11.4 phenol= 1 treated sample YES NO	
6/19	↓	AL	TK7	/	/	/	1.065	.551	10260	pH= 10.49 phenol= 10 treated sample YES NO	
6/19	↓	AL	CTY PM	/	/	/	.245	.245	3953	pH= 10.48 phenol= 4 treated sample YES NO	
6/19	↓	AL	CTY AM	/	/	/	.191	.266	4419	pH= 9.94 phenol= 1 treated sample YES NO	
6/19	1300	GA	TK4	/	/	/	1.822	9.22 ~~.92~~	10620	pH 10 phenol= 6 treated sample YES NO	
↓	↓	GA	TK 10	/	/	/	1.258	0.280	1340	pH= 4 phenol= 6 treated sample YES NO	
↓	↓	GA	TW	/	/	/	0.029	0.313		pH= 8 phenol= 4 treated sample YES NO	
6/19	11:00 pm	CC	TK5	/	/	/	1.597	9.496	—	pH= 9.8 phenol= 25 treated sample YES NO	
			TK12	/	/	/	0.053	0	—	pH= 6.9 phenol= 0 treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000359

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
6/17	17⁰⁰	P	TK4	0.01	0.12	0.01	0.38	1.50	16430	pH= 11.5 phenol= 10 treated sample YES NO Back	
6/17	17⁰⁰	P	TK12	0	0.01	0.13	0.19	0.10	1631	pH= 6 phenol= 0 treated sample YES NO SOCO	
6/18	650	A	TK5	—	—	—	.259	.354	12590	pH= 10.8 phenol= 20 treated sample YES NO	
↓	↓	↓	TK6	—	—	—	.345	2.188	7397	pH= 10.5 phenol= 20 treated sample YES NO	
↓	↓	↓	CTY AM	—	—	—	.212	.243	7938	pH= 9 phenol= 6 treated sample YES NO	✓
6/18	245		TK5 OP	—	—	—	.988	35.1	26560	pH= 10.5 phenol= 20 treated sample YES NO	
↓	745		TK6 OP	—	—	—	1.251	4.559	11350	pH= 9.8 phenol= 8 treated sample YES NO	
↓	745	↓	TK1 N.P.	—	—	—	1.290	4.016	10540	pH= 9.5 phenol= 8 treated sample YES NO	
6/18	1400	P	TK4	/	/	/	1.10	8.0	11640	pH= 12 phenol= 10 treated sample YES NO Back	
6/18	1400	P	TK7	/	/	/	0.03	3.16	4803	pH= 10 phenol= 0 treated sample YES NO Forge Vessel Lubricol	
6/18	1515	A	TK6	/	/	/	.040	.456	1320	pH= 10 phenol= 75 treated sample YES (NO)	✓
6/18	1540	A	TK5	/	/	/	.981	3.518	9362	pH= 10 phenol= 10 treated sample YES NO	
6/18	2030	P	2 OP	/	/	/	0.76	0.30	33390	pH= 7 phenol= 76 treated sample (YES) NO	
6/18	2030	P	7 OP	/	/	/	0.97	3.88	9678	pH= 3 phenol= 15 treated sample (YES) NO	
6/18	2030	P	1001	/	/	/	1.50	2.03	—	pH= 5 phenol= 100 treated sample (YES) NO	
6/18	2030	P	1002	/	/	/	1.64	3.89	—	pH= 6 phenol= 125 treated sample (YES) NO	

EPAHO114000360

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION
6/16	6:40	AL	TK 4	.020	.208	.070	.726	4.359		pH= 11.19 phenol= 4 treated sample YES NO
↓	6:40	↓	TK10	.004	0	.006	.378	.010		pH= 5.32 phenol= 2 treated sample YES NO
↓	6:50	↓	CTY AM	0	0	.032	.254	.869		pH= 9.68 phenol= 10 treated sample YES NO
↓	7	↓	TK 6	0	0	.025	.015	.229		pH= 10.8 phenol= 6 treated sample (YES) NO
↓	↓	↓	TK 4 MP	0	0	.021	.835	4.169		pH= 11.07 phenol= 4 treated sample (YES) NO
↓	↓	↓	DTANK	—	—	—	—	—	—	pH= — phenol= treated sample YES (NO) | Flash 90°
6/16	12[00]	JP	TK 6	0.02	0.23	0.06	0.24	0.43	6859	pH= 10 phenol= 3 treated sample YES NO Back
6/16	12[00]	JP	TK 7	0.01	0	0.03	0.10	1.81	16010	pH= 10 phenol= 10 treated sample YES NO Back
6/17	6:45	AL	TK 4	.028	.169	.029	1.208	2.71	21080	pH= 9 phenol= 10 treated sample YES (NO)
↓	↓	↓	6 OP	.013	0	.018	.180	.911	14920	pH= 10.95 phenol= 9 treated sample (YES) NO
↓	↓	↓	7 OP	.031	.092	.123	1.271	18.1	9403	pH= 10.7 phenol= 8 treated sample (YES) NO
↓	↓	↓	4 OP	.012	0	.022	.250	.012	26260	pH= 10.4 phenol= treated sample YES NO | Flash 85°F
↓	9:00	↓	TK 7	.039	.320	.125	.4	3.685	7128	pH= 9.31 phenol= 25 treated sample YES (NO)
↓	↓	↓	TK 6	.018	.015	.100	.226	2.695	8231	pH= 11.28 phenol= 25 treated sample YES (NO)
↓	↓	↓	CTY PM	.006	.009	.032	.317	.015	4425	pH= 7.67 phenol= 4 treated sample YES (NO)
										pH= phenol= treated sample YES NO

EPAHO11400361

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/13	1350	AL	L05	—	—	—	.435	2.139	12300	pH= 10.6 phenol= 10 treated sample YES NO	✓
6/15	7	AL	6	.021	.266	.097	.574	1.769	10110	pH= 8.62 phenol= 4 treated sample YES NO	
	7	AL	1	.009	.046	.045	1.029	1.641	4574	pH= 11.19 phenol= 6 treated sample YES NO	
	7	AL	7	.006	.037	.060	.721	3.028	15910	pH= 11 phenol= 11 treated sample YES NO	
	7	AL	LT+PM	.000	.063	.340	.271	.273	7424	pH= 10.5 phenol= 16 treated sample YES NO	
	7	AL	LT+AM	.006	.028	.036	.196	.801	4928	pH= 9.38 phenol= 12 treated sample YES NO	
	7	AL	TK10	.000	.065	.037	.354	.022	1259	pH= 6.31 phenol= 1 treated sample YES NO	
6/15	12:00	P	TK4	.041	.094	.101	.602	2.56	17590	pH= 9 phenol= 10 treated sample YES NO back	
6/15	12:00	P	TK8	.013	.027	.100	.415	3.26	8235	pH= 9 phenol= 50 treated sample YES NO USOil	
6/15	12:00	P	TK9	.004	.000	.042	.819	.688	7094	pH= 12 phenol= 25 treated sample YES NO USOil	
6/15	1245	SB	TK12	.000	.000	.045	.306	3.08	8940	pH= 10.2 phenol= 20 treated sample YES NO	
6/15	1730	P	TK5	0.02	0.23	0.03	1.33	2.06	12400	pH= 10 phenol= 15 treated sample YES NO Back	
6/15	1730	P	TK7	0.01	0.05	0.05	0.28	1.73	6117	pH= 10 phenol= 45 treated sample YES NO USOil	
6/15	1730	P	TK9	0.00	0.04	0.04	0.03	0.55	1808	pH= 9 phenol= 10 treated sample YES NO Miller	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000362

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

2 3

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/12	7	AL	CTY pm	0	0	.049	.280	1.068	3306	pH= 9 phenol= 16 treated sample YES NO	✓
6/12	1320		TK4	.019	0	.084	.973	.819	10420	pH= 12 phenol= 5 treated sample YES NO back	
6/12	1320		TK5	0	0	.023	.801	.163	8941	pH= 12 phenol= 7 treated sample YES NO back	
6/12	1320		TK10	0	0	.020	.063	.029	2744	pH= 12 phenol= 17 treated sample YES NO Miller	
6/12	1600		1001	—	—	—	1.389	24.09	—	pH= phenol= — treated sample YES NO	
6/12	1600		1002	—	—	—	3.089	42.7	—	pH= phenol= — treated sample YES NO	
6/12	1600		1004	—	—	—	7.59	50.00	—	pH= phenol= — treated sample YES NO	
	1630		1001				1.138	9.49		pH= phenol= treated sample YES NO	
	1630		1002				2.498	17.82		pH= phenol= treated sample YES NO	
	1630		1004				7.38	10.88		pH= phenol= treated sample YES NO	
6/13		CRH	TK5	—	—	—	1.01	5.48	13960	pH= 10 phenol= 20 treated sample YES NO FINAL TANK 1001	
		CRH	TK7	—	—	—	0.33	4.094	10400	pH= 11 phenol= 20 treated sample YES NO 87648 US OIL	
	1300		TK8	—	—	—	0.31	3.673	10690	pH= 10 phenol= 15 treated sample YES NO 87649 US OIL	✓
			TK4	—	—	—	.389	4.191	8394	pH= 10 phenol= 20 treated sample YES NO US OIL	✓
			TK10	—	—	—	.048	.192	1955	pH= 10 phenol= 25 treated sample YES NO Miller	✓
			TK7	—	—	—	.434	2.139	7397	pH= 10 phenol= 35 treated sample YES NO US oil	✓

WW TANK Testing Data Log Sheet. 7-21-2008. ACTIVE

EPAHO114000363

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS .4 Cd	3 Cr	Cu 3	Ni 3	Zn 6	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/11	6:45	AL	TK 5	.004	.3	.342	.48	49.8	21060	pH= 11 phenol= 25 treated sample YES NO	
↓	↓	AL	TK 4	.002	.11	.166	2.9	5.3	22250	pH= 11 phenol= 4 treated sample YES NO	
↓	↓	AL	TK 7 OP	0	0	.077	2.5	2.2	18880	pH= 11 phenol= 6 treated sample YES NO	
↓	↓	AL	Bt 408	.025	.15	.111	.56	15.2	4962	pH= 11 phenol= 14 treated sample YES NO	
↓	↓	AL	CTY Pr	.002	.015	.061	.38	1.1	10040	pH= 11 phenol= 12 treated sample YES NO	
6/11	↓	AL	CTY Am	0	.010	.033	.13	.42	1852	pH= 7 phenol= treated sample YES NO	
6/11	7:30	AL	TW	0	.036	.021	0	0	3889	pH= 11 phenol= 0 treated sample YES NO	
6/11	14:45	AL	TK4	.015	.181	.025	3.223	2.912	12430	pH= 11 phenol= 15 treated sample YES NO USOil	
6/11	↓	AL	TK7	.008	.000	.056	.464	2.558	5080	pH= 11 phenol= 10 treated sample YES NO H&H	
6/11	↓	AL	TK9	.004	.000	.045	.141	1.222	4909	pH= 11 phenol= 20 treated sample YES NO USOIL	
6/11	1730	J	TK4	0.00	0.15	0.40	0.19	2.05	5204	pH= 11 phenol= 25 treated sample YES NO Miller	
6/11	1730	J	TK5	0.00	0.03	0.09	0.18	1.53	4287	pH= 12 phenol= 25 treated sample YES NO USOil	
6/12	7	AL	TK9	.016	.146	.075	.248	.614	6537	pH= 10 phenol= 15 treated sample YES NO	✓
↓	↓	↓	TK5	0	.021	.037	.122	1.006	2183	pH= 11 phenol= 25 treated sample YES NO	✓
↓	↓	↓	TK 4 NP	0	0	.104	.773	1.161	8991	pH= 12 phenol= 4 treated sample YES NO	✓
↓	↓	↓	CTY Am	0	0	.051	.535	4.945	11720	pH= 9 phenol= 12 treated sample YES NO	✓

EPAHO114000364

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd .4	Cr 3	Cu 3	Ni 3	Zn 6	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/9	2	AL	TK 4	.029	.234	.062	4.341	10 4.75	39970	pH= 7 phenol= 1 BLK warrior TK6 Twm treated sample YES NO	
6/9	2	AL	TK 10	.010	.039	.036	.101	2.207	5383	pH= 9 phenol= 12 US OIL treated sample YES NO	
6/9	2	AL	TK8	.005	.010	.021	.000	.047	1410	pH= 7 phenol= 0 Twm treated sample YES NO	
6/9	2	AL	TK5	0	.007	.002	.000	.104	8064	pH= 9 phenol= 6 Amerifuge treated sample YES NO	
6/9	18:00	J	TK9	0.01	0.29	0.03	0.09	1.37	4974	pH= 10 phenol= 20 US Oil treated sample YES NO	
6/10	7	AL	TK 6OP	.028	.377	.026	1.491	2.915	39080.[illegible]	pH= 10.6 phenol= 2 treated sample YES NO	✓
6/10	7	AL	TK 7OP	.009	.013	.117	1.112	1.428	15740	pH= 10.5 phenol= 10 treated sample YES NO	✓
6/10	7	AL	TK1 NP	.001	0	.027	1.638	1.364	7866	pH= 10.4 phenol= 2 treated sample YES NO	✓
6/10	7	AL	CTY Am	0	.009	.018	.617	.546	13290	pH= 8.15 phenol= 8 treated sample YES NO	✓
6/10	7	AL	CTY pm	0	0	.020	.064	1.055	7071	pH= 6.9 phenol= 4 treated sample YES NO	✓
6/10	11:00	AL	TK 7	.019	.243	.268	2.52	3.87	—	pH= 10 phenol= 1 treated sample YES NO	
6/10	12:00	J	TK4	0.01	0.26	0.04	1.48	1.34	18620	pH= 10 phenol= 15 Back Water treated sample YES NO	
6/10	12:00	J	TK9	0.00	0.01	0.03	0.11	1.97	5893	pH= 10 phenol= 25 US Oil treated sample YES NO	
↓	3:00	SB	TK5	.000	.000	.005	.071	.810	10000	pH= 9 phenol= 15 treated sample YES NO	
	↓	↓	TK10	.000	.000	.010	.143	.713	4244	pH= 10 phenol= 25 US Oil treated sample YES NO	
6/10	18:00	J	TK6	0.01	0.21	0.03	0.23	0.11	6392	pH= 8 phenol= 10 GATX treated sample YES NO	

EPAHO114000365

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/8	19:00	J	TK6	0.00	0.16	0.05	0.21	0.23	1849	pH= 11 phenol= 0 treated sample YES NO	
6/8	19:00	J	TK10	0.00	0.02	0.03	0.08	5.26	10010	pH= 10 phenol= 20 treated sample YES NO	
6/9	7	AL	TK10 OP	0	.064	.123	.847	4.810	11520	pH= 11.8 phenol= 6 treated sample YES NO	
6/9	7	AL	TK 4 NP	0	.076	.146	4.54	39.18	21530	pH= 10.6 phenol= 6 treated sample YES NO Pull in TK3 NP	✓
6/9	7	AL	CTY PN	.003	.029	.152	.905	3.318	13960	pH= 10.5 phenol= 4 treated sample YES NO	
6/9	7	AL	CTY A~	0	.065	.048	.343	.029	2970	pH= 10 phenol= 5 treated sample YES NO	
6/9	7	AL	TK42	0	.003	.020	.598	.097	1301	pH= 4 phenol= 4 treated sample YES NO	
6/9	7	AL	1002	0	.041	.041	.699	1.145	3887	pH= 12 phenol= 8 treated sample YES NO	
6/9	7	AL	1001	0	.062	.046	1.117	3.360	10880	pH= 12 phenol= 14 treated sample YES NO	
6/9	7	AL	1004	0	.082	.259	3.736	8.91	15930	pH= 10.4 phenol= 175 treated sample YES NO	
6/9	11:00	J	TK6	0.00	0.14	0.00	0.00	0.00	1598	pH= 10 phenol= 3 treated sample YES NO 256-TWM	
6/9	11:00	J	TK8	0.00	0.03	0.05	0.00	0.18	38490	pH= 6 phenol= 0 treated sample YES NO Hexion	
6/9	11:00	J	TK9	0.00	0.04	0.09	0.10	6.07	11410	pH= 9 phenol= 3 treated sample YES NO USOil	
6/9	11:00	J	TK12	0.00	0.02	0.00	0.01	0.01	1190	pH= 10 phenol= 2 treated sample YES NO LaBarge	
6/9	12:00	J	TK8	0.00	0.00	0.01	0.00	0.08	1347	pH= 6 phenol= 0 treated sample YES NO Champion	
										pH= phenol= treated sample YES NO	

EPAHO114000366

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK ⬇
				Cd	Cr	Cu	Ni	Zn			
6/8	7	AL	TK7 GP	.000	.052	.066	1.368	.155	25400	pH= 11.4 phenol= 3 treated sample YES NO	
6/8	7	AL	TK6 GP *	.000	.051	.018	4.008	.953	38300	pH= 11.6 phenol= 0 treated sample YES NO	✓
6/8	7	AL	GRY PM	.0	.000	.033	.140	.315	4605	pH= 10 phenol= 12 treated sample YES NO	
6/8	7	AL	GRY AM	.0	.012	.051	.038	.057	1574	pH= 10 phenol= 8 treated sample YES NO	
6/8	7	AL	TK6	.001	.000	.007	.020	.030	2294	pH= 11 phenol= 12 treated sample YES NO	
6/8	7	AL	TK10	.007	.025	.328	1.877	.016	1256	pH= 4.6 phenol= 3 treated sample YES NO	
6/8	7	AL	DIST W/W	—	—	—	—	—	72328	pH= — phenol= — treated sample YES NO 12 1824 130	
6/8	10:40	AL	TK 12	.007	.019	.002	0	0	875	pH= 11 phenol= 0 treated sample YES NO	
6/8	10:40	AL	TK 8	.000	.006	.207	.014	.026	645	pH= 10 phenol= 0 treated sample YES NO	
6/8	1300	JP	TK4	0.00	0.08	0.04	2.13	2.89	15610	pH= 10 phenol= 10 treated sample YES NO *Black Water	
6/8	1300	JP	TK7	0.00	0.02	0.03	1.67	1.62	13200	pH= 10 phenol= 15 treated sample YES NO Blackwater	
6/8	1300	JP	TK8	0.00	0.02	0.02	0.00	0.04	1606	pH= 8 phenol= 10 treated sample YES NO Bigler	
6/8	1300	JP	TK6	0.00	0.05	0.05	0.11	4.77	8665	pH= 8 phenol= 15 treated sample YES NO USOil	
6/8	3:10	SAM	Miller	.000	.052	.110	.000	.016	3993	pH=10 phenol= 7 treated sample YES NO	
"	"	"	TK9	.000	.227	.117	.701	5.45	22640	pH= phenol= treated sample YES NO	
6/7	1540	AL	TK5	.000	.154	.069	.831	2.486	13520	pH= 11 phenol= 1 treated sample YES NO	

EPAHO114000367

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
6/4	16:00	JP	TK7				0.35	4.81		pH= phenol= treated sample YES NO	
6/4	19:30	JP	TK10				0.12	1.81		pH= phenol= treated sample YES NO	
6/5	7:30	SB	3 HAN TK4				5.21	6.15	27480	pH= 10 phenol= 8 treated sample YES NO	
↓	11:30	SB	6/7				.228	1.11	2729	pH= 10 phenol= 3 treated sample YES NO	
			C.I. AM				.230	2.97	15870	pH= 9 phenol= 8 treated sample YES NO	
↓	↓	↓	C.I. PM				.455	.053	11140	pH= 8 phenol= 3 treated sample YES NO	
~~6/5~~	~~18:00~~	~~JP~~	TW				.018	.931	2405	pH= 8 phenol= treated sample YES NO	
6/5	18:00	JP	1002				1.79	3.57		pH= phenol= 175 treated sample YES NO	
6/5	18:00	JP	TK5				0.10	0.49		pH= phenol= treated sample YES NO	
6/6	9:50	JP	TK6				.118	.317		pH= phenol= T/T .067/.278 treated sample YES NO	
6/6	10:25	JP	TK5				.053	.112		pH= phenol= T/T .015/.118 treated sample YES NO	5/6
6/6	11:50	JP	TK7				.083	.027		pH= phenol= T/T .070/.027 treated sample YES NO	
6/6	14:40	JP	TK9				.297	.120		pH= phenol= T/T .181/.025 treated sample YES NO	
6/6	14:40	JP	TK5				.171	.088		pH= phenol= T/T .066/.019 treated sample YES NO	
6/8	7	AL	BT 400*	.009	.029	.191	.840	5.630	21550	pH= 11.4 phenol= 3 treated sample YES NO	
6/8	7	AL	TK4 NP	.009	.022	.029	2.029	2.486	13860	pH= 11.4 phenol= 3 treated sample YES NO	

EPAHO114000368

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6-3	9:39	SB	Tk8				.140	3.27	5999	pH= 10 phenol= 6 treated sample YES NO	
6/3	12:00	JF	Tk 6				0.51	12.2		pH= phenol= treated sample YES NO held	
6/3	12:00	JF	Tk 9				0.38	3.72		pH= phenol= treated sample YES NO per SB	
6/3	12:00	JF	Tk 10				0.21	0.77		pH= phenol= treated sample YES NO	
6/3	18:00	JF	Tk 7				0.23	3.49		pH= phenol= treated sample YES NO	
6/3	18:00	JF	Tk 10				0.17	8.34		pH= phenol= treated sample YES NO held	
6-4	8:45	Miles	Jupw 5				0.925	0.240	32150	pH= 10 phenol= 9 treated sample YES NO	✓
			Jupw 4				4.113	>>5	49190	pH= 10 phenol= 7 treated sample YES NO hold	
			Tk 12				9.302	0.065	2711	pH= 8 phenol= 0 treated sample YES NO	✓
			Phonix				0.000	0.000	1546	pH= 10 phenol= 0 treated sample YES NO	✓
			city DM				.679	2.480	6833	pH= 9 phenol= 10 treated sample YES NO	✓
6/4	10:30	JF	Tk 4				1.06	1.96		pH= phenol= treated sample YES NO	
6/4	10:30	JF	Tk 9				0.69	0.75		pH= phenol= treated sample YES NO	
6/4	12:00	JF	Tk 7				0.10	0.62		pH= phenol= treated sample YES NO	
6/4	12:00	JF	Tk 12				1.26	0.01		pH= phenol= treated sample YES NO	
6/4	16:00	JF	Tk 4				0.17	3.78		pH= phenol= treated sample YES NO	

EPAHO114000369

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
6-2	745	SB	J4				.372	1.712	15960	pH= 10 phenol= 10 treated sample YES NO	✓
"	"	"	J5				.932	2.237	11880	pH= 10 phenol= 10 treated sample YES NO	✓
6/2	11:00	J	TK6				1.05	1.41		pH= phenol= treated sample YES NO	
6/2	11:00	J	TK9				0.39	1.58		pH= phenol= treated sample YES NO Metals Only per SB	
6/2	11:00	J	TK10				1.86	0.01		pH= phenol= treated sample YES NO	
6/2	12:30	J	TK5				0.53	7.02		pH= phenol= 40 treated sample YES NO	
6/2	12:30	J	TK7				0.81	5.08		pH= phenol= treated sample YES NO	
6/2	12:30	J	TK12				0.25	3.26		pH= phenol= treated sample YES NO	
6/2	16:00	J	7 DP				2.66	3.60		pH= 3.5 phenol= 15 treated sample YES NO	
6/2	16:00	J	TK10				0.13	0.63		pH= phenol= treated sample YES NO	
6-3	8:00	SB	City AM				.463	.256	9212	pH= 8 phenol= 10 treated sample YES NO	
			City PM				.194	4.31	9513	pH= 10 phenol= 7 treated sample YES NO	
			Juan 4				.163	4.671	14040	pH= 10 phenol= 6 treated sample YES NO	
			Juan 5				.599	1.067	16120	pH= 10 phenol= 3 treated sample YES NO	
"	"	"	Juan 7				1.589	2.146	12810	pH= 10 phenol= 5 treated sample YES NO	
"	9:39	"	TK5				2.82	5.72	8637	pH= 10 phenol= 9 treated sample YES NO held	

EPAHO114000370

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
6/1	0618	CRH	TK 7 OP				1.16	2.44	8824	pH= 10 phenol= 25 treated sample YES NO	
6/1	0618	CRH	TK 6 OP				1.27	2.77	8586	pH= 11 phenol= 75 treated sample YES NO	
6/1	0636	CRH	CITY PM							pH= phenol= treated sample YES NO	
6/1	9:00	P	TK6				1.10	2.09	14990	pH= 9 phenol= 50 treated sample YES NO	
6/1	9:30	P	TK7				1.14	4.53	10130	pH= 10 phenol= 35 treated sample YES NO gone	
6/1	1000	P	TK9				0.33	4.82	26850	pH= 11 phenol= 10 treated sample YES NO	
6/1	1100	P	TK5				1.32	6.44	11250	pH= 9 phenol= 75 treated sample YES NO	
6/1	1300	P	TK10				0.09	0.23	1876	pH= 9 phenol= 5 treated sample YES NO	
6/1	1600	P	TK12				0.00	0.04	2093	pH= 11 phenol= 2 treated sample YES NO	
6/1	1600	P	TK Wash						—	pH= 6 phenol= 3 treated sample YES NO	
6/1	1700	P	TK9				0.37	3.74	6160	pH= 9 phenol= 25 treated sample YES NO	
6/1	1730	P	TK7				0.01	0.01	2005	pH= 10 phenol= 1 treated sample YES NO	
6-2	7:45	SB	city PM				.224	1.412	4234	pH= 9 phenol= 8 treated sample YES NO	
↓	↓	↓	6-1 AM city				.327	1.050	9925	pH= 10 phenol= 20 treated sample YES NO	
↓	↓	↓	6-1 PM city				.339	.941	4648	pH= 10 phenol= 7 treated sample YES NO	
" "	" "	" "	JBT JUAB				.078	1.059	40400	pH= 10 phenol= 3 treated sample YES NO	

WW TANK Testing Data Log Sheet. 7-21-2008. ACTIVE

EPAHO114000371

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
5/28	6:00	AL	CTY pm	✓	✓	✓	.047	.120	1325	pH= 7 phenol= 1 treated sample YES (NO)	
5/28	10:30	JP	TK6	✓	✓	✓	1.206	8.01	11220	pH= 11 phenol= 70 treated sample YES NO	
5/28	12:35	A	TK12	✓	✓	✓	.384	.058	1396	pH= 5 phenol= 4 treated sample YES (NO)	
5/28	12:35	A	TK4	✓	✓	✓	1.389	4.72	6210	pH= 11 phenol= 50 treated sample YES (NO)	
5/28	16:00	JP	TK5	✓	✓	✓	0.19	0.09	4020	pH= 9 phenol= 3 treated sample YES NO	
5/28	17:00	JP	TK8	✓	✓	✓	0.13	0.13	4780	pH=10 phenol=40 treated sample YES NO	
5/29	7	A	TK2&P	✓	✓	✓	1.068	3.897	12,140	pH= 11.3 phenol= 12 treated sample (YES) NO	
5/29	7	A	TK4NP	✓	✓	✓	2.058	5.77	5785	pH=11.28 phenol= 100 treated sample (YES) NO	
5/29	7	A	CTY pm	✓	✓	✓	.653	.472	5218	pH= 6 phenol= 15 treated sample YES (NO)	
5/29	7	A	CTY pm	✓	✓	✓	.176	1.328	3555	pH= 10 phenol= 6 treated sample YES (NO)	
5/29	11:00	JP	TK4	✓	✓	✓	1.42	5.44	7202	pH= 10 phenol= 150 treated sample YES NO	
5/29	11:00	JP	TK5	✓	✓	✓	0.39	3.36	4719	pH= 9 phenol= 25 treated sample YES NO	
5/29	17:00	JP	10OP	✓	✓	✓	0.28	3.75	—	pH= phenol= 30 treated sample (YES) NO	
5/29	19:00	JP	TK7	✓	✓	✓	0.09	0.28	—	pH= phenol= 7 treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO114000372

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
				Cd	Cr	Cu	Ni	Zn			
5/26	1600	JP	1001	/	/	/	1.06	6.07	8830	pH= 5 phenol= 20 treated sample YES NO	—
5/26	1600	JP	1002	/	/	/	3.93	15.9	11680	pH= 5 phenol= 400 HOLD (TO NP) treated sample YES NO	— NEWPARK 6/2
5/26	1600	JP	1004	/	/	/	5.68	10.3	13160	pH= 4 phenol= 500 (2x) treated sample YES NO	— NEWPARK 6/2
5/26	1000 pm	CC	12	/	/	/	0.568	5.427	—	pH= 10 phenol= — treated sample YES NO	
5/27	7	AL	TK5 OP	/	/	/	.59	.38	17440	pH= 11.6 phenol= 600 treated sample YES NO	✓
5/27	7	AL	TK 12	/	/	/	.35	4.87	7614	pH= 9.44 phenol= 0 treated sample YES NO	✓
5/27	7	AL	CTY AM	/	/	/	1.08	.69	5222	pH= 9.50 phenol= 10 treated sample YES NO	✓
5/27	7	AL	CTY PM	/	/	/	0	4.45	1586	pH= 8.9 phenol= 4 treated sample YES NO	✓
5/27	1200	JP	4NP	/	/	/	0.81	0.45	9620	pH= 4.8 phenol= 60 treated sample YES NO	
5/27	1200	JP	TK10	/	/	/	0.04	0.11	29900	pH= 10 phenol= 35 treated sample YES NO	
5/28	640	AL	TK6 OP	/	/	/	1.653	4.565	14240	pH= 11.31 phenol= 150 treated sample YES NO	
5/28	640	AL	TK4 OP	/	/	/	1.223	5.43	10800	pH= 11.85 phenol= 25 treated sample YES NO	
5/28	640	AL	BT 408	/	/	/	.423	.469	33350	pH= 11.43 phenol= 25 treated sample YES NO	
5/28	640	AL	TK 5	/	/	/	1.013	3.572	8386	pH= 10 phenol= 25 treated sample YES NO	
5/28	640	AL	TK7	/	/	/	.430	4.525	5538	pH= 10 phenol= 5 treated sample YES NO	
5/28	640	AL	CTY AM	/	/	/	.221	1.48	9112	pH= 9 phenol= 2 treated sample YES NO	

EPAHO114000373

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni (2)	Zn (3)	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
5/22	8:46	AL	TK10				.011	0	1373	pH= 11 phenol= 1 treated sample YES NO	✓
5/22	9:30	AL	TK 4				4.813	5.163	5239	pH= 11 phenol= 7200 treated sample YES NO	✓
5/22	10:30	AL	BT 408				.439	2.263	—	pH= 11.09 phenol= — treated sample YES NO flash 110°F	✓
5/22	11:10	AL	TK 5				1.07	1.73	—	pH= phenol= 225 treated sample YES NO	
5/26	7:00	AL	TK 4HP				1.36	1.30	10590	pH= 11.25 phenol= 12 treated sample YES NO	
5/26	7:00	AL	TK5 OP				2.38	1.59	15480	pH= 11 phenol= 7500 treated sample YES NO	
5/26	7:00	AL	TK5 WW				2.86	1.71	45740	pH= 10 phenol= 200 treated sample YES NO	
5/26	7:00	AL	CTY Am				.72	.55	46030	pH= 7 phenol= 9 treated sample YES NO	
5/26	7:00	AL	CTY Pm				.59	.33	27380	pH= 9 phenol= 6 treated sample YES NO	
5/26	9:00	AL	BT 408				.63	.42	19030	pH= 11 phenol= 0 treated sample YES NO	
5/26	10:45	AL	TK 4				2.92	2.30	11580	pH= 10 phenol= 7000 treated sample YES NO	
5/26	10:59	AL	TK 5				1.539	1.083	14040	pH= 8.8 phenol= 300 treated sample YES NO	
5/26	16:00	P	TK7OP				3.93	20.2	14270	pH= 7.4 phenol= 20 treated sample YES NO	
5/26	16:00	P	TK8				0.14	0.05	2191	pH= 9 phenol= treated sample YES NO	
5/26	16:00	P	TK9				0.02	0.48	2377	pH= 11.9 phenol= 3 treated sample YES NO	
5/26	16:00	P	TK10				0.39	9.81	2212	pH= 10.6 phenol= 5 treated sample YES NO	

WW TANK Testing Data Log Sheet, 7-21-2008, ACTIVE

EPAHO114000374

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
5/21	7:10	AL	TK5 GP	/	/	/	2117	4.66	18 100	pH= 3 phenol= 50 treated sample YES NO	/
5/21	7:10	AL	BT 4&8	/	/	/	1.259	0.47	7520	pH= 3 phenol= 8 treated sample YES NO	—
5/21	7:10	AL	TK 9 *	/	/	/	3.466	3.027	8820	pH= [redacted] 11 phenol= 15 treated sample YES NO	—
5/21	7:10	AL	TK 8 *	/	/	/	4.337	4.749	12 600	pH= [redacted] 11 phenol= 20 treated sample YES NO	—
5/21	7:10	AL	CTY PM	/	/	/	.523	0.650	1779	pH= 7 phenol= 0 treated sample YES NO	/
5/21	7:10	AL	CTY AM	/	/	/	1.787	1.769	8527	pH= 6 phenol= 1 treated sample YES NO	—
5/21	7:30	AL	TW FINAL	/	/	/	0.000	0.073	1157	pH= 6 phenol= 0 treated sample YES NO	—
5/21	9:30	AL	TK 10	/	/	/	.193	.158	1914	pH= 11 phenol= 2 treated sample YES NO	—
5/21	10:30	AL	10 OL	/	/	/	1.533	7.5	11 600	pH= 6 phenol= — treated sample YES NO	
5/21	10:30	AL	12 OL	/	/	/	3.365	7.14	11 930	pH= 6 phenol= — treated sample YES NO	
5/21	17:00	JP	TK Wash	/	/	/	—	—	1663	pH= 7 phenol= 20 treated sample YES NO	
5/22	7	A	TK4 INP	/	/	/	5.182	2.183	5143	pH= 10.78 phenol= 200 treated sample YES NO	
5/22	7	A	TK7 OP	/	/	/	3.231	21.60	14590	pH= 11.35 phenol= 10 treated sample YES NO	✓
5/22	7	A	TK5 OP	/	/	/	5.446	2.429	17 130	pH= 11.35 phenol= 250 treated sample YES NO	✓
5/22	7	A	CTY AM	/	/	/	.896	1.252	8631	pH= 6 phenol= 1 treated sample YES NO	✓
5/22	7	A	CTY PM	/	/	/	.647	.228	3560	pH= 6 phenol= 2 treated sample YES NO	✓

EPAHO1140003 75

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
				Cd	Cr	Cu	Ni	Zn			
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	
										pH= phenol= treated sample YES NO	

EPAHO1140003 76

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS					TOC	SPECIAL COMMENTS & INFORMATION	CHECK
				Cd	Cr	Cu	Ni	Zn			
5/14	630	AL	LTK pm				.064	.161	1210	pH= 6 phenol= 0 treated sample YES NO	—
5/14	1100	JP	TW				0.01	0.64	487	pH= 7 phenol= 1 treated sample YES NO	
5/14	1100	JP	5				6.4	6.8	10710	pH= 11 phenol= 25 treated sample YES NO	✓
5/14	1100	JP	6				8.5	7.5	17810	pH= 10 phenol= 25 treated sample YES NO	✓
5/14	1300	JP	10				3.36	1.42	128	pH= 4.3 phenol= 0 treated sample YES NO	
5/14	1300	JP	12				0.30	0.12	1067	pH= 5.1 phenol= 0 treated sample YES NO	
5/14	1500	A	4				Ø	Ø	3465	pH= 11 phenol= 8 treated sample YES NO	
5/15	645	AL	TK 8				1.864	6.198	5267	pH= 7 phenol= 12 treated sample YES NO	
5/15	645	AL	TK C				1.150	5.621	29330	pH= 11 phenol= 4 treated sample YES NO	
5/15	645	AL	TK 8 OP				1.348	4.321	13420	pH= 7 phenol= 4 treated sample YES NO	
5/15	645	AL	TK 1 MP				10.72	5.519	5157	pH= — phenol= 6 treated sample YES NO	
5/15	645	AL	TK 5 OP				8.536	6.606	901	pH= — phenol= 1 treated sample YES NO	
5/15	645	AL	CTY AM				4.558	6.232	659	pH= 9 phenol= 8 treated sample YES NO	
5/15	645	AL	CTY PM				1.634	5.282	249	pH= 8 phenol= 4 treated sample YES NO	
5/16	1100	JP	TK 5*				1.20	6.20	4921	pH= 10 phenol= 15 treated sample YES NO	✓
5/15	1700		TK 4*				5.16	5.82	1,325	pH= 11 phenol= 0 treated sample YES NO	✓

EPAHO114000377

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION
5/12	1530	JP	TK10				0.30	0.32	650	pH= 9 phenol= 10 treated sample YES NO
5-13	7:20	SB	city DM				.689	1.87	934	pH= 9 phenol= 4 treated sample YES NO
			city DM				.046	.145	4982	pH= 8 phenol= 5 treated sample YES NO
			JLEAD 1				8.62	4.73	23340	pH= 10 phenol= 5 treated sample YES NO hold Put Frac 1004
			JLEAD 5				3.54	2.96	8123	pH= 10 phenol= 7 treated sample YES NO
			JLEAD 7				.703	2.76	3247	pH= 10 phenol= 3 treated sample YES NO
"	"	"	4-12				2.01	1.40	6835	pH= 7 phenol= 5 treated sample YES NO
"	830	"	JLEAD 1				1.43	.910	23340	pH= 10 phenol= 5 treated sample YES NO Reheat
5/13	1130	JP	TK4				2.10	6.57	6443	pH= 11 phenol= 25 treated sample YES NO Metals SB
5/13	1130	JP	TK5				2.10	6.57	2163	pH= 8 phenol= 10 treated sample YES NO
5/13	1500	JP	TK6				0.18	1.42	401	pH= 10.5 phenol= 1 treated sample YES NO
5/13	1500	JP	TK7				0.17	2.20	1558	pH= 10.4 phenol= 10 treated sample YES NO
5/14	6:40	AL	TK1 NP				8.11	7.40	19160	pH= — phenol= — treated sample YES NO
5/14	6:40	AL	TK6				.855	.236	1403	pH= 7 phenol= 0 treated sample YES NO
5/14	6:40	AL	TK4				7.63	5.28	1438	pH= 9 phenol= 13 treated sample YES NO
5/14	6:40	AL	CITY SM				.227	1.67	4295	pH= 8 phenol= 5 treated sample YES NO —

EPAHO114000378

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
5/11	7:10	AL	TK5 OP				1.995	High 25	11710	pH= – phenol= 6 treated sample YES NO	
5/11	7:10	AL	TK4 NP				2.656	2.805	11250	pH= – phenol= 2 treated sample YES NO	
5/11	7:10	AL	TK7				1.261	High 8	6833	pH= 10 phenol= 9 treated sample YES NO	
5/11	7:10	AL	PM				.130	.695	208	pH= 7 phenol= 15 treated sample YES NO	
5/11	7:10	AL	AM				.261	.196	1781	pH= 7 phenol= 3 treated sample YES NO	
5/11	7:10	AL	TK5				2.190	High 8	15920	pH= 10 phenol= 2 treated sample YES NO	
5/11	10:00	AL	TW FF				18.6	8	1028	pH= 1 phenol= 15 treated sample YES NO	
5/11	10:00	AL	TW WW				.841	3.44	1818	pH= 6 phenol= 3 treated sample YES NO	
5/11	10:57	AL	TW TP				0	0	839	pH= 8 phenol= 0 treated sample YES NO	
5/11	13:00	P	TK4				2.79	2.76	10290	pH= 11.2 phenol= 5 treated sample YES NO	
5/11	13:00	P	TK6				1.68	.918	5400	pH= 9.3 phenol= 10 treated sample YES NO	
5/11	14:00	P	TK7				.062	.257	1533	pH= 9.5 phenol= 25 treated sample YES NO	
5/12	7:20	A	TK4				2.544	5.9	8323	pH= 10 phenol= 4 treated sample YES NO	
5/12	7:20	A	TK5 OP				1.496	2.635	14,440	pH= N/A phenol= 15 treated sample YES NO	
5/12	7:20	A	LT4 PM				.320	2.280	1554	pH= 10 phenol= 2 treated sample YES NO	
5/12	7:20	A	LT4 AM				.226	2.270	3117	pH= 7 phenol= 2 treated sample YES NO	

EPAHO114000379

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION
5/7	6:49	A	TK9				0.79	4.85	15030	pH=9 phenol=6 treated sample YES NO
5/7	6:49	A	TK4				1.25	4.85	19,160	pH=8 phenol=18 treated sample YES NO
5/7	6:49	A	AM				.59	0.71	8485	pH=9 phenol=3 treated sample YES NO
5/7	6:49	A	PM				.06	0.00	4420	pH=7 phenol=1 treated sample YES NO
↓	9:25	MR	T-7				1.019	5.139	14350	pH=10 phenol=20 treated sample YES NO
5/7	11:10	AL	TK9/6				.303	1.13	15240	pH=11 phenol=3 treated sample YES NO
5/7	1:00	AL	TK4				.691	.60	12020	pH=10 phenol=5 treated sample YES NO
5/7	1:08	AL	TK5				.543	.39	13330	pH=10 phenol=6 treated sample YES NO
5/7	3:45	AL	TK11 OP							pH= phenol= treated sample YES NO
5/8	6:30	AL	TK7 OP				.09	0	4228	pH= phenol= treated sample YES NO
5/8	6:30	AL	TK5 OP				1.028	4.782	20730	pH= phenol= treated sample YES NO
5/8	6:30	AL	TK8 OP				1.234	High	25020	pH= phenol= treated sample YES NO
5/8	6:30	AL	PM				.259	1.008	10410	pH=10 phenol=4 treated sample YES NO
5/8	6:30	AL	AM				.254	1.998	6959	pH=10 phenol=4 treated sample YES NO
5/8	10:20	AL	TK7				1.926	[illegible]	5.134	pH=10 phenol=8 treated sample YES NO
5/8	1:24	AL	TK9				.226	1.172	2440	pH=13 phenol=15 treated sample YES NO

EPAHO114000380

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	LEAD WW OPERATOR NOTIFIED CHECK
5/5	7:00	AC	6 4				.12	.028	8726	pH= 6 phenol= 6 treated sample YES NO	
5/5	18:30	P	TK9				1.07	0.26	1155	pH= 4.5 phenol= 9 NotifyChris treated sample YES NO	✓
5/6	6:48	A	City pm				.48	1.73	11020	pH= 10 phenol= 7 treated sample YES NO	
5/6	6:48	A	City Am				.47	1.00	8121	pH= 9 phenol= 5 treated sample YES NO	
5/6	6:48	A	TK 9				.15	.32	963	pH= 10 phenol= 2 treated sample YES NO	
5/6	6:48	A	TK 4 5 6				.71	.85	6678	pH= 10 phenol= 5 treated sample YES NO	
5/6	6:48	A	TK 4 NP				.08	.49	2731	pH= — phenol= — treated sample YES NO	
5/6	6:48	A	TK 5 OP				.23	.49	3113	pH= — phenol= — treated sample YES NO	
5/6	6:48	A	TK 7 OP				.06	1.62	10220	pH= — phenol= — treated sample YES NO	
5/6	9:40	MR	T7				.651	3.688	5632	pH= 11 phenol= 4 treated sample YES NO	
5/6	12:00	P	TK4				0.34	1.47	4529	pH= 9.0 phenol= 7 treated sample YES NO	
5/6	12:00	P	TK5				0.35	1.21	3673	pH= 8.9 phenol= 7 treated sample YES NO	
5/6	12:00	P	TK6				0.01	0.08	21320	pH= 11.2 phenol= 0 treated sample YES NO	
5/6	12:00	P	TK10				0.52	0.04	383	pH= 5.1 phenol= 2 HOLD FOR COH treated sample YES NO	
5/7	6:49	A	TK 4 NP				0.36	1.86	13930	pH= — phenol= — treated sample YES NO	
5/7	6:49	A	TK 1 NP				2.34	1.81	6625	pH= — phenol= — treated sample YES NO	

EPAHO114000381

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED CHECK ⬇

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION
5/4	730	AL	TK1				1.7	4.3	505	pH= 5 phenol= 6 ppm treated sample (YES) NO
5/4	730	AL	TK 9				0.6	3.7	7658	pH= 2 phenol= 6 treated sample (YES) NO
5/4	730	AL	TK 4,5,6				0.00	.8	2968	pH= 7 phenol= 0 treated sample (YES) NO
5/4	1100	J	TK5				2.53	9.77	(14,640)	pH= 10 phenol= treated sample (YES) NO → 5
5/4	1100	J	TK10				2.27	4.71		pH= 10 phenol= treated sample YES (NO)
5/4	1500	J	TK6				0.50	0.00	753	pH= 9.2 phenol= 2 treated sample YES NO
5/4	1500	J	TK12				2.37	0.04	827	pH= 5.7 phenol= 0 treated sample YES NO
5/4	1900	J	TK9				0.22	0.01	260	pH= 10.1 phenol= 8 treated sample YES NO
5/4	1900	J JUAN	T-10				1.20	0.60	7815	pH= 4.9 phenol= 10 treated sample YES NO
5/4	1930	J JUAN	T-7				0.94	2.27	14390	pH= 3.4 phenol= 25 treated sample YES NO
5/5	0650	AL	TK5				.20	1.15	26220	pH= 12 phenol= 4 treated sample YES NO
5/5	0650	AL	TK7				.093	.695	9965	pH= 12 phenol= 7 treated sample YES NO
5/5	0650	AL JUAN	TK4				.282	.916	7632	pH= 12 phenol= 5 treated sample YES NO
5/5	0650	AL JUAN	TK1				.203	1.40	10560	pH= 12 phenol= 2 treated sample YES NO
5/5	0650	AL	city AM				.067	.350	2538	pH= 8 phenol= 4 treated sample YES NO
5/5	0650	AL	city PM				.000	.161	1926	pH= 10 phenol= 4 treated sample YES NO

EPAHO114000382

CES Environmental Services, Inc.

Category A "Metals" : Tank's 10, 12 (Red)
Category B "Oils" : Tank's 4, 5, 6 (Black)
Category C "Organics" : Tank's 7, 8, 9 (Green)

WW PLANT TANK WATER TESTING DATA LOG SHEET

LEAD WW OPERATOR NOTIFIED

DATE	TIME	Initials	TANK/S	METALS Cd	Cr	Cu	Ni	Zn	TOC	SPECIAL COMMENTS & INFORMATION	CHECK
4.30	8:00	SB	Juan 5				.741	.691	9738	pH= 10 phenol= 4 treated sample YES NO	✓
↓	↓	↓	Juan 7				1.27	1.32	7854	pH= 10 phenol= 3 treated sample YES NO	✓
" "	" "	" "	TK6				1.01	2.08	3675	pH= 10 phenol= 5 treated sample YES NO	✓
4/30	11:00	P	TK5				1.02	1.91	5373	pH= 11.4 phenol= 10 treated sample YES NO	
4/30	12:00	P	TK4				2.30	8.9	7028	pH= 9.5 phenol= 15 treated sample YES NO	
4/30	12:30	P	TK7				2.13	6.4	6564	pH= 8.7 phenol= 10 treated sample YES NO	
5-1	8:00	SB	City AM				.767	.854	1159	pH= 10 phenol= 4 treated sample YES NO	
↓	↓	↓	City PM				.727	.860	1043	pH= 10 phenol= 3 treated sample YES NO	
			Juan 4				1.05	3.97	3628	pH= 10 phenol= 15 treated sample YES NO	✓
↓	↓	↓	Juan 3				.504	.987	8592	pH= 10 phenol= 4 treated sample YES NO	✓
" "	" "	" "	TK5				1.52	1.49	7338	pH= 10 phenol= 5 treated sample YES NO	✓
5/1	10:30	P	TK6				1.23	3.75	4238	pH= 10.6 phenol= 8 treated sample YES NO	
5/1	10:30	P	TK12				1.14	4.60	4207	pH= 8.9 phenol= 10 treated sample YES NO	
5/4	0730	AL	City AM				1.00	1.1	4591	pH= 11 phenol= 8 treated sample YES NO	—
5/4	0730	AL	City PM				.48	0.00	1292	pH= 10 phenol= 12 treated sample YES NO	—
5/4	0730	AL	TK4				2.45	7.36	3694	pH= 3 phenol= 5 treated sample YES NO	

EPAHO114000383

CES Environmental Services, Inc.

CITY of HOUSTON

PHENOL

& TOC

DATA LOG SHEET

City Phenol

EPAHO114000385

CE

T-15

LAB

8/4/09

NOTIFY Gary Peterson & Bo Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

April-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	TEST RESULT TOC
4/1/2008	9:40	Gods	SP # 5	10	13058
4/2/2008	8:00	SAM BROWN	SP # 5	13	7350
4/3/2008	8:30	SAM BROWN 95 Amm	SP # 5	10	8010
4/4/2008	8:45	SAM BROWN	SP # 5	11	5580
4/5/2008	8:50	SAM BROWN	SP # 5	12	3237
4/6/2008	8:45	SAM BROWN	SP # 5	13	4403
4/7/2008	7:45	SAM BROWN	SP # 5	6	~~8838~~ 3093
4/8/2008	7:45	SAM BROWN	SP # 5	5	2838
4/9/2008	7:45	SAM BROWN	SP # 5	6	2307
4/10/2008	8:10	SAM BROWN	SP # 5	7	3055
4/11/2008			SP # 5		
4/12/2008		100 Amm	SP # 5		
4/13/2008	—	MILES ROOT	SP # 5	NO SAMPLE / FLOWS	
4/14/2008		SAM BROWN	SP # 5	NO SAMPLE	
4/15/2008	8:15	SAM BROWN	SP # 5	8	3911
4/16/2008	8:30	SAM BROWN	SP # 5	8	7415
4/17/2008	7:10	SAM BROWN	SP # 5	7	4205
4/18/2008	11:15	SAM BROWN	SP # 5	6	4406
4/19/2008	7:40	SAM BROWN 10 ppm Amm	SP # 5	6	7515
4/20/2008	8:00	SAM BROWN 10ppm Amm	SP # 5	4	2575
4/21/2008	7:45	SAM BROWN 20 ppm Amm	SP # 5	4	1530
4/22/2008	8:15	SAM BROWN 20 ppm Amm	SP # 5	6	1291
4/23/2008	9:00	SAM BROWN 20 ppm Amm	SP # 5	6	6410
4/24/2008	8:00	SAM BROWN 25 ppm Amm	SP # 5	9	3885
4/25/2008	7:30	SAM BROWN 25 ppm Amm	SP # 5	5	5495
4/26/2008			SP # 5		
4/27/2008	—	NO WATER FOR MILES ROOT SAMPLE	SP # 5	—	—
4/28/2008	9:00	SAM BROWN 25 ppm Amm	SP # 5	3	2130
4/29/2008	8:40	SAM BROWN 20 ppm Amm	SP # 5	3	2129
4/30/2008	9:15	SAM BROWN 90 ppm Amm	SP # 5	3	3988

1-2-08 ≈ 12 ppm

1-1-08 ≈ 17 ppm

CES Environmental Services, Inc.

CES WW City of Houston Effluent Discharge DATA CORRELATION REPORT DOCUMENT

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All of the testing data points listed below were performed on the City sample from CES sample well, SP 5

SAMPLES CAUGHT THAT TEST OVER 15 ppm for the Quick Total Phenolic's (CES) will be tested and recorded on this document along with other testing data points to establish a testing method data correlation. The tabulated results on this document can be used for generating a calculated City test result based on the Quick Phenolic's test run at CES. This document can also used in any future audit or inquiry by a regulatory agency regarding a potential discharge violation from the CES SP 5 effluent.

SP 5 SAMPLING DATE	PHENOL TEST METHOD TYPE				TOC	BOD
	Quick Total Phenolic's (CES)	Total Phenolic's (EPA 420.4, MES)	Phenol (EPA 625, MES)	City of Houston Phenol Reported Value	CES	BOD (EPA 405.1, MES)
	ppm RESULT	ppm RESULT	ppm RESULT	ppm RESULT	ppm RESULT	ppm RESULT
12/11/07	28	11.3			4,907	5,250
01/07/08	25	10.9			8,550	

EPAHO11400389

CES Environmental Services, Inc.

TSS

MONTH / YEAR July /08

EPA METHOD 160.2 (TSS) CITY SAMPLE SP 5 **(WEIGHT TO 4 DECIMAL PLACES)**

DATE	ANALYST	MLS FILTERED	WEIGHT IN	WEIGHT OUT	WEIGHT DIFFER	TSS (ppm)
1 7-1-08	S					
2						
3						
4						
5						
6						
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31						

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: Aug 2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
8-1-09	Closed	—	SP # 5	—	—	—	—
8-2-09	Closed	—	SP # 5	—	—	—	—
8-3-09	8:30	Miles R.	SP # 5	25	0	13690	—
			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				
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			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				
			SP # 5				

NOTIFY Clint Hopkins or Sam BrownIMMEDIATELY if the phenol value is GT 50 ppm

CES Environmental Services, Inc.

MONTH/YEAR: July 2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
7-1-09	620	Al Longoria	SP # 5	10	—	6584	—
7-2-09	645	Al Longoria	SP # 5	35	—	8604	—
7-3-09	Closed	—	SP # 5	—	—	—	—
7-4-09	closed	—	SP # 5	—	—	—	—
7-5-09	Closed	—	SP # 5	—	—	—	—
7-6-09	630	Al Longoria	SP # 5	25	—	20,830	—
7-7-09	645	Al Longoria	SP # 5	0	—	14920	—
7-8-09	630	Al Longoria	SP # 5	0	—	13330	—
7-5-09	630	Al Longoria	SP # 5	0	—	9275	—
7-10-09	620	Al Longoria	SP # 5	0	—	12370	—
7-11-09	Closed	—	SP # 5	—	—	—	—
7-12-09	Closed	—	SP # 5	—	—	—	—
7-13-09	620	Al Longoria	SP # 5	0	—	22010	—
7-14-09	620	Al Longoria	SP # 5	0	—	10140	—
7-15-09	630	Al Longoria	SP # 5	8	—	9720	—
7-16-09	635	Al Longoria	SP # 5	0	—	11130	—
7-17-09	645	Al Longoria	SP # 5	0	—	19040	—
7-18-09	Closed	—	SP # 5	—	—	—	—
7-19-09	closed	—	SP # 5	—	—	—	—
7-20-09	720	Al Longoria	SP # 5	25	—	14820	—
7-21-09	720	Al Longoria	SP # 5	0	—	5145	—
7-22-09	10:00	Miles R.	SP # 5	10	—	3745	—
7-23-09	7:30	Miles R.	SP # 5	15	—	13,640	—
7-24-09	8:20	Miles R.	SP # 5	20	—	22,180	—
7-25-09	Closed	—	SP # 5	—	—		—
7-26-09	Closed	—	SP # 5	—	—		—
7-27-09	8:30	Sam Brown	SP # 5	10	—	31530	—
7-28-09	10:00	Sam Brown	SP # 5	15	—	13090	—
7-29-09	8:30	Miles R.	SP # 5	30	—	8604	—
7-30-09	8:00	Miles R.	SP # 5	15	—	16850	—
7-31-09	8:00	Miles R.	SP # 5	9	—	No Air	—

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: June 09

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
6-1-09	8:30AM	SAM BROWN	SP # 5	10	0	4234	—
6-2-09	7:45AM	SAM BROWN	SP # 5	8	0	9925	—
6-3-09	8:00AM	SAM BROWN	SP # 5	7	0	9513	—
6-4-09	8:45AM	SAM BROWN	SP # 5	10	0	6833	—
6-5-09	11:30AM	SAM BROWN	SP # 5	8	0	1587	—
6-6-09	closed	—	SP # 5	—	—	—	—
6-7-09	closed	—	SP # 5	—	—	—	—
6-8-09	7:00 AM	Al Longoria	SP # 5	12	0	4685	—
6-9-09	7:00 AM	Al Longoria	SP # 5	5	0	2970	—
6-10-09	7:00 AM	Al Longoria	SP # 5	8	0	13220	—
6-11-09	6:45AM	Al Longoria	SP # 5	14	0	10000	—
6-12-09	6:45AM	Al Longoria	SP # 5	16	0	3306	—
6-13-09	closed	—	SP # 5	—	—	—	—
6-14-09	closed	—	SP # 5		—	—	—
6-15-09	6:45A	Al Longoria	SP # 5	16	0	3424	—
6-16-09	6:45	Al Longoria	SP # 5	10	0	—	—
6-17-09	7:00	Al Longoria	SP # 5	4	0	4425	—
6-18-09	6:45	Al Longoria	SP # 5	6	0	7938	—
6-19-09	6:45	Al Longoria	SP # 5	4	0	3253	—
6-20-09	closed	—	SP # 5	—	—	—	—
6-21-09	closed	—	SP # 5	—	—	—	—
6-22-09	Pump down		SP # 5	—	—	—	—
6-23-09	1130	Al Longoria	SP # 5	50	0	9678	—
6-24-09	6:15	Al Longoria	SP # 5	25	0	3321	—
6-25-09	6:45A	Al Longoria	SP # 5	0	0	1954	—
6-26-09	6:45A	Al Longoria	SP # 5	10	0	3267	—
6-27-09	closed	—	SP # 5	—	—	—	—
6-28-09	closed	—	SP # 5	—	—	—	—
6-29-09	6:45A	Al Longoria	SP # 5	25	0	11430	—
6-30-09	6:30A	Al Longoria	SP # 5	25	0	10960	—
			SP # 5				

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: MAY 2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
5-1-09	8:20	SAM BROWN	SP # 5	4	0	1159	—
5-2-09	Close	d —	SP # 5	—	—	—	—
5-3-09	Closed	—	SP # 5	—	—	—	—
5-4-09	7:30	AL. L.	SP # 5	12	0	4581	—
5-5-09	6:50	AL. L.	SP # 5	4	0	2538	—
5-6-09	6:48	AL. L	SP # 5	7	0	11020	—
5-7-09	6:19	AL L.	SP # 5	B	0	8485	—
5-8-09	6:30	AL. L.	SP # 5	4	0	10410	—
5-9-09	Close	d —	SP # 5	—	—	—	—
5-10-09	Close	d —	SP # 5	—	—	—	—
5-11-09	7:10	AL. L	SP # 5	15	0	1781	—
5-12-09	7:20	AL. L	SP # 5	2	0	3117	—
5-13-09	7:20	SAM BROWN	SP # 5	5	0	4982	—
5-14-09	6:40	AL. L.	SP # 5	5	0	4291	—
5-15-09	7:00	AL. L.	SP # 5	7	0	249	—
5-16-09	closed	—	SP # 5	—	—	—	—
5-17-09	closed	—	SP # 5	—	—	—	—
5-18-09	7:00	AL. L.	SP # 5	2	0	4650	—
5-19-09	7:00	AL L.	SP # 5	0	0	1755	—
5-20-09	7:20	AL L.	SP # 5	1	0	5217	—
5-21	7:00	AL L.	SP # 5	1	0	8529	—
5-22	7:10	AL L.	SP # 5	1	0	8631	—
23	closed	—	SP # 5	—	—	—	—
24	closed	—	SP # 5	—	—	—	—
25	closed	—	SP # 5	—	—	—	—
5-26	7:00	AL L.	SP # 5	9	0	4603	—
5-27	7:00	AL L.	SP # 5	10	0	5222	—
5-28	7:00	AL L.	SP # 5	2	0	9112	—
5-29	7:00	AL L.	SP # 5	15	0	5218	—
			SP # 5				—
			SP # 5				

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: APRIL/2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
4-1-09	8:00	SAM BROWN	SP # 5	10	0	7108	—
4-2-09	10:00	SAM BROWN	SP # 5	8	0	2277	—
4-3-09	10:00	SAM BROWN	SP # 5	10	0	7442	—
4-4-09	Closed	—	SP # 5	—			
4-5-09	Closed	—	SP # 5	—			
4-6-09	8:00	SAM BROWN	SP # 5	10	0	8245	—
4-7-09	8:30	SAM BROWN	SP # 5	15	0	10520	—
4-8-09	8:00	SAM BROWN	SP # 5	15	0	8688	—
4-9-09	8:15	Miles Root	SP # 5	15	0	9401	—
4-10-09	Holiday	Day	SP # 5	—			
4-11-09	Closed	—	SP # 5	—			
4-12-09	Closed	—	SP # 5	—			
4-13-09	8:15	SAM BROWN	SP # 5	8	0	216	—
4-14-09	8:00	SAM BROWN	SP # 5	8	0	12540	—
4-15-09	7:45	SAM BROWN	SP # 5	8	0	9142	—
4-16-09	8:15	SAM BROWN	SP # 5	3	0	6788	—
4-17-09	8:00	SAM BROWN	SP # 5	5	0	9568	—
4-18-09	Closed	—	SP # 5	—			
4-19-09	Closed	—	SP # 5	—			
4-20-09	8:00	SAM BROWN	SP # 5	6	0	2325	—
4-21-09	8:15	SAM BROWN	SP # 5	3	0	2797	—
4-22-09	8:45	SAM BROWN	SP # 5	0	0	7061	—
4-23-09	8:00	SAM BROWN	SP # 5	4	0	4215	—
4-24-09	8:00	SAM BROWN	SP # 5	5	0	442	—
4-25-09	Closed	—	SP # 5	—			
4-26-09	Closed	—	SP # 5	—			
4-27-09	8:30	SAM BROWN	SP # 5	15	0	7715	—
4-28-09	8:00	SAM BROWN	SP # 5	15	0	1289	—
4-29-09	8:00	SAM BROWN	SP # 5	5	0	14750	—
4-30-09	8:00	SAM BROWN	SP # 5	4	0	6535	—
			SP # 5				

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: MARCH / 2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
3-1-09	Closed	—	SP # 5	—			
3-2-09	NO SAMPLE		SP # 5	—			
3-3-09	7:30	SAM BROWN	SP # 5	10	0	26130	—
3-4-09	9:30	SAM BROWN	SP # 5	10	0	8559	—
3-5-09	8:30	SAM BROWN	SP # 5	15	0	2854	—
3-6-09	8:00	SAM BROWN	SP # 5	10	0	3655	—
3-7-09	Closed	—	SP # 5	—			
3-8-09	Closed	—	SP # 5	—			
3-9-09	8:45	SAM BROWN	SP # 5	10	0	5159	—
3-10-09	7:30	SAM BROWN	SP # 5	3	0	3449	—
3-11-09	8:00	SAM BROWN	SP # 5	15	0	12100	—
3-12-09	7:00	SAM BROWN	SP # 5	10	0	9169	—
3-13-09	8:00	SAM BROWN	SP # 5	10	0	3553	—
3-14-09	— Closed —		SP # 5	—			
3-15-09	— Closed —		SP # 5	—			
3-16-09	7:30	SAM BROWN	SP # 5	6	0	33650	—
3-17-09	8:00	SAM BROWN	SP # 5	6	0	9285	—
3-18-09	8:00	SAM BROWN	SP # 5	15	0	15470	—
3-19-09	11:00	SAM BROWN	SP # 5	15	0	3217	—
3-20-09	10:00	SAM BROWN	SP # 5	15	0	2597	—
3-21-09	Closed	—	SP # 5	—			
3-22-09	Closed	—	SP # 5	—			
3-23-09	8:00	SAM BROWN	SP # 5	7	0	3881	—
3-24-09	7:45	SAM BROWN	SP # 5	9	0	3506	—
3-25-09	8:00	SAM BROWN	SP # 5	15	0	2984	—
3-26-09	9:05	SAM BROWN	SP # 5	11	0	3308	—
3-27-09	9:00	SAM BROWN	SP # 5	11	0	11280	—
3-28-09	Closed	—	SP # 5	—			
3-29-09	Closed	—	SP # 5	—			
3-30-09	10:15	SAM BROWN	SP # 5	10	0	10140	—
3-31-09	8:00	SAM BROWN	SP # 5	10	0	6816	—

EPAHO114000396

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: Feb 09

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
2-1-09	Closed	—	SP # 5	—	—	—	—
2-2-09	10:00	SAM BROWN	SP # 5	15	0	9862	—
2-3-09	7:47	SAM BROWN	SP # 5	3	0	6301	—
2-4-09	8:00	SAM BROWN	SP # 5	7	0	2827	—
2-5-09	8:35	SAM BROWN	SP # 5	15	0	4805	—
2-6-09	7:25	SAM BROWN	SP # 5	6	0	5312	—
2-7-09	Closed	—	SP # 5	—	—	—	—
2-8-09	Closed	—	SP # 5	—	—	—	—
2-9-09	8:00	SAM BROWN	SP # 5	10	0	1772	—
2-10-09	7:15	SAM BROWN	SP # 5	2	0	2787	—
2-11-09	750	SAM BROWN	SP # 5	10	0	15540	—
2-12-09	700	SAM BROWN	SP # 5	9	0	13680	—
2-13-09	700	SAM BROWN	SP # 5	2	0	5308	—
2-14-09	Closed	—	SP # 5	—	—	—	—
2-15-09	Closed	—	SP # 5	—	—	—	—
2-16-09	700	SAM BROWN	SP # 5	8	0	4050	—
2-17-09	700	SAM BROWN	SP # 5	4	0	1902	—
2-18-09	900	SAM BROWN	SP # 5	6	0	8910	—
2-19-09	9:30	SAM BROWN	SP # 5	6	0	7972	—
2-20-09	930	SAM BROWN	SP # 5	5	0	12130	—
2-21-09	Closed	—	SP # 5	—	—	—	—
2-22-09	Closed	—	SP # 5	—	—	—	—
2-23-09	7:40	SAM BROWN	SP # 5	4	0	3414	—
2-24-09	700	SAM BROWN	SP # 5	6	0	204	—
2-25-09	730	SAM BROWN	SP # 5	6	0	2621	—
2-26-09	730	SAM BROWN	SP # 5	12	0	10,710	—
2-27-09	10:00	SAM BROWN	SP # 5	15	0	8349	—
2-28-09	10:00	SAM BROWN	SP # 5	15	0	975	—
			SP # 5				
			SP # 5				
			SP # 5				

EPAHO114000397

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: JAN - 2009

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
1-1-09	Closed	Closed	SP # 5	Closed	—	—	—
1-2-09	7:25AM	SAM BROWN	SP # 5	15	0	8425	—
			SP # 5				
1-4-09	9 AM	MILES ROOT	SP # 5	12	0	5129	—
1-5-09	8 AM	NO Discharged	SP # 5	—	—	—	—
1-6-09	7 30 AM.	SAM BROWN	SP # 5	15	0	5412	⟸
1-7-09	6 50 AM	SAM BROWN	SP # 5	15	0	3119	—
1-8-09	7 00 AM	SAM BROWN	SP # 5	15	0	7334	—
1-9-09	7 15AM	SAM BROWN	SP # 5	5	0	7687	—
1-10-09	7 00 AM	SAM BROWN	SP # 5	6	0	2780	—
1-11-09	9 AM	MILES ROOT	SP # 5	10	0	16560	—
1-12-09	800	SAM BROWN	SP # 5	12	0	16560	—
1-13-09	735	SAM BROWN	SP # 5	15	0	21360	—
1-14-09	800	SAM BROWN	SP # 5	10	0	3781	—
1-15-09	620	SAM BROWN	SP # 5	15	0	8602	—
1-16-09	800	SAM BROWN	SP # 5	15	0	11,550	—
1-17-09	Close	—	SP # 5	—	—	—	—
1-18-09	Close	—	SP # 5	—	—	—	—
1-19-09	800	SAM BROWN	SP # 5	15	0	16,800	—
1-20-09	740	SAM BROWN	SP # 5	10	0	6060	—
1-21-09	740	SAM BROWN	SP # 5	15	0	10,720	—
1-22-09	715	SAM BROWN	SP # 5	3	0	19,880	—
1-23-09	700	SAM BROWN	SP # 5	4	0	16,040	—
1-24-09	845	SAM BROWN	SP # 5	15	0	7954	
1-25-09	Closed	—	SP # 5	—	—	—	—
1-26-09	915	SAM BROWN	SP # 5	8	0	6140	—
1-27-09	750	SAM BROWN	SP # 5	4	0	22,380	—
1-28-09	820	SAM BROWN	SP # 5	5	0	12,860	—
1-29-09	800	SAM BROWN	SP # 5	7	0	12,190	—
1-30-09	800		SP # 5	9	0	35,180	—
1-31-09	12:00	Gary Peterson	SP # 5	7	0	11,070	—

NOTIFY Gary Peterson & Joe & Matt
Moser Cumberland IMMEDIATELY
if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR
December 2008

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
12-1-08	7:27	SAM BROWN	SP # 5	5	0	14680	—
12-2-08	7:30	SAM BROWN	SP # 5	0	0	0	—
12-3-08	8:28	SAM BROWN	SP # 5	3	0	1737	—
12-4-08	6:59	SAM BROWN	SP # 5	10	0	12,200	—
12-5-08	7:11	SAM BROWN	SP # 5	3	0	4897	—
12-6-08			SP # 5				
12-7-08	900 AM	MILES ROOT	SP # 5	5	0	11400	—
12-8-08	6:55	SAM BROWN	SP # 5	4	0	8160	—
12-9-08	8:00	SAM BROWN	SP # 5	10	0	13,140	—
12-10-08	730	SAM BROWN	SP # 5	3	0	4683	—
12-11-08	7:45	SAM BROWN	SP # 5	8	0	7860	—
12-12-08	8:00	SAM BROWN	SP # 5	3	0	4956	—
12-13-08	7:23	SAM BROWN	SP # 5	3	0	5830	—
12-14-08	8:50AM	MILES ROOT	SP # 5	15	0	14650	—
12-15-08	7:55AM	SAM BROWN	SP # 5	15	0	11,025	—
12-16-08	8:15AM	SAM BROWN	SP # 5	3	0	4281	—
12-17-08	7:47	SAM BROWN	SP # 5	0	0	949	—
12-18-08	7:35	SAM BROWN	SP # 5	9	0	3631	—
12-19-08	7:35	SAM BROWN	SP # 5	5	0	4909	—
12-20-08	8:33	SAM BROWN	SP # 5	0	0	860	—
12-21-08	9:00	MILES ROOT	SP # 5	10	0	550	—
12-22-08	835	SAM BROWN	SP # 5	10	0	0	—
12-23-08	8:35	SAM BROWN	SP # 5	0	0	2000	—
12-24-08	10:00	SAM BROWN	SP # 5	3	0	2310	—
12-25-08	Close	———	SP # 5	———	———	———	———
12-26-08			SP # 5				
12-27-08			SP # 5				
12-28-08			SP # 5				
12-29-08	7:50	SAM BROWN	SP # 5	4	0	20968	—
12-30-08	7:30	SAM BROWN	SP # 5	15	0	22,580	—
12-31-08	800	SAM BROWN	SP # 5	8	.0	17,640	—

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: NOVEMBER 2008

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
11-1-08	9:30	SAM BROWN	SP # 5	6	0	12.030	
11-2-08	8:43	SAM BROWN	SP # 5	7	0	3317	
11-3-08	11:30	SAM BROWN	SP # 5	6	0	5205	
11-4-08	9:00	SAM BROWN	SP # 5	5	0	2158	
11-5-08	7:30	SAM BROWN	SP # 5	4	0	5590	
11-6-08	720	SAM BROWN	SP # 5	7	0	10 130	
11-7-08	9:30	MILES ROOT	SP # 5	8	0	350	—
11-8-08	10:40	Godefroy	SP # 5	6	0	4309	
11-9-08	12:16	Godefroy	SP # 5	N/A	N/A	N/A	
11-10-08	8:30	SAM BROWN	SP # 5	5	0	~~2100~~	
11-11-08	720	SAM BROWN	SP # 5	4	0	2470	
11-12-08	7:45	SAM BROWN	SP # 5	8	0	1,196	
11-13-08	7:39	SAM BROWN	SP # 5	4	0	1,152	
11-14-08	7:30	SAM BROWN	SP # 5	2	0	16,890	
11-15-08	8:00	SAM BROWN	SP # 5	3	0	6080	
11-16-08	8:40	MILES ROOT	SP # 5	NO	WATER	IN SAMPLER	
11-17-08	7:30	SAM BROWN	SP # 5	~~3~~	~~0~~	~~1,850~~	
11-18-08	7:50	SAM BROWN	SP # 5	3	0	295	
11-19-08	6:36	SAM BROWN	SP # 5	15	0	100	
11-20-08	8:20	SAM BROWN	SP # 5	14	0	2079	
11-21-08	10:00	Gary Peterson	SP # 5	8	0	1309	pH: 7.2
11-22-08	8:30	MARISSA WOOLSEY	SP # 5	6	0	4694.5	—
11-23-08	9:00 AM	MILES ROOT	SP # 5	10	0	2000	—
11-24-08	8:00	SAM BROWN	SP # 5	5	0	6090	
11-25-08	8:25	SAM BROWN	SP # 5	3	0	943	—
11-26-08	7:49	SAM BROWN	SP # 5	4	0	1955	
11-27-08	CLOSED	———	SP # 5	~~10~~	—	~~374~~	—
11-28-08	750	SAM BROWN	SP # 5	10	0	374	—
11-29-08	745	SAM BROWN	SP # 5	4	0	618	—
11-30-08	9:00	MILES ROOT	SP # 5	NO WATER IN SAMPLER			—
			SP # 5				

EPAHO114000400

NOTIFY Gary Peterson & Joe & Matt Moser Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

MONTH/YEAR: October 2008

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
10-1-2008	AM	GRP	SP # 5	3			
10-2	AM	GRP	SP # 5	6			
10-3	AM	GRP	SP # 5	4			
10-4	/	—	SP # 5				
10-5	/	—	SP # 5				
10-6	AM	GRP	SP # 5	3			
7	AM	GRP	SP # 5	9			
8	AM	GRP	SP # 5	7			
9	AM	GRP	SP # 5	9			
10-10	AM	SB	SP # 5	4		3080	
10-11	/	—	SP # 5				
10-12	AM	SB	SP # 5	120		4,800	
10-13	AM	GRP	SP # 5	11			
10-14	AM	GRP	SP # 5	9			
10-15	AM	SB	SP # 5	4		4,288	
10-16	AM	SB	SP # 5	12		4175	
10-17	AM	SB	SP # 5	10		~~4775~~ 3,903	
18 / 19	—	—	SP # 5				
10-20	AM	GRP	SP # 5	8			
10-21	AM	SB	SP # 5	10		1,718	
10-22	AM	GRP	SP # 5	6			
10-23	AM	GRP	SP # 5	2			
10-24	PM-2nd	MILES ROOT	SP # 5	15		528	
~~10-25~~	/		SP # 5				
~~10-26~~	/		SP # 5				
10-27	7:40 AM	SAM BROWN	SP # 5	5	0	13,005	Clar
10-28	7:21 AM	SAM BROWN	SP # 5	5	0	282	Clar
10-29	7:50 AM	SAM BROWN	SP # 5	6	0	1372	Clar
10-30	7:45 AM	SAM BROWN	SP # 5	8	0	4440	clar
10-31	7:14 AM	SAM BROWN	SP # 5	9	0	4635	clar
			SP # 5				

EPAHO114000401

NOTIFY Gary Peterson & Bo Cumberlar IMMEDIATELY if the phenol value is GT ppm

CES Environmental Services, Inc.

MONTH/YEAR
September-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
9/1/2008	Close	d	~~SP # 5~~			→	
9/2/2008	7:30	SAM BROWN	SP # 5	6	0	10795	—
9/3/2008	8:30	SAM BROWN	SP # 5	5	0	6905	—
9/4/2008	8:30	SAM BROWN	SP # 5	5	0	1906	—
9/5/2008	7:00	SAM BROWN	SP # 5	6	0	2965	—
9/6/2008	8:40	SAM BROWN	SP # 5	4	0	8600	—
9/7/2008	9ᵃᵐ	MILES ROOT	SP # 5	2	0	5400	—
9/8/2008	8:10	SAM BROWN	SP # 5	10	0	20,005	—
9/9/2008	9:00	SAM BROWN	SP # 5	15	0	19,335	—
9/10/2008	8:00	SAM BROWN	SP # 5	7	0	6540	—
9/11/2008	7:30	SAM BROWN	SP # 5	6	0	6355	—
9/12/2008	—	Close	SP # 5	—	—	—	—
9/13/2008	—	Close	SP # 5	—	—	—	—
9/14/2008	—	Close	SP # 5	—	—	—	—
9/15/2008	8:15	SAM BROWN	SP # 5	5	0	7820	—
9/16/2008	AM	SBP	SP # 5	4			
9/17/2008	AM	SBP	SP # 5	2			
9/18/2008	AM	SBP	SP # 5	4			
9/19/2008	AM	SBP	SP # 5	5			
9/20/2008	No Sample	SBP	SP # 5	—			
9/21/2008	No Sx. Today - MJR		SP # 5				
9/22/2008	AM	SBP	SP # 5	7			
9/23/2008	AM	SBP	SP # 5	4			
9/24/2008	AM	SBP	SP # 5	2			
9/25/2008	AM	SBP	SP # 5	1			
9/26/2008	AM	SBP	SP # 5	2			
9/27/2008			SP # 5				
9/28/2008			SP # 5				
9/29/2008	AM	SBP	SP # 5	1			
9/30/2008	AM	SBP	SP # 5	1			
			SP # 5				

NOTIFY Gary Peterson & Bo Cumberlar IMMEDIATELY if the phenol value is GT ppm

CES Environmental Services, Inc.

MONTH/YEAR
August-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
8/1/2008	7:00	SAM BROWN	SP # 5	10	0	6830	—
8/2/2008			SP # 5				
8/3/2008	9:30	MILES ROOT	SP # 5	4	0	3008	—
8/4/2008	7:30	SAM BROWN	SP # 5	5	0	5950	—
8/5/2008	7:15	SAM BROWN	SP # 5	10	0	5680	—
8/6/2008	7:10	SAM BROWN	SP # 5	10	0	2772	
8/7/2008	7:00	SAM BROWN	SP # 5	5	0	4199	
8/8/2008	7:36	SAM BROWN	SP # 5	6	0	4025	
8/9/2008			SP # 5				
8/10/2008	9 AM	MILES ROOT	SP # 5	15	0	4961	—
8/11/2008	6:15 AM	MILES ROOT	SP # 5	15	0	6250	—
8/12/2008	6:15 AM	MILES ROOT	SP # 5	5	0	5935	—
8/13/2008	6:15 A	MILES ROOT	SP # 5	5	0	3000	—
8/14/2008	6:15 A	MILES ROOT	SP # 5	5	0	2650	—
8/15/2008	6:30	MILES ROOT	SP # 5	5	0	3950	—
8/16/2008			SP # 5				
8/17/2008	9 AM	MILES ROOT	SP # 5	2	0	6050	—
8/18/2008	6 AM	MILES ROOT	SP # 5	2	0	3900	—
8/19/2008	7 AM	SAM BROWN	SP # 5	4	0	4875	
8/20/2008	7 AM	SAM BROWN	SP # 5	5	0	2828	—
8/21/2008	6:40	SAM BROWN	SP # 5	3	0	1597	
8/22/2008	9:00	SAM BROWN	SP # 5	5	0	3573	
8/23/2008	9:15	SAM BROWN	SP # 5	4	0	4912	—
8/24/2008	9:00	MILES ROOT	SP # 5	2	0	-	—
8/25/2008	9:00	SAM BROWN	SP # 5	4	0	15470	—
8/26/2008	9:00	SAM BROWN	SP # 5	2	0	4232	—
8/27/2008	7:45	SAM BROWN	SP # 5	2	0	17400	—
8/28/2008	7:40	SAM BROWN	SP # 5	3	0	11885	—
8/29/2008	6:40	SAM BROWN	SP # 5	8	0	6000	—
8/30/2008	9:15	SAM BROWN	SP # 5	3	0	3017	—
8/31/2008	9:00	SAM BROWN	SP # 5	3	0	2548	—

NOTIFY Gary Peterson & Bo Cumberlar IMMEDIATELY if the phenol value is GT ppm

CES Environmental Services, Inc.

MONTH/YEAR
July-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
7/1/2008	6:45	SAM BROWN	SP # 5	4	0	3044	
7/2/2008	6:45	SAM BROWN	SP # 5	4	0	1713	
7/3/2008	7:00	SAM BROWN	SP # 5	4	0	3158	
7/4/2008			SP # 5				
7/5/2008			SP # 5				
7/6/2008			SP # 5				
7/7/2008	6:50	SAM BROWN	SP # 5	7	0	18115	
7/8/2008	7:15	SAM BROWN	SP # 5	7	0	2800	
7/9/2008	6:30	SAM BROWN	SP # 5	5	0	2905	
7/10/2008			SP # 5				
7/11/2008	7:40	SAM BROWN	SP # 5	10	0	2410	
7/12/2008			SP # 5				
7/13/2008	9:30	Miles Root	SP # 5	10	0	1809	
7/14/2008	7:10	SAM BROWN	SP # 5	5	0	2384	
7/15/2008	7:00	SAM BROWN	SP # 5	3	0	1686	
7/16/2008	7:10	SAM BROWN	SP # 5	4	0	3163	
7/17/2008	7:40	SAM BROWN	SP # 5	8	0	2402	
7/18/2008			SP # 5				
7/19/2008			SP # 5				
7/20/2008	NO SAMPLE WATER		SP # 5	—	—	—	MR
7/21/2008	NO SAMPLE WATER		SP # 5	—	—	—	SB
7/22/2008	7:10	SAM BROWN	SP # 5	7	0	4879	
7/23/2008	6:55	SAM BROWN	SP # 5	2	0	3292	S.B
7/24/2008	7:10	SAM BROWN	SP # 5	7	0	3481	S.B
7/25/2008			SP # 5				
7/26/2008			SP # 5				
7/27/2008	10:30	MILES ROOT	SP # 5	15	0	2432	MR
7/28/2008	7:10	SAM BROWN	SP # 5	7	0	6180	S.B
7/29/2008	9:45	SAM BROWN	SP # 5	10	0	2884	S.B
7/30/2008	7:51	SAM BROWN	SP # 5	8	0	5890	S.B
7/31/2008	7:05	SAM BROWN	SP # 5	5	0	2831	S.B

NOTIFY Gary Peterson & Bo Cumberlar IMMEDIATELY if the phenol value is GT ppm

CES Environmental Services, Inc.

MONTH/YEAR
June-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	QUICK TEST RESULT TOTAL AMMONIA	TEST RESULT TOC	TEST RESULT TSS
6/1/2008	SAMple pT		SP # 5	5	WAS	down	
6/2/2008			SP # 5				
6/3/2008			SP # 5				
6/4/2008			SP # 5				
6/5/2008			SP # 5				
6/6/2008			SP # 5				
6/7/2008			SP # 5				
6/8/2008			SP # 5				
6/9/2008			SP # 5				
6/10/2008			SP # 5				
6/11/2008			SP # 5				
6/12/2008			SP # 5				
6/13/2008			SP # 5				
6/14/2008			SP # 5				
6/15/2008	9:30	Miles Root	SP # 5	8	0	4379	
6/16/2008	10:55	SAM BROWN	SP # 5	8	0	1842	
6/17/2008	8:00	SAM BROWN	SP # 5	2	0	2757	
6/18/2008	6:45	SAM BROWN	SP # 5	2	0	1396	
6/19/2008			SP # 5				
6/20/2008	2:00	SAM BROWN	SP # 5	3	0	2747	
6/21/2008	3:19	Godney	SP # 5	10	0	5145	
6/22/2008	NOON	MILES ROOT	SP # 5	10	0	14745	
6/23/2008	7:05	SAM BROWN	SP # 5	5	0	4491	
6/24/2008	7:10	SAM BROWN	SP # 5	4	0	21330	
6/25/2008	7:55	SAM BROWN	SP # 5	3	0	2407	
6/26/2008		COMPOSITE	SP # 5	NOT	working		
6/27/2008			SP # 5				
6/28/2008			SP # 5				
6/29/2008			SP # 5				
6/30/2008			SP # 5				
			SP # 5				

CES Environmental Services, Inc.

TSS

MONTH / YEAR _____

EPA METHOD 160.2 (TSS) CITY SAMPLE SP 5 **(WEIGHT TO 4 DECIMAL PLACES)**

DATE	ANALYST	MLS FILTERED	WEIGHT IN	WEIGHT OUT	WEIGHT DIFFER	TSS (ppm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

Express Laboratories

CERTIFICATE OF ANALYSIS NO: 63226.01 1of1

Customer: CES Env. Svcs.
Project ID: COH-Sample
Project Loc: Sample Pt 5
Project No:

Sample ID: Sample Pt. 5 0508-04
Matrix: Liquid
Type: Composite

Environ ID: 63226.01
Sampled: 05-03/04-08
Received: 05-06-08
Reported: 05-08-08

ANALYTE / PARAMETER	RESULT	UNITS	MQL	TEST METHOD	ANALYST	DATE	TIME
ORGANICS Phenol	8.5	mg/l	0.5	EPA 600.625	JC	04-24-08	1:23

QUALITY CONTROL -- SVOC SURROGATE RECOVERIES			
SURROGATE	RESULTS (mg/l)	% RECOVERY	RANGE %
Nitrobenzene-d5	0.035	70	38-122
2-Fluorobiphenyl	0.040	80	33-122
Terphenyl-d14	0.038	76	55-126
Phenol-d5	0.035	35	15-117
2-Fluorophenol	0.037	37	26-100
2,4,6-Tribromophenol	0.093	93	51-117

Key: EPA - Environmental Protection Agency
MQL - Method Quantitation Limit
mg/l - Milligrams per Liter (PPM Volume)

John Keller

John Keller, Ph.D
Laboratory Director

CHAIN OF CUSTODY

Page 1 of 1

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
Fax: (281) 471-5821 / After Hours: (281) 844-2308
e-mail: environexp@aol.com

Results To: Karl Guidry	Invoice To: Accts Payable (Melba)
Company: CES Environmental	Company:
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: kguidry@cesenvironmental.com	PO#: Quote#:

TAT (WORKING DAYS) CIRCLE ONE: (1) 2 3 5

LAB LOT #	COC Present? (Yes) No
Shipment Sealed? (Yes) No	Samples Sealed? (Yes) No
Received on Ice? (Yes) No	Samples Intact? (Yes) No
Cooler Temp. (°C) 3°C	Preservative Shown? Yes No (NA)
Hold Time OK? (Yes) No	Res. Cl2 Check OK? Yes No (NA)
pH Check OK? Yes No (NA)	COC & Labels Agree? (Yes) No

Remarks & Additional Analyses

Project Name: COH-Sample
Project Location: Sample Pt 5
Project No:
Sampler (Print): Karl A. Guidry
Sampler (Sign):

Sampler Remarks:

EEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	BTEX (8021)	TPH (TX1005)	RCI	PAH	TOTAL EPA TCLP: VOLATILES	SEMI-VOLS	RCRA 8 METALS	PHENOL
	[2] Cntr. Type											1 G 32oz 1
	[3] Preservative											
63226.01	1) Sample Pt 5 (0508-04)	5-28 6:00 Am 5-4-08 6:00 Am	WW	C								X
	2)											
	3)											
	4)											
	5)											
	6)											
	7)											
	8)											
	9)											
	10)											

Relinquished By: Karl A. Guidry	Company: CES Environmental	Date/Time: 5/6/08 12:15	Received By: David Bengelsdorf	Company: EEL (Environ)
Relinquished By:	Company:	Date/Time:	Received By:	Company:
Relinquished By:	Company:	Date/Time:	Received By:	Company:

[1] Matrix Key
S:Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L:Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other

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

[3] Preservative Key
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:N

Delivery of sample ...stitutes acceptance of Environ's terms and conditions in the Price Schedule.

5-8-08;12:54PM;Environ ;2814715821 # 3/ 3

EPAH01400040

CHAIN OF CUSTODY

Page 1 of 1

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
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Results To: Karl Guidry	Invoice To: Accts Payable (Melba)
Company: CES Environmental	Company:
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: kguidry@cesenvironmental.com	PO#: Quote#:

TAT (WORKING DAYS) CIRCLE ONE: (1) 2 3 5

LAB LOT #	COC Present? (Yes) No
Shipment Sealed? (Yes) No	Samples Sealed? (Yes) No
Received on Ice? (Yes) No	Samples Intact? (Yes) No
Cooler Temp. (°C) 3°C	Preservative Shown? Yes No (NA)
Hold Time OK? (Yes) No	Res. Cl2 Check OK? Yes No (NA)
pH Check OK? Yes No (NA)	COC & Labels Agree? (Yes) No

Remarks & Additional Analyses

Project Name: COH-Sample
Project Location: Sample Pt 5
Project No:
Sampler (Print): Karl A. Guidry
Sampler (Sign): [signature]

Sampler Remarks:

EEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	BTEX (8021)	TPH (TX1005)	RCI	PAH	TOTAL EPA TCLP VOLATILES	TOTAL EPA TCLP SEMI-VOLS	TOTAL EPA TCLP RCRA 8 METALS	PHENOL
		[2] Cntr. Type										1 G
		Number										1
		Volume										300ml
		[3] Preservative										
63226.01	1) Sample Pt 5 (0508-04)	5-3-08 Lice Amy 5-4-08 Lice Am	WW	C								X
	2)											
	3)											
	4)											
	5)											
	6)											
	7)											
	8)											
	9)											
	10)											

Relinquished By: Karl A. Guidry	Company: CES Environmental	Date/Time: 5/6/08 12:15	Received By: David Bengelsdorf	Company: EEL (Environ)
Relinquished By:	Company:	Date/Time:	Received By:	Company:
Relinquished By:	Company:	Date/Time:	Received By:	Company:

[1] Matrix Key
S:Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L:Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other

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

[3] Preservative Key
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:N

Delivery of sample[illegible] constitutes acceptance of Environ's terms and conditions in the Price Schedule.

3/ ;2814715821 5- 8-08;12:54PM;Environ
EPAH01400409

NOTIFY Gary Peterson & Bo Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

April-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. :** 9558

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	TEST RESULT TOC
4/1/2008	9:40	Gods	SP # 5	10	13058
4/2/2008	8:00	SAM BROWN	SP # 5	13	7350
4/3/2008	8:30	SAM BROWN 95 Am	SP # 5	10	8010
4/4/2008	8:45	SAM BROWN	SP # 5	11	5580
4/5/2008	8:50	SAM BROWN	SP # 5	12	3237
4/6/2008	8:45	SAM BROWN	SP # 5	13	4403
4/7/2008	7:45	SAM BROWN	SP # 5	6	~~8239~~ 3083
4/8/2008	7:45	SAM BROWN	SP # 5	6	2838
4/9/2008	7:45	SAM BROWN	SP # 5	6	2307
4/10/2008	8:10	SAM BROWN	SP # 5	7	3055
4/11/2008			SP # 5		
4/12/2008		10:00 Am	SP # 5		
4/13/2008	—	MILES ROOT	SP # 5	NO SAMPLE / FLOWS	
4/14/2008		SAM BROWN	SP # 5	NO SAMPLE	
4/15/2008	8:15	SAM BROWN	SP # 5	8	3911
4/16/2008	8:30	SAM BROWN	SP # 5	8	7415
4/17/2008	7:10	SAM BROWN	SP # 5	7	4205
4/18/2008	11:15	SAM BROWN	SP # 5	6	4406
4/19/2008	7:40	SAM BROWN 10 ppm Amm	SP # 5	6	7515
4/20/2008	8:00	SAM BROWN 10ppm Amm	SP # 5	4	2575
4/21/2008	7:45	SAM BROWN 20 ppm Amm	SP # 5	4	1530
4/22/2008	8:15	SAM BROWN 20 PPM AMM	SP # 5	6	1251
4/23/2008	9:00	SAM BROWN 20 PPM AMM	SP # 5	6	6410
4/24/2008	8:00	SAM BROWN 25 PPM AMM	SP # 5	9	3885
4/25/2008	7:30	SAM BROWN 25 PPM AMM	SP # 5	5	5495
4/26/2008			SP # 5		
4/27/2008	—	NO WATER FOR MILES ROOT SAMPLE	SP # 5	—	—
4/28/2008	9:00	SAM BROWN 25 PPM AMM	SP # 5	3	2130
4/29/2008	8:40	SAM BROWN 20 PPM AMM	SP # 5	3	2124
4/30/2008	9:15	SAM BROWN 90 PPM AMM	SP # 5	3	3988

NOTIFY Gary Peterson & Bo Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

March-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well (SP5).

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST SAMPLE LOCATION	QUICK TEST RESULT TOTAL PHENOLICS	TEST RESULT TOC
3/1/2008		No Sample	SP # 5		
3/2/2008		No Sample	SP # 5		
3/3/2008	8:10	SAM BROWN	SP # 5	9ppm	3055
3/4/2008	8:55	SAM BROWN	SP # 5	6ppm	2689
3/5/2008	8:15	SAM BROWN	SP # 5	5ppm	3775
3/6/2008	8:00	SAM BROWN	SP # 5	9ppm	4620
3/7/2008	8:15	SAM BROWN	SP # 5	9ppm	6440
3/8/2008	7:45	SAM BROWN	SP # 5	4ppm	5455
3/9/2008	—	Closed - NO Sample	SP # 5	—	—
3/10/2008	7:40	SAM BROWN	SP # 5	4 ppm	3167
3/11/2008	8:30	SAM BROWN	SP # 5	4 ppm	1920
3/12/2008	8:00	SAM BROWN	SP # 5	8 ppm	4432
3/13/2008	7:30	SAM BROWN	SP # 5	10ppm	4040
3/14/2008	7:30	SAM BROWN	SP # 5	4ppm	2990
3/15/2008	8:00	SAM BROWN	SP # 5	5ppm	5580
3/16/2008	1:15 pm	MILES ROOT	SP # 5	10 ppm	4328
3/17/2008	—	Closed - NO Sample	SP # 5	—	—
3/18/2008	8:00	SAM BROWN	SP # 5	7ppm	3560
3/19/2008	7:00	SAM BROWN	SP # 5	6ppm	3412
3/20/2008	8:35	SAM BROWN	SP # 5	4ppm	3497
3/21/2008	8:30	SAM BROWN	SP # 5	7ppm	3468
3/22/2008	8:50	SAM BROWN	SP # 5	8 ppm	8040
3/23/2008	—	NO Sample (Closed)	SP # 5		
3/24/2008	—	NO Sample (Closed)	SP # 5		2301
3/25/2008	7:20	SAM BROWN	SP # 5	10ppm	9,075
3/26/2008	7:15	SAM BROWN	SP # 5	7ppm	4092
3/27/2008	7:20	SAM BROWN	SP # 5	6ppm	3947
3/28/2008	8:10	SAM BROWN	SP # 5	10	3200
3/29/2008			SP # 5		
3/30/2008	—	MILES ROOT - (NO FLOW)	SP#5	NO SAMPLE AVAILABLE	
3/31/2008	7:40	SAM BROWN	SP#5	9 ppm	9860

NOTIFY Gary Peterson & Bo Cumberland IMMEDIATELY if the phenol value is GT 15 ppm

CES Environmental Services, Inc.

February-08

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. **Permit No. : 9558**

Note: All Phenol monitoring must be performed at your firm's sample well.

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST LOCATION	TEST RESULT TOTAL PHENOLICS	TEST RESULT TOC
2/1/2008	8:45	SAM BROWN	SP # 5	4 ppm	6,395
2/2/2008	7:45	SAM BROWN	SP # 5	3 ppm	4,729
2/3/2008	7:00	SAM BROWN	SP # 5	1 ppm	3,333
2/4/2008	11:00	SAM BROWN	SP # 5	4 ppm	3,452
2/5/2008	8:30	SAM BROWN	SP # 5	2 ppm	4,732
2/6/2008	8:20	SAM BROWN	SP # 5	3 ppm	10,550
2/7/2008	8:00	SAM BROWN	SP # 5	2 ppm	3,920
2/8/2008	7:00	SAM BROWN	SP # 5	5 ppm	3,079
2/9/2008	8:00	SAM BROWN	SP # 5	5 ppm	2,478
2/10/2008	8:45	SAM BROWN	SP # 5	3 ppm	2,800
2/11/2008	8:50	SAM BROWN	SP # 5	4 ppm	3,777
2/12/2008	9:28	SAM BROWN	SP # 5	10 ppm	3,790
2/13/2008	8:30	MILES ROOT	SP # 5	5 ppm	2,083
2/14/2008	7:15	SAM BROWN	SP # 5	3 ppm	2,600
2/15/2008	7:15	SAM BROWN	SP # 5	8 ppm	7,250
2/16/2008		G GBERRY	SP # 5	7 ppm	4967
2/17/2008	7:00	SAM BROWN	SP # 5	ND Sample Battery Low	
2/18/2008	6:40	SAM BROWN	SP # 5	5 ppm	12,570
2/19/2008	7:45	SAM BROWN	SP # 5	2 ppm	1,476
2/20/2008	6:00	SAM BROWN	SP # 5	2 ppm	1,844
2/21/2008	7:45	SAM BROWN	SP # 5	4 ppm	3846
2/22/2008	8:00	SAM BROWN	SP # 5	2 ppm	3,253
2/23/2008	8:30	SAM BROWN	SP # 5	9 ppm	6,205
2/24/2008	10:05	SAM BROWN	SP # 5	10 ppm	11,770
2/25/2008	8:30	SAM BROWN	SP # 5	6 ppm	4,122
2/26/2008	8:00	SAM BROWN	SP # 5	8 ppm	6640
2/27/2008	7:50	SAM BROWN	SP # 5	10 ppm	7485
2/28/2008	7:30	SAM BROWN	SP # 5	9 ppm	7245
2/29/2008	6:50	SAM BROWN	SP # 5	10 ppm	7210

NOTE: IF the phenol is GT 15 ppm Notify Gary or BO IMMEDIATELY

CES Environmental Services, Inc.

January 2008

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental Services, Inc. Permit No.: 9558

Note: All Phenol monitoring must be performed at your firm's sample well.

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST LOCATION	TEST RESULT Total PHENOLICS	TEST RESULT TOC
1/1/2008 ✓	1-10-08	Luke Masha	SP # 5	17	8,975
1/2/2008 ✓	1-10-08	Luke Masha	SP # 5	10	9,880
1/3/2008			SP # 5		
1/4/2008	1-11-08 11:30	Luke Masha	SP # 5	20	7,340
1/5/2008	10 AM	" "	SP # 5	9	4,962
1/6/2008	10 AM	" "	SP # 5	4	4,806
1/7/2008	10 AM	" "	SP # 5	(10a) 25	8,550
1/8/2008	10:00 AM	Luke Masha	SP # 5	2 ppm	9505
1/9/2008	7:40 AM	Luke Masha	SP # 5	7-8ppm	7470
1/10/2008	7:34	Luke Masha	SP # 5	2 ppm	5,075
1/11/2008	9:08	Luke Masha	SP # 5	6 ppm	[redacted] 14099
1/12/2008	8:30	Luke Masha	SP # 5	2 ppm	1,894
1/13/2008	8:00	SAM BROWN	SP # 5	2 ppm	1,348
1/14/2008	8:15	SAM BROWN	SP # 5	2 ppm	2,744
1/15/2008	9:35	SAM BROWN	SP # 5	1 ppm	3,210
1/16/2008		Compositor broke Gary Peterson	SP # 5,		
1/17/2008	4:30 PM	Compositor broke - 2 new Grab Samples Ordered 3PM	Ba[illegible]		
1/18/2008		" "	SP # 5	—	—
1/19/2008		" "	SP # 5	—	—
1/20/2008	Sunday	—	SP # 5	—	—
1/21/2008	4:45PM	SAM BROWN	SP # 5	4ppm	2000
1/22/2008	9:25 AM	SAM BROWN	SP # 5	4 ppm	2784
1/23/2008	9:50 AM	SAM BROWN	SP # 5	7ppm	2,798
1/24/2008	9:40AM	SAM BROWN	SP # 5	2ppm	2546
1/25/2008	9:35AM	SAM BROWN	SP # 5	4ppm	2,841
1/26/2008	7:55AM	SAM BROWN	SP # 5	5ppm	2,827
1/27/2008	9:00AM	SAM BROWN	SP # 5	2 ppm	1,909
1/28/2008	9:35AM	SAM BROWN	SP # 5	4 ppm	4,220
1/29/2008	10:00AM	SAM BROWN	SP # 5	1 ppm	2.973
1/30/2008	10:20 AM	SAM BROWN	SP # 5	3 ppm	2.798
1/31/2008	10:10 AM	SAM BROWN	SP # 5	6 ppm	4,464

EPAHO114000413

PHENOL SELF-MONITORING REPORT FORM

Company Name: CES Environmental services, Inc. Permit No. 9558

Note: All phenol must be performed at your firm's sample well.

TEST DATE	TEST TIME	PERSON WHO PERFORMED TEST	TEST LOCATION	TEST RESULT
			SP#	
12/01/07	11:10	Luke Masha	5	7ppm
12/02/07	11:31	Luke Masha	5	5ppm
12/03/07			5	
12/04/07	1:45	Sam Brown	5	4ppm
12/05/07	1:57	Sam Brown	5	8ppm
12/06/07	10:7a	Luke Masha	5	10ppm
12/07/07	10:44	Luke Masha	5	15ppm
12/08/07	10:34	Luke Masha	5	7ppm
12/09/07			5	
12/10/07	1:55	Sam Brown	5	12ppm
12/11/07	1:50	Sam Brown	5	28ppm
12/12/07	11:2a	Luke Masha	5	5ppm
12/13/07	11:26	Luke Masha	5	4ppm
12/14/07	11:12	Luke Masha	5	5ppm
12/15/07	10:31	Luke Masha	5	8ppm
12/16/07			5	
12/17/07	9:52	Luke Masha	5	7ppm
12/18/07	10:39	Luke Masha	5	8ppm
12/19/07	1:35	Sam Brown	5	12ppm
12/20/07	10:18	Luke Masha	5	22ppm
12/21/07	10:47	Luke Masha	5	15ppm
12/22/07	10:36	Luke Masha	5	24ppm
12/23/07			5	
12/24/07			5	
12/25/07			5	
12/26/07	11:37	Luke Masha	5	13ppm
12/27/07			5	
12/28/07	11:07	Luke Masha	5	15ppm
12/29/07	10:50	Luke Masha	5	8ppm
12/30/07			5	
12/31/07	10:21	Luke Masha	5	15ppm

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 11-29-07

Gallons: 5300

Document #: 2164557

TOC: 768

pH: 6

Phenolic Results: _____

Time: 4:00 p.m.

Signature: S. Brown

T.O-C 6'395
4 ppm

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-4-07

Gallons: 1,840

Document #: TWM

TOC: 4'800

pH: _____

Phenolic Results: _____

Time: 8:45 A.M.

Signature: S. Bu

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12.4.07

Gallons: 5300

Document #: 2164643

TOC: 1,898

pH: _____

Phenolic Results: _____

Time: 9:40 A.M

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-4-07

Gallons: 5000

Document #: 2164647

TOC: 1,363

pH: _____

Phenolic Results: _____

Time: 9:10 AM

Signature: S. Brun

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12.4.09

Gallons: 5500

Document #: 2164664

TOC: 3,870

pH: _____

Phenolic Results: _____

Time: 9:30 A.M.

Signature: G. Burns

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12.4.07

Gallons: 59,450

Document #: 53597

TOC: 6100

pH: _____

Phenolic Results: _____

Time: 10:25 AM

Signature: S. Burr

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-4-07

Gallons: 5000

Document #: 2164669

TOC: 5,995

pH: _____

Phenolic Results: _____

Time: _____

Signature: S. Burton

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: ~~6~~ 12/04/07

Gallons: 5000

Document #: 2169659

TOC: 6850

pH: 6

Phenolic Results: _____

Time: _____

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12/04/07

Gallons: 540

Document #: 64644

TOC: 1,886

pH: 7

Phenolic Results: _____

Time: _____

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12.4.07

Gallons: 5,343

Document #: 2164673

TOC: 2,474

pH: _____

Phenolic Results: _____

Time: _____

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 11/5/07

Gallons: _____

Document #: 2164648 Re-forseal

TOC: 1318

pH: ≈ 8

Phenolic Results: _____

Time: 9:27

Signature: Luke

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12.5.07

Gallons: 5500

Document #: ES 6266

TOC: 16,005

pH: _____

Phenolic Results: _____

Time: 10:46

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 5,628

Document #: 3563

TOC: 186,000

pH: 5

Phenolic Results: _____

Time: 11:50

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 5,000

Document #: 21646P1

TOC: 25,935

pH: 9-10

Phenolic Results: _____

Time: 12:00 p.m.

Signature: S. Brun

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 300

Document #: 17-0363

TOC: 9080

pH: 7

Phenolic Results: _____

Time: _____

Signature: S. Bunn

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: _____

Document #: TANKWASH

TOC: 1,642

pH: 10

Phenolic Results: _____

Time: _____

Signature: S. Bu

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 5000

Document #: 2164681

TOC: 1,909

pH: _____

Phenolic Results: _____

Time: _____

Signature: S. Brun

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 2,220

Document #: Soltex

TOC: 4359

pH: _____

Phenolic Results: _____

Time: 1:02 pm

Signature: S. Burr

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-5-07

Gallons: 3578

Document #: 54199

TOC: ~~1,285~~ 1,775

pH:

Phenolic Results:

Time:

Signature: S. Bru

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 2-5-07

Gallons: _____

Document #: 2164695

TOC: 5345

pH: 8

Phenolic Results: _____

Time: 3:00

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-6-07

Gallons: 5000

Document #: 2164723

TOC: _____

pH: _____

Phenolic Results: _____

Time: _____

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 1/17

Gallons: _____

Document #: 216732

TOC: 480

pH: _____

Phenolic Results: _____

Time: 9:51

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-7-07

Gallons: _____

Document #: Century Asphalt

TOC: 14-76

pH: _____

Phenolic Results: _____

Time: _____

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12/12/07

Gallons: _____

Document #: KMCO 54658

TOC: 18000

pH: 1.6

Phenolic Results: _____

Time: 9:52

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-13-0

Gallons: discharge

Document #: City

TOC: 6.070

pH: 9

Phenolic Results: ND

Time: 7:22 AM

Signature: S. Brown

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12/13

Gallons: _____

Document #: Schlumberger/Vertex

TOC: ~~[illegible]~~ 22.4 & x50

pH: _____

Phenolic Results: _____

Time: _____

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-13-07

Gallons: _____

Document #: 12010

TOC: 17,745

pH: _____

Phenolic Results: _____

Time: _____

Signature: Miles

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12-13-07

Gallons: 300

Document #: 54799

TOC: 22755

pH: _____

Phenolic Results: _____

Time: _____

Signature: _____

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12/14/07

Gallons: _____

Document #: 54403 PANA

TOC: 1670

pH: 8-5

Phenolic Results: 1-2 ppm

Time: 7:15 AM

Signature: Luke

CES Environmental Services, Inc.

CES Inbound Wastewater Load Report

Date: 12/14/07

Gallons: _____

Document #: TWM 691060

TOC: 1089

pH: 7.5

Phenolic Results: _____

Time: 7:47 AM

Signature: [signature]

1 BOX TRAILER DAILY STATUS

2 SOLIDS BIN STATUS COMMUNICATION LOG

3 SPECIAL PROCESSING – PRODUCT INVENTORY SHEET

4 SPECIAL PROCESSING- PRODUCT TRANSFER LOG SHEET

5 DUAL DRUM CARBON TRAINS - MAINTENANCE & MONITORING LOG

6 WASTE WATER TREATMENT PROCESSING VOLUME LOGS

7

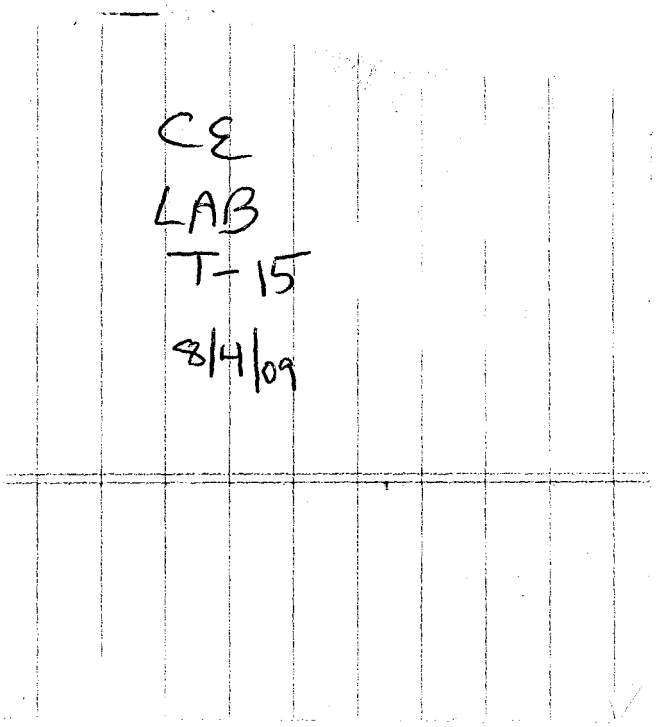
8

9

10

AVERY

EPAHO114000445


CE
LAB
T-15
8/4/09

Champion

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
1-8-09	230	~~Need~~ Loaded	Product DRUM
" "	245	Loaded	Need to Be offloaded
" "	217	Empty	
" "	418	Loaded	Safety Kleen
" "	242	Empty	
" "	248	" "	
" "	247	" "	
1-9-09	245	Need to Be offloaded	Loaded
" "	242	Need to Be offloaded	Loaded
" "	230	Loaded	Product DRUM
" "	247	~~Empty~~ Loaded	RINECO TOTES
" "	217	" "	
" "	418	Loaded	Safety Kleen
" "	244	Loaded	RINECO BOX
" "	248	EMPTY	
1-12-09	245	Loaded	PCT
1-12-09	247	Loaded	[redacted] RINECO TOTES
" "	248	Empty	
" "	217	" "	
" "	244	" "	
" "	230	Loaded	Product DRUM
" "	242	Loaded	Need to Be offloaded
1-13-08	242	Empty	
" "	230	Loaded	Product DRUMS
" "	247	Loaded	RINECO TOTE/DRUMS
" "	248	Loaded	Need to Be offloaded
" "	217	Empty	
" "	245	Loaded	PCI
" "	418	Loaded	USEcology + Safety Kleen
1-14-08	230	Loaded	Product DRUM
" "	242	Empty	
" "	217	Loaded	Need to Be offloaded
" "	248	Loaded	TOTES from Champion
" "	245	Loaded	PCI
" "	418	Loaded	USEcology + Safety Kleen
1-15-09	418	Loaded	USEcology + Safety Kleen
" "	245	Loaded	PCI
" "	247	Empty	
" "	248	Loaded	TOTES
" "	230	Loaded	Product DRUMS
" "	247	Loaded	Need to Be offloaded
" "	217	Empty	
1-16-09	247	Loaded	PCI & USEcology
1-16-09	248	Empty	
1-16-09	245	Loaded	PCI
" "	242	Loaded	Need to Be offloaded
" "	418	Loaded	Safety Kleen/USEcology
1-19-09	248	Loaded	PCI

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
1-19-09	217	Empty	
" "	242	" "	
" "	230	Loaded	Product DRUM
" "	418	Loaded	Safty Kleen
1-20-09	247	Loaded	PCI
" "	217	Empty	
" "	245	" "	
" "	418	Loaded	Saftey Kleen
" "	230	Loaded	
" "	248	Empty	
" "	242	Empty	
1-21-09	217	Empty	
" "	245	" "	
" "	243	" "	
" "	248	" "	
" "	230	Loaded	Product DRUMS
" "	418	" "	Safty Kleen
" "	247	Loaded	PCI
1-22-09	247	Loaded	PCI
" "	242	Empty	
" "	217	Empty	
" "	248	"	
" "	245	Loaded	PCI + US Ecology
" "	244	Empty	
" "	418	Loaded	RINECO + Safety Kleen
" "	230	Loaded	Product DRUM
1-23-09	230	Loaded	Product DRUMS
" "	418	Loaded	HAZ DRUMS
" "	244	Loaded	HAS DRUMS
" "	217	Empty	
" "	245	Empty	
" "	242	Part Loaded	
" "	247	PCI - Part Load	PCI HAZ DRUMS
" "	248	Empty	
1-26-09	217	Empty	
" "	244	Need to Be Offloaded	
" "	418	Loaded	HAZ DRUMS
" "	230	Loaded	Product DRUMS
" "	247	Loaded	PCI
" "	248	Loaded	DRUMS
" "	245	Empty	
" "	243	Loaded	HAZ DRUMS
1-27-09	217	Empty	
" "	418	Loaded	HAZ DRUMS
" "	244	Loaded	Need to Be offload
" "	230	Loaded	Product DRUMS
" "	247	Empty	
" "	242	gone	

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
1-27-09	248	Loaded	DRUMS
" "	245	Loaded	RINECO TOTES
1-28-09	230	Loaded	Product DRUM
" "	244	Loaded	Need to be offloaded
" "	418	" "	H92 DRUMS
" "	242	" "	NeedTo Be offloaded
" "	217	Empty	
" "	247	" "	
" "	245	Loaded	RINECO TOTES
" "	248	" "	DRUMS
1-29-09	230	Loaded	Product DRUM
" "	244	Loaded	Working on it
" "	245	Loaded	RINECO TOTES/DRUMS
" "	248	Loaded	DRUMS
" "	217	Empty	
" "	418	Loaded	H92 DRUM
" "	242	Empty	
" "	247	" "	
1-30-09	247	Loaded	PCI
" "	245	" "	RINECO
" "	418	Loaded	USECOLOGY
" "	242	Empty	
" "	217	" "	
" "	230	Loaded	Product DRUM
" "	248	Loaded	DRUMS
" "	244	Empty	
2-2-09	247	Loaded	PCI
" "	245	Loaded	RINECO
" "	244	Empty	
" "	217	" "	
" "	242	" "	
" "	418	Loaded	USECOLOGY
" "	248	Loaded	DRUM
" "	230	Empty	
2-3-09	242	Loaded	Need offloading
" "	230	Empty	
" "	217	" "	
" "	247	Loaded	PCI
" "	418	Empty	
" "	248	Loaded	DRUM
" "	244	Empty	
2-4-09	242	Empty	
" "	217	Loaded	Need to be offloaded
" "	230	Empty	
" "	418	Loaded	Safety Klean
" "	245	Empty/TOTES	
" "	248	Loaded	DRUMS
" "	247	Loaded	PCI

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
2-5-09	217	Empty	
" "	244	Empty	
" "	242	Empty	
" "	245	Empty	
" "	248	Loaded	green Earth DRUM
" "	247	Loaded	PCI
" "	230	Loaded	RinecoBot + DRUMS
" "	418	Loaded	Saftey Kleen
2-6-09	217	Loaded	Need to Be offloaded
" "	418	Safety Kleen	Loaded
" "	248	Loaded	green Earth DRUMS
" "	230	Loaded	Rineco
" "	247	Loaded	PCI
" "	245	Empty	
" "	242	Empty	
2-9-09	242	Loaded	Need to Be offloaded
" "	217	Empty	
" "	418	Loaded	Safety Kleen
" "	248	Loaded	green Earth DRUM
" "	247	Loaded	PCI
" "	230	Loaded	Rineco
" "	246	Loaded	Empty DRUMS
" "	245	Empty	
2-10-09	242	Loaded	Need to Be offloaded
" "	217	Empty	
[redacted]	245		
" "	248	Loaded	Green Earth DRUM
" "	418	" "	Safety Kleen
" "	230	" "	Rineco
" "	246	" "	Empty DRUMS
[redacted]		" "	
2-11-09	247	Empty	
" "	217	" "	
" "	242	" "	
" "	246	Loaded	Empty DRUM
" "	230	Loaded	Rineco
" "	248	Loaded	GReen Earth DRUM
" "	245	Loaded	Smith
" "	418	Loaded	Safety Kleen
2-12-09	247	Empty	
"	245	Empty	
" "	217	~~Need~~ Loaded	Need to Be offloaded
" "	248	Loaded	~~Earth green~~ green Earth
" "	246	Loaded	Empty DRUM
" "	242	Loaded	Need to Be offloaded
2-13-09	242	Loaded	US Ecology
" "	246	Loaded	Empty DRUMS
" "	248	Empty	

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
" "	418	Loaded	Saftey Kleen
" "	243	Loaded	Need off loading
" "	247	Loaded	" "
" "	217	" "	" "
2-16-09	247	Loaded	Need off loading
" "	217	" " EMPTY	" "
" "	245	" "	
" "	246	Empty	
" "	418	Loaded	Saftey Kleen
" "	248	Loaded	Need to Be offloaded
" "	230	Loaded	Empty TOTES
" "	242	Loaded	Need to Be offloaded
2-17-09	242	Empty	
" "	246	" "	
" "	247	" "	
" "	248	Loaded	PCI
" "	230	Empty	
" "	418	Loaded	Saftey Kleen
" "	245	Loaded ed	Need off loading
" "	217	" "	" "
2-18-09	242	Loaded	Smith
" "	248	Loaded	PCI
" "	217	Empty	
" "	230	" "	
" "	246	" "	
" "	247	" "	
" "	418	Loaded	Saftey Kleen
" "	245	Loaded	Need off loading
2-19-09	242	Empty	
" "	230	" "	
" "	247	" "	
" "	248	Loaded	PCI
" "	245	" "	Need off loading
" "	217	" "	" "
" "	246	" "	" "
" "	418	Loaded	Saftey Kleen
2-20-09	418	Loaded	Saftey Kleen
" "	242	Empty	
" "	217	" "	
" "	247	" "	
" "	230	" "	
" "	248	Loaded	PCI
" "	246	" "	Need off loading
" "	245	" "	" "
2-23-09	242	Empty	
" "	246	Loaded	Need off loading
" "	245	" "	" "
" "	418	" "	Saftey Kleen

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
2-23-09	242	Empty	
" "	217	Loaded	TOTES
2-23-09	230	Loaded	RINECO
" "	247	Empty	
" "	248	"	
2-24-09	242	Loaded	RINECO
" "	248	" "	Need offloading
" "	246	" "	" "
" "	245	" "	" "
" "	217	Empty	
" "	247	"	
" "	230	Loaded	Need offloading
" "	418	Loaded	Safety Kleen
2-25-09	418	Loaded	Safety Kleen
" "	230	Empty	
" "	247	Loaded	Smith
" "	246	Loaded	Need offloading
" "	248	" "	" "
" "	217	" "	" "
" "	242	" "	" "
" "	245	" "	" "
2-26-09	418	Loaded	Safety Kleen
2-26-09	230	" "	Need offloading
" "	247	" "	" "
" "	242	" "	RINECO
" "	246	" "	Needoffloading
" "	217	" "	" "
" "	245	Empty	
" "	248	Loaded	Need offloading
2-27-09	244	Loaded	Empty DRUMS
" "	248	" "	Need offloading
" "	247	" "	" "
" "	217	" "	" "
" "	245	Empty	
" "	246	Loaded	Need offloading
" "	242	" "	RINECO
" "	230	" "	Need offloading
" "	418	" "	Safety Kleen
3-2-09	242	Loaded	RINECO
" "	244	" "	Empty DRUMS
" "	246	" "	HAZ DRUM (SK)
" "	230	Empty	
" "	248	" "	
" "	247	" "	
" "	217	" "	
" "	418	Loaded	(SK) Safety Kleen
3-3-09	246	Loaded	Needoffloading
" "	242	" "	RINECO

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
3-3-09	217	Empty	
" "	244	" "	
" "	247	" "	
" "	418	Loaded	Saftey Kleen
" "	248	Empty	
" "	~~246~~		
3-4-09	244	Loaded	Need offloading
" "	242	" "	RINECO
" "	247	" "	Need offloading
" "	246	" "	" "
" "	418	" "	PCI
" "	248	Empty	
" "	217	" "	
3-5-09	217	Empty	
" "	[redacted]244	" "	
" "	248	Loaded	Need offloading
" "	242	" "	RINECO
" "	418	" "	PCI
" "	246	" "	Need offloading
" "	247	" "	" "
3-6-09	2467	Loaded	Need offloading
3-6-09	248	Loaded	" "
" "	418	" "	PCI
" "	244	Empty	
" "	217	" "	
3-9-09	217	Empty	
" "	248	Loaded	Need offloading
" "	247	" "	" "
" "	246	" "	" "
" "	418	" "	PCI
" "	244	Empty	
3-10-09	217	Empty	
" "	247	" "	
" "	244	" "	
" "	248	Loaded	Need offloading
" "	242	Empty	
3-11-09	217	Empty	
" "	244	" "	
" "	246	" "	
" "	242	" "	
" "	248	Loaded	Need offloading
" "	245	" "	Empty DRUM
3-12-09	217	Empty	
" "	245	Loaded	Need offloading
" "	248	" "	" "
" "	246	" "	" "
" "	247	Empty	
" "	418	" "	

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
3-12-09	242	Loaded	Need offloading
3-13-09	242	Loaded	RINCO
"	217	Empty	
"	244	Empty	
"	247	Loaded	Need OFF Load.
"	248	Loaded	RINCO
"	418	Loaded	"
"	245	Loaded	"
3/16/09	242	Loaded	RINCO
"	217	Empty	"
"	244	Empty	"
"	247	Loaded	Need OFF Load.
"	248	Loaded.	"
"	418	Loaded	"
"	245	Loaded	"
3-17-09	242	Empty	
"	217	"	
"	247	Loaded	Need offloading
"	248	Loaded	RINCO
"	418	Loaded	Need offloading
"	245	"	EMPTY DRUMS
"	244	"	Need offloading
3-18-09	217	Empty	
"	242	"	
"	246	"	
"	244	Loaded	Need offloading
"	418	"	"
"	248	"	RINCO
"	247	"	Need offloading
3-19-09	217	Loaded	[redacted] offloading
"	244	"	[redacted] Need offloading
"	248	"	RINCO
"	242	"	Need offloading
"	418	"	"
"	247	"	"
"	246	Empty	
3-20-09	217	Loaded	Need offloading
"	244	"	"
"	242	"	"
"	418	"	"
"	247	"	"
"	248	"	RINCO
"	246	[redacted]Empty	
3-23-09	217	Empty	
"	242	"	
"	244	Loaded	Need offloading
"	246	"	"
"	247	"	USE Ecology

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
3-23-09	248	Loaded	RINECO
" "	418	" "	PCI
3-24-09	418	Loaded	PCI
3-24-09	244	" "	Needoffloading
" "	242	Empty "	
" "	246	" "	
" "	217	" "	
" "	247	Loaded	US Ecology
3-25-09	247	Loaded	US Ecology
" "	217	Empty "	
" "	246	" "	
" "	244	Loaded "	Offloading
" "	418	" "	PCI
" "	248	Empty	
" "	242	Loaded	Smith
3-26-09	247	Loaded	US Ecology
" "	2484	Loaded	Need offloading
" "	418	" "	" "
" "	217	" "	" "
" "	248	Empty	
" "	246	Empty	
" "	242	" "	
3-27-09	2484	Loaded	Need Offloading
" "	2487	" "	* USEcology
" "	418	Empty "	
" "	248	" "	
" "	246	" "	
" "	217	Loaded	Need offloading
" "	242	" "	" "
3-30-09	242	Empty "	
" "	248	" "	
" "	217	" "	
" "	244	Loaded	Need offloading
" "	246	" "	" "
" "	418	" "	" "
" "	247	" "	US Ecology
3-31-09	242	Empty "	
" "	246	" "	
" "	248	" "	
" "	217	" "	
" "	247	Loaded	US Ecology
" "	244	" "	Needoffloading
" "	418	" "	" "
4-1-09	242	Loaded	Smith
" "	248	Empty	
" "	246	" "	
" "	418	" "	
" "	217	" "	

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
4-1-09	244	Loaded	Need offloading
" "	247	" "	US Ecology
4-2-09	244	Loaded	Need offloading
" "	246	" "	RINECO
" "	242	" "	Need Offloading
" "	248	Empty	
" "	217	" "	
" "	418	" "	
" "	247	" "	
4-3-09	244	Loaded	Need offloading
" "	246	" "	RINECO
" "	242	Loaded	Need offloading
" "	418	" "	" "
" "	217	Empty	
" "	248	" "	
" "	247	" "	
4-6-09	248	Empty	
" "	242	Loaded	Empty Drums (Poly)
" "	230	" "	AFTON Empty DRUMS
" "	217	" "	PCI
" "	246	" "	RINECO
" "	244	" "	Need offloading
" "	247	" "	" "
4-7-09	247	~~Loaded~~ Empty	
" "	248	Loaded	Need offloading
" "	230	" "	Empty DRUMS
" "	244	" "	Need offloading
" "	418	" "	" "
" "	217	Empty	
4-8-09	247	Loaded	Need offloading
" "	248	" "	" "
" "	246	" "	" "
" "	244	" "	" "
" "	418	" "	" "
" "	230	" "	Empty DRUMS
" "	217	Empty	
4-9-09	244	Empty	
" "	247	" "	
" "	418	" "	
" "	242	Loaded	Need offloading
" "	217	" "	" "
" "	248	" "	" "
" "	230	" "	" "
4-13-09	247	Empty	
" "	217	" "	
" "	418	" "	
" "	246	Loaded	Need offloading
" "	248	" "	" "

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
〃 〃	242	Loaded	Need offloading
〃 〃	244	〃 〃	〃 〃
〃 〃	230	〃 〃	Empty DRUMS
4-14-09	248	Empty 〃	
〃 〃	217	〃	
〃 〃	247	〃 〃	
〃 〃	242	Loaded	Need offloading
〃 〃	418	〃 〃	〃 〃
〃 〃	244	〃 〃	〃 〃
〃 〃	246	〃 〃	〃 〃
4-15-09	248	Empty	
〃 〃	217	Empty	
〃 〃	247	Empty	
〃 〃	244	Loaded	Need offloading
〃 〃	246	〃 〃	〃 〃
〃 〃	418	〃 〃	〃 〃
〃 〃	242	〃 〃	PCI
4-16-09	248	Empty	
〃 〃	217	Empty	
〃 〃	247	Empty	
〃 〃	230	Loaded	Empty DRUMS
〃 〃	244	〃 〃	Need offloading
〃 〃	246	〃 〃	〃 〃
〃 〃	418	〃 〃	〃 〃
〃 〃	242	〃 〃	PCI
4-20-09	217	Empty	
〃 〃	246	〃 〃	
〃 〃	247	〃 〃	
〃 〃	418	Loaded	Rinse
〃 〃	244	〃 〃	Need offloading
〃 〃	230	〃 〃	PCI
〃 〃	242	Empty	
〃 〃	248	Loaded	[redacted]
4-21-09	247	Empty	Drums going to Port [redacted] of Arthur
〃 〃	418	〃 〃	
4-21-09	217	Loaded	Need offloading
〃 〃	244	〃 〃	〃 〃
〃 〃	248	Loaded	Port Arthur
4-22-09	247	Empty	Damage
〃 〃	244	Loaded	Product
〃 〃	248	〃 〃	〃 〃
〃 〃	246	〃 〃	Acids
〃 〃	418	Empty 〃	
〃 〃	242	〃	
4-23-09	242	Loaded	[redacted] Needoffloading
〃 〃	244	〃 〃	N Product
〃 〃	246	〃 〃	Acids
〃 〃	418	〃 〃	PCI

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
4-23-09	217	Empty	
" "	247	" "	Damage
4-24-09	230	Empty	~~Damaged~~ Needs Repairs
" "	217	" "	
" "	242	" "	
~~4-24-09~~	247	" "	
"	244	Loaded	Product DRUMS
	246	" "	Product Acids
	418	" "	PCI
4-27-09	230	Empty "	
" "	242	" "	
" "	217	" "	
" "	247	Loaded	Need offloading
" "	244	" "	" "
" "	246	" "	" "
" "	245	" "	Empty DRUMS
4-28-09	217	Empty	
" "	242	" "	
" "	230	" "	Damaged
" "	247	Loaded	Needoffloading
" "	244	" "	Product DrumS
" "	246	" "	US Ecology
" "	418	" "	PCI
" "	245	" "	Empty DRUMS
4-30-09	244	Loaded	Prodyct Drums
" "	247	Loaded	Acids
" "	242	" "	Smith
" "	245	" "	Empty DRUMS
" "	246	" "	USEcology
" "	418	" "	PCI
" "	230	Empty "	Damage
" "	217	" "	
5-1-09	244	Loaded	Product DRUMS
" "	247	" "	Acids
" "	245	" "	Empty DRUMS
" "	246	" "	US Ecology
" "	242	Empty "	
" "	418	" "	
" "	230	" "	Damaged
" "	217	" "	
5-4-09	246	Loaded	US Ecology
" "	247	" "	~~We~~ Acids
" "	245	" "	EMPty DRUMS
" "	242	" "	Need offloading
" "	230	Empty	Damaged
" "	418	" "	
" "	244	Loaded	PRoduct Drums

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
5-05-09	244	Loaded	Product DRUMS
" "	245	Loaded	Empty DRUMS
" "	247	" "	Ferric Acids
" "	242	" "	Need off loading
" "	246	Empty	
" "	217	" "	
" "	418	" "	
" "	230	" "	
5-6-09	244	Loaded	Product DRUMS
" "	245	" "	Empty DRUMS
" "	247	" "	Ferric DRUMS
" "	242	" "	Need off loading
" "	246	" "	Oil DRUMS Port Author
" "	418	Empty "	
" "	230	Empty	
" "	217	" "	
5-7-09	244	Loaded	Product
" "	245	" "	Empty DRUMS
" "	247	" "	Ferrie Drums
" "	248	Empty	
" "	230	" "	
" "	217	" "	
" "	242	Loaded	Need off loading
5-8-09	244	Loaded	Product DRUMS
" "	245	" "	Empty
" "	247	" "	Ferric Acid DRUMS
" "	242	Empty	
" "	217	" "	
" "	230	" "	
5-11-09	217	Empty	
" "	246	" "	
" "	242	" "	
" "	245	Loaded	Empty DRUM
" "	247	" "	Acid DRUMS
" "	244	" "	Product DRUMS
5-12-09	217	Empty	
" "	242	" "	
" "	246	" "	
" "	245	Loaded	Empty DRUMS
" "	247	" "	Acid DRUMS
" "	244	" "	Product DRUMS
5-13-09	217	Empty	
" "	244	Loaded	Product DRUMS
" "	247	" "	Acid DRUMS
" "	246	" "	RINSCO TOTES
" "	245	" "	Empty DRUMS
" "	242	" "	Needs offloading
" "	418	" "	PCI

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
5-14-09	230	Loaded	Empty Totes
" "	242	Loaded	Acid DRUMS
" "	247	" "	" "
" "	418	" "	PCI
" "	244	" "	Product DRUMS
" "	245	" "	Empty DRUMS
" "	248	" "	DRUMS/Needoffloading
" "	217	Empty	
" "	246	" "	
5-15-09	244	Loaded	Product DRUMS
" "	247	" "	Acid DRUMS
" "	242	" "	" "
" "	418	" "	PCI
" "	245	" "	Empty DRUMS
" "	246	" "	DNeedoffloading/Haz Mat
" "	230	Empty	
" "	217	Empty	
" "	248	" "	
5-18-09	244	Loaded	Product DRUMS
" "	247	" "	Acid DRUMS
" "	242	" "	Acid DRUMS
" "	418	" "	PCI
" "	246	" "	RINECO
" "	245	Empty	
" "	217	" "	
" "	230	" "	
" "	248	" "	
5-19-09	244	Loaded	Product DRUMS
" "	247	" "	Acid DRUMS
" "	242	" "	" "
" "	418	" "	PCI
" "	246	" "	RINECO
" "	245	Empty	
" "	217	" "	
" "	230	" "	
" "	248	" "	
5-20-09	244	Loaded	Product DRUMS
" "	247	" "	Acid DRUMS
" "	242	" "	" "
" "	418	" "	PCI
" "	230	Empty	
" "	217	" "	
" "	245		
" "	248	" "	
5-21-09	242	Loaded	Acid DRUMS
" "	247 ←	" "	" "
" "	244	" "	Product DRUMS
" "	418	" "	PCI

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
5-21-09	248	Loaded	Need off loading
" "	246	Empty "	
" "	217	" "	
" "	245	" "	
" "	230	" "	
5-22-09	248	Loaded "	TOTES
" "	246	" "	Need off loading
5-22-09	247	" "	Ferric Acids
5-22-09	244	" "	Product
" "	242	" "	US Ecology
" "	418	" "	PSI
" "	230	Empty "	
" "	217	" "	
5-28-09	230	Loaded "	RINECO BOXES
" "	248	" "	HAZ DRUMS
" "	246	" "	Need off loading
" "	247	" "	Ferric DRUM
" "	244	" "	Product DRUMS
" "	242	" "	" "
" "	217	Empty "	
" "	245	" "	
5-29-09	230	Empty "	
" "	217	" "	
" "	244	" "	
" "	246	Loaded "	Need off loading
" "	247	" "	Ferric Acids
" "	248	" "	HAZ DRUMS
" "	245	" "	RINECO
" "	242	" "	Product DRUMS
6-2-09	217	Empty "	
" "	418	" "	
" "	242	OVERPAKS	
" "	248	Loaded "	TOTES
" "	247	" "	Ferric Acids
" "	244	" "	HAZ DRUMS
6-3-09	242	Empty "	
" "	217	" "	
" "	245	" "	
" "	418	" "	
" "	247	Loaded "	Ferric DRUMS
" "	248	" "	TOTES
" "	244	" "	HAZ DRUMS
" "	246	Empty	
6-4-09	242	Empty "	
" "	245	" "	
" "	246	" "	
" "	418	" "	
" "	247	Loaded	ferric DRUMS

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
6-4-09	248	Loaded	TOTES
" "	244	" "	Haz DRUMS
" "	217	Empty	
6-5-09	217	Empty	
" "	242	Loaded	NH DRUMS
" "	2407	" "	FERRIC DRUMS
" "	244	" "	Haz DRUMS
" "	418	" "	PCI
" "	245	Empty	
" "	246	" "	
6-8-09	247	Loaded	ferric DRUMS
" "	418	" "	PCI working
" "	242	" "	Product DRUMS working
" "	217	Empty	
" "	244	" "	
" "	245	" "	working
" "	246	" "	
6-9-09	245	Loaded	Need offloading
" "	247	" "	Ferric DRUMS
" "	244	Empty	
" "	246	" "	
" "	217	" "	
" "	242	Empty	working
6-10-09	245	Empty	
" "	217	" "	
" "	246	" "	
" "	244	" "	
" "	418	" "	
" "	247	Loaded	ferric DRUMS
" "	242	Empty	
6-11-09	242	Loaded	smith DRUMS
" "	418	Loaded	DRUMS
" "	247	" "	Ferric DRUMS
" "	244	Empty	
" "	245	" "	
" "	246	" "	
" "	217	" "	
6-12-09	246	Loaded	Needs offloading
" "	247	" "	Ferric DRUMS
" "	418	" "	Needs offloading
" "	217	Empty	
" "	245	" "	
" "	244	" "	FULL
" "	242	" "	
6-17-09	217	Empty	
" "	247	Loaded	Ferric Acids
" "	418	" "	Haz DRUMS
" "	242	" "	Need offloading

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
〃 〃	244	Loaded	Needs offloading
〃 〃	246	〃 〃	〃 〃
〃 〃	245	Empty	
6-18-09	244	Loaded	Riveco
〃 〃	246	〃 〃	Needs offloading
〃 〃	242	〃 〃	〃 〃
〃 〃	418	〃 〃	Safety Kleen DRUMS
〃 〃	247	〃 〃	Ferric DRUMS
〃 〃	245	Empty	
〃 〃	217	〃 〃	
6-19-09	242	Empty	
〃 〃	217	〃 〃	
〃 〃	244	Loaded	PCI
〃 〃	246	〃 〃	Needoffloading
〃 〃	247	〃 〃	Ferric DRUMS
〃 〃	245	〃 〃	Needoffloading
〃 〃	418	〃 〃	~~S~~ Safety Kleen
6-22-09	244	Loaded	PCI
〃 〃	242	〃 〃	Needoffloading
〃 〃	246	〃 〃	Safety Kleen
〃 〃	247	〃 〃	Ferric DRUMS
〃 〃	245	〃 〃	Needoffloading
〃 〃	418	〃 〃	~~Need~~ 〃 〃
6-23-09	244	Loaded	PCI
〃 〃	242	Empty	
〃 〃	2405	Loaded	Needoffloading
〃 〃	418	〃 〃	〃 〃
〃 〃	247	〃 〃	Ferric DRUM
〃 〃	217	Empty	
6-24-09	242	Empty	
〃 〃	418	Loaded	Needoffloading
〃 〃	245	〃 〃	〃 〃
〃 〃	247	〃 〃	Ferric DRUMS
〃 〃	246	Empty 〃	
〃 〃	217	Empty	WORKING
6-25-09	245	Loaded	Needoffloading
〃 〃	418	〃 〃	〃
〃 〃	247	〃 〃	Ferric Acid DRUM
〃 〃	242	Empty	
〃 〃	217	〃 〃	
〃 〃	244	〃 〃	
6-26-09	245		
6-26-09	230	Empty	
〃 〃	242	Loaded 〃	Riveco
〃 〃	244	Loaded	Totes
〃 〃	247	〃 〃	Ferric DRUMS
〃 〃	418	〃 〃	Needoffloading

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
6-29-09	418	Loaded	Need offloading
" "	230	Empty	
" "	242	Loaded	Haz DRUM
" "	247	" "	Ferric DRUMS.
" "	245	" "	Need offloading
" "	244	" "	RINECO TOTES
6-30-09	230	Empty	
" "	245	" "	
" "	418	Loaded	Need offloading
" "	242	Loaded	Haz DRUM
" "	245	" "	RINECO
" "	247	" "	Ferric DRUM
7-1-09	245	Loaded	Need offloading,
" "	418	" "	"
" "	242	" "	Haz DRUMS
" "	247	" "	Ferric Acid
" "	230	Empty	
7-2-09	247	Loaded	FERRIC DRUMS
" "	244	" "	RINECO Empty TOTES
" "	230	" "	Need offloading
" "	418	" "	"
" "	242	" "	Haz DRUMS
" "	245	Empty	
" "	217	" "	
7-6-09	247	Loaded	Ferric DRUMS
" "	230	" "	Need offloading
" "	418	" "	"
" "	217	" "	"
" "	242	" "	Haz DRUMS
" "	2405	" "	PCT
" "	244	Empty	
7-7-09	247	Loaded	Ferric DRUMS
" "	230	" "	Need offloading
" "	418	" "	"
" "	242	" "	Haz Drums
" "	245	ONE Haz Drum	
" "	217	Empty	
" "	244	" "	
7-9-09	6230	Loaded	Need offloading
" "	418	" "	"
" "	247	" "	Ferric DRUMS
" "	245	Empty	"
" "	248	"	"
" "	244	"	"
" "	217	"	"
7-10-09	230	Loaded	Need offloading
" "	247	"	Ferric DRUMS
" "	418	"	Need offloading

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
7-10-09	242	Empty	
" "	244	" "	
" "	248	" "	
" "	245	" "	
" "	217	" "	
7-13-09	230	Loaded	Need off loading
" "	217	" "	" "
" "	418	" "	" "
" "	247	" "	Ferric DRUMS
" "	245	" "	2ac DRUMS
" "	248	Empty	
" "	242	" "	
7-14-09	230	Loaded	PCI
" "	247	Loaded	Ferric DRUMS
" "	244	" "	" "
" "	418	" "	Need off loading
" "	217	Empty	
" "	248	" "	
" "	242	" "	
" "	245	Loaded	Little Blue Drums
7-15-09	230	Loaded	PCI
" "	247	" "	Ferric DRUMS
" "	244	" "	" "
" "	245	" "	Little Blue DRUMS
" "	248	Empty	
" "	242	" "	
" "	217	" "	
7-17-09	247	Loaded	Ferric DRUMS
" "	244	" "	" "
" "	242	" "	Need off loading
" "	418	" "	" "
" "	245	" "	Little Blue DRUMS
" "	248	Empty	
" "	217	" "	
7-20-09	247	Loaded	Ferric DRUMS
" "	244	" "	" "
7-20-09	242	" "	Need off loading
" "	248	" "	" "
" "	217	" "	" "
" "	245	" "	Little Blue DRUMS
" "	246	Empty	
07-21-09	246	Loaded	Need off loading
" "	248	" "	" "
" "	418	" "	" "
" "	242	" "	" "
" "	247	" "	Ferric DRUM
" "	244	" "	" "
" "	217	Empty	

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS
〃 〃	230	〃Empty 〃	
7-22-09	244	Loaded	Ferric DRUMS
〃 〃	247	〃 〃	〃 〃
〃 〃	230	〃 〃	Needoffloading
〃 〃	248	〃 〃	〃 〃
〃 〃	246	〃 〃	〃 〃
〃 〃	217	Empty	working
〃 〃	242	〃 〃	〃 〃
〃 〃	245	〃 〃	〃 〃
8-3-09	245	Loaded	Empty DRUMS
〃 〃	244	〃 〃	Ferric DRUMS
〃 〃	247	〃 〃	〃 〃
〃 〃	418	〃 〃	Product DRUMS
〃 〃	217	Empty	shop work

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS

BOX TRAILER DAILY STATUS

DATE	TRAILER #	EMPTY OR LOADED?	CONTENTS

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
1-8-09	625	liquid/solids	1	full			
1-8-09	623	" "	1	full			
1-8-09	624	Solids	2	full			
1-9-09	625	liquid/solids	1	full			
1-9-09	624	Solids	2	full			
1-12-09	621	Solids	2	full			
~~1-12-09~~	623	liquid/solid	1	full			
1-12-09	623	liquid/solids	1	full			
1-12-09	625	" "	1	full			
" "	624	Solids	2	full			
" "	621	Solids	2	full			
1-13-09	622	Solids	2	full			
1-13-09	623	liquid/solids	1	full			
" "	625	" "	1	full			
1-14-09	621	Solids	2	full			
" "	623	liquid/solids	1	full			
1-15-09	621	Solids	2	full			
1-16-09	624	Solids	2	full			
1-15-09	623	liquid/solids	1	full			
1-16-09	625	" "	1	full			
1-16-09	621	Solids	2	full			
1-16-09	624	Solids	2	full			
1-16-09	622	Solids	2	full			
1-16-09	623	liquid/solids	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
1-16-09	625	liquid/solids	1	full			
1-19-09	623	liquid/solids	1	full			
" "	625	" "	1	full			
" "	622	solids	2	full			
1-20-09	625	liquid/solids	1	full			
1-21-09	623	" "	1	full			
1-20-09	624	solids	2	full			
1-21-09	625	liquid/solids	1	full			
1-21-09	624	solids	2	full			
" "	623	liquid/solids	1	full			
1-22-09	621	solids	2	full			
1-22-09	625	liquid/solids	1	full			
" "	623	" "	1	full			
" "	621	solids	2	full			
1-26-09	623	liquid/solids	1	full			
1-26-09	624	solids	2	full			
1-27-09	624	solids	2	full			
1-27-09	625	liquid/solids	1	full			
1-28-09	621	solids	2	full			
1-28-09	624	solids	2	full			
1-28-09	625	liquid/solids	1	full			
1-28-09	621	solids	2	full			
1-29-09	623	liquid/solids	1	full			
1-29-09	622	solids	2	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
1-30-09	622	Solids	2	full			
2-2-09	621	solids	2	full			
" "	625	liquid/solids	1	full			
2-3-09	625	liquid/solids	1	full			
2-3-09	621	Solids	2	full			
2-4-09	622	Solids	2	full			
2-4-09	621	Solids	2	full			
" "	623	Solids	1	full			
" "	625	"Solids"	1	Full			
2-5-09	621	Solids	2	full			
" "	622	Solids	2	full			
" "	623	Solids	1	full			
2-6-09	624	solids	2	full			
" "	625	liquid/solids	1	full			
2-10-09	622	Solids	2	full			
2-11-09	623	[redacted]/Solids	1	full			
2-11-09	622	Solids	2	full			
2-12-09	624	Solids	2	full			
2-12-09	622	solids	2	full			
2-15-09	621	Solids	2	full			
2-16-09	623	Sludge	1	full			
" "	625	Sludge	1	full			
" "	621	Solids	2	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type (Solids)	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL
2-17-09	643	Rag debris	1	full			
2-18-09	624	Solids	2	Full			
2-18-09	623	liquid/solids	1	full			
2-18-09	625	liquid/solids	1	full			
" "	643	Solids Rag debris	1	full			
2-19-09	624	Solids	2	full			
" "	623	liquid/solids	1	full			
" "	625	" "	1	Full			
" "	643	Solids Rag/debris	1	full			
2-20-09	623	liquid/solids	1	full			
" "	625	" "	1	full			
" "	643	Solids Rag	1	full			
" "	621	Solids	2	full			
2-23-09	623	liquid/solids	1	full			
" "	625	" "	1	full			
" "	643	Solids Rag-debris	1	full			
" "	621	Solids	2	full			
2-24-09	643	Solids/liquid	1	full			
" "	621	Solids	2	full			
" "	623	liquid/solids	1	full			
2-25-09	625	" "	1	full			
2-25-09	623	liquid/solid	1	full			
" "	625	" "	1	full			
" "	621	Solids	2	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL
11 11	643	solid/liquid	1	full			
02-26-09	624	Solids	2	full			
2-26-09	624	solids	2	full			
2-27-09	623	liquid/solids	1	full			
2-26-09	625	11 11	1	full			
11 11	643	11 11	1	full			
2-27-09	623	liquid/solids	1	full			
2-27-09	624	Solids	2	full			
03-2-09	621	Solids	2	full			
3-2-09	623	liquid/solids	1	full			
11 11	625	11 11	1	full			
11 11	621	Solids	2	full			
3-3-09	625	liquid/solids	1	full			
3-3-09	621	Solids	2	full			
3-4-09	624	Solids	2	full			
3-4-09	623	liquid/solids	1	full			
3-4-09	625	liquid/solids	1	full			
3-4-09	623	Solids	1	full			
3-4-09	621	solids	2	full			
3-4-09	624	11 11	2	full			
3-6-09	623	liquid/solids	1	full			
3-5-09	621	Solids	2	full			
11 11	624	Solids	2	full			
3-6-09	623	liquid/solid	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
3-6-09	625	Solids Rag+debris	1	full			
3-9-09	643	Solids Rag+debris	1	full			
" "	622	Solids	2	full			
3-10-09	623	liquid/solids	1	full			
" "	643	Solids Rag+debris	1	full			
" "	622	Solids	2	full			
3-11-09	625	liquid/solids	1	full			
" "	623	" "	1	full			
" "	622	Solids	2	full			
" "	643	Rags+debris Solids	1	full			
3-12-09	625	liquid/solids	1	full			
" "	623	" "	1	full			
3-13-09	621	ø	2	Empty			
"	625	Liquid/Solids	1	1/2 full			
"	623	ø	1	Empty			
"	624	Filter Cake	2	1/2 full			
"	643	ø	2	Empty			
"	622	ø	2	Empty			
3/16/09	621	ø	2	"			
"	625	Liquid/Solids	1	1/2			
"	623	ø	1	Empty			
"	624	Filter Cake	2	1/2			
"	643	ø	2	Empty			
"	622	ø	2	"			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
6-17-09	624	Solids	2	full			
" "	625	liquid/solids	1	full			
" "	623	" "	1	full			
6-18-09	623	liquid/solids	1	full			
6-19-09	625	" "	1	full			
6-19-09	621	Solids	2	full			
6-19-09	623	liquid/solid	1	full			
6-20-09	621	Solids Mud	2	full			
6-20-09	621	Solids Mud	2	full			
6-20-09	623	liquid/solids	1	full			
3-23-09	621	solids Mud	2	full			
" "	623	liquid/solids	1	full			
3-24-09	621	Solids	2	full			
" "	623	liquid/solids	1	full			
3-25-09	624	~~Solids~~	~~2~~	full			
		Sludge	2				
3-25-09	623	liquid/solids	1	full			
" "	624	sludge	2	full			
3-26-09	624	sludge	2	full			
3-27-09	621	sludge	2	full			
" "	623	liquid/solids	1	full			
3-28-09	625	" "	1	full			
3-30-09	623	liquid/solids	1	full			
" "	625	" "	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
3-30-09	621	Sludge	2	full			
3-31-09	621	Sludge	2	full			
4-1-09	625	liquid/solids	1	full			
" "	621	sludge	2	full			
" "	622	Sludge	2	Full			
4-2-09	623	liquid/solids	1	[illegible]	full		
" "	625	" "	1	full			
" "	622	Sludge	2	full			
4-3-09	625	liquid/solids	1	full			
" "	623	" "	1	full			
" "	622	Solids	2	full			
4-[illegible]09	621	Sludge	2	full			
4-6-09	623	~~liquid/solids~~	1	full			
		liquid/solids	1	full			
4-7-09	621	Sludge	2	full			
" "	623	liquid/solids	1	full			
4-8-09	623	liquid/solid	1	full			
" "	625	" "	1	full			
4-[illegible]3-09	623	~~Sludge~~ Solids	1	full			
" "	622	~~Sludge~~ sludge	2	full			
4-13-09	625	~~Sludge~~ solids	1	full			
4-13-09	622	Sludge	2	full			
4-13-09	625	Solids	1	full			
" "	623	" "	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
4-14-09	623	Solids	1	full			
" "	625	Solids	1	full			
" "	621	Solids	1	full			
" "	622	Sludge	2	full			
4-16-09	623	Solids	1	full			
" "	624	sludge	2	full			
4-21-09	627	Sludge	2	full			
4-21-09	625	~~Liquid/solids~~ Rags only	1	full			
4-21-09	625	Rags only	1	full			
" "	623	Liquid/solids	1	full			
" "	622	Sludge	2	full			
4-22-09	623	liquid/solids	1	full			
4-24-09	625	liquid/solids	1	full			
" "	624	Sludge	2	full			
4-24-09	625	Solids	1	full			
4-24-09	624	Sludge	2	full			
" "	623	Solids	1	full			
4-27-09	623	Solids	1	full			
" "	643	Solids liquid	1	full			
4-29-09	623	Solids	1	full			
" "	643	liquid/solids	1	full			
" "	622	Sludge	2	full			
4-30-09	623	Solids	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
4-30-09	622	Sludge	2	full			
5-4-09	625	liquid/solids	1	full			
5-4-09	624	Sludge	2	full			
" "	625	liquid/solids	1	full			
5-5-09	624	Sludge	2	full			
" "	625	solids	1	full			
" "	643	liquid/solids	1	full			
5-6-09	643	liquid/solids	1	full			
" "	623	Solids	1	full			
" "	622	Sludge	2	full			
5-7-09	622	Sludge	2	full			
5-8-09	623	Sludge	1	full			
" "	625	Sludge	1	full			
5-11-09	624	Sludge	2	full	5-11-09	5-12-09	
5-12-09	624	Sludge	2	full			
" "	623	liquid/solids	1	full			
5-13-09	623	liquid/solids	1	full			
5-14-09	625	liquid/solids	1	full			
5-14-09	623	liquid/solids	1	full			
" "	625	Sludge	1	full			
" "	622	Sludge	2	full			
5-15-09	643	solids	1	full			
5-18-09	622	Sludge	2	full			
5-19-09	624	Sludge	2	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL
5-19-09	623	liquid/solids	1	full			
5-19-09	622	sludge	2	full			
" "	624	" "	2	full			
" "	623	Solids	1	full			
5-20-09	624	sludge	2	full			
5-21-09	625	liquid/solids	1	full			
5-21-09	625	liquid/solids	1	full			
5-21-09	623	liquid/solids	1	full			
5-22-09	622	sludge	2	full			
5-22-09	625	sludge	1	full			
5-22-09	623	sludge	1	full			
" "	622	sludge	2	full			
5-26-09	623	sludge	2	full			
5-28-09	625	solids	1	full			
" "	624	sludge	2	full			
" "	623	Solids	1	full			
5-29-09	624	sludge	2	full			
" "	643	solids	1	full			
" "	625	Solids	1	full			
6-1-09	643	debris	1	Full			
6-2-09	643	Solids	1	full			
6-3-09	623	Sludge	1	full			
" "	622	Sludge	2	full			
6-4-09	625	Sludge	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed: INITIAL
6-4-09	622	Sludge	2	full			
" "	643	Solids	1	full			
6-5-09	622	Sludge	2	full			
6-6-09	643	Solids	1	full			
6-8-09	623	liquid/solids	1	full			
6-9-09	621	Sludge	2	full			
6-9-09	623	liquid/solids	1	full			
" "	621	Sludge	2	full			
6-10-09	621	Sludge	2	full			
" "	643	liquid/solids	1	full			
6-11-09	623	liquid/solids	1	full			
6-12-09	622	Sludge	2	full			
6-16-09	621	solids	2	Full			
6-17-09	621	solids	2	full			
" "	623	liquid/solids	1	full			
" "	625	Sludge	1	full			
6-18-09	622	Sludge	2	full			
6-18-09	622	Sludge	2	full			
" "	623	liquid/solids	1	full			
" "	643	Sludge	1	full			
6-19-09	643	Sludge	1	full			
6-19-09	622	Sludge	2	full			
6-23-09	625	liquid/solids	1	full			
" "	621	sludge	2	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL
6-23-09	625	Sludge	1	full			
" "	621	Sludge	2	full			
6-24-09	623	Sludge	1	full			
" "	643	Sludge	1	full			
6-26-09	624	Sludge	2	full			
6-26-09	623	Sludge	1	full			
" "	624	Sludge	2	full			
6-29-09	625	liquid/solids	1	full			
6-29-09	625	liquid/solids	1	full			
" "	623	Sludge	1	full			
6-30-09	625	sludge	1	full			
7-1-09	621	Sludge	2	full			
7-2-09	643	sludge	1	full			
7-1-09	623	liquid/solids	1	full			
" "	621	Sludge	2	full			
7-2-09	621	Sludge	2	full			
" "	623	liquid/solids	1	full			
7-2-09	643	Sludge	1	full			
7-6-09	624	Sludge	2	full			
7-6-09	624	Sludge	2	full			
" "	621	" "	2	full			
" "	623	liquid/solids	1	full			
" "	643	sludge	1	full			
7-7-09	625	Sludge	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL
7-7-09	643	Sludge	1	full			
7-7-09	625	Sludge	1	full			
" "	623	liquid/solids	1	full			
7-10-09	622	sludge	2	full			
7-10-09	622	Sludge	2	Full			
7-13-09	622	sludge	2	full			
7-15-09	623	liquid/solids	1	full			
7-17-09	625	liquid/solids	1	full			
" "	621	sludge	2	full			
7-20-09	623	Sludge	1	full			
7-20-09	621	sludge	2	full			
7-21-09	621	sludge	2	full			
" "	623	Sludge	1	full			
7-22-09	625	liquid/solids	1	full			
7-22-09	625	liquid/solids	1	full			
8-3-09	623	liquid/solids	1	full			
" "	643	~~Sludge~~ solids	1	full			

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

Solids Bin Log Documentation, 6-11-2008 ACTIVE.xls

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Recelved & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
37,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

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SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL

605, ST, Solids(rags,debris) Mexia, 1
621,ST. Solids, 2
622,ST. Solids, 2
623,MT. Sludge, 1
624,ST. Solids, 2
625,MT. Sludge, 1
637,ST, Solids, 1
638,ST, Solids, 1
643,ST, Solids, 2

CES Environmental Services, Inc.

ALL FIELDS MUST BE FILLED IN CORRECTLY INCLUDING THE BIN NUMBER MATERIAL TYPE (SLUDGE, SOLIDS, RAGS), THE CLASS (1,2) AND STATUS OF FULL. MAINTAIN THIS LOG SHEET SEVERAL TIMES A DAY.

SOLIDS BIN STATUS COMMUNICATION LOG SHEET

Date	Bin Number	Material Type	CLASS	STATUS FULL	Date DISPATCH Notified	Date Shipped	Shipping Paper Work Received & Signed; INITIAL

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 6/22/09

Trailer [redacted]	Product (Contents)	Volume	Density	% Product
235	Methanol/Eureka	800	.84	84%
226	Methanol/Eureka	6,577	.81	92%
415	Methanol/Eureka	5,500	.81	92%
265	Methanol/Eureka	6,743	.81	92%
413	Methanol/Eureka	5,430	.82	88%
238	Empty	—	—	—

Date: 6/30/09

Trailer	Product (Contents)	Volume	Density	% Product
235	Methanol	2,925	.84	84%
226	Methanol	6,577	.81	92%
415	Methanol	5,500	.81	92%
265	Methanol	6,743	.81	92%
413	Methanol	5,430	.82	88%
238	Empty	—	—	—

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 6/1/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Meth / Evalca	6,577	.81	92%
415	Meth / Evalca	5,500	.81	92%
238	Meth / PPG	5,251	.85	76%
265	Meth / Evalca	6,743	.81	92%
413	Meth / Evalca	5,430	.82	88%

Date: 6/15/09

Trailer	Product (Contents)	Volume	Density	% Product
235	Methanol/Evalca	[redacted]800	.84	84%
226	Methanol/Evalca	6,577	.81	92%
415	Methanol/Evalca	5,500	.81	92%
238	Methanol/Evalca	5,251	.85	76%
265	Methanol/Evalca	6,743	.81	92%
413	Methanol/Evalca	5,430	.82	88%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 5/22/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol / Eureka	6,577	.81	92 %
415	Methanol Eureka	5,500	.81	92 %
238	Methanol / PPG	5,251	.85	76 %
265	Methanol / Eureka	6,743	.81	92 %
413	Methanol / Eureka	4,039	.82	88 %

Date: 5/29/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol Eureka	6,577	.81	92%
415	Methanol Eureka	5,500	.81	92%
238	Methanol PPG	5,251	.85	76%
265	Methanol Eureka	6,743	.81	92%
413	Methanol Eureka	5,416	.81	92%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 5/15/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol/Evalca	6,577	.81	[redacted]92%
415	Methanol/Evalca	5,500	.81	[redacted]92%
238	Methanol/PPG	5,251	.85	[redacted]76%
[redacted]265	Methanol/Evalca	6,743	.81	[redacted]92%

Date: 4/21/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol/Evalca	6,577	.81	[redacted]92%
415	Methanol/Evalca	5,500	.81	[redacted]92%
238	Methanol/PPG	5,251	.85	76%
265	Methanol/Evalca	6,743	.81	[redacted]92%
413	Methanol/Evalca	1,475	.82	[redacted]88%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 3/23/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol / Evalca	6,577	.81	[redacted] 92%
415	Methanol / Evalca	5,172	.81	[redacted] 92%
238	Methanol / PPG	5251	.85	[redacted] 76%
234	Methanol / Evalca	6743	.81	[redacted] 92%
210	MEK	7035	.82	[redacted] 88%

Date: 4/1/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol/Evalca	6,577	.81	[redacted] 92%
415	Methanol/Evalca	5,500	.81	[redacted] 92%
238	Methanol/PPG	5251	.85	76%
234	Methanol/Evalca	6743	.81	[redacted] 92%
[redacted]				

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 2/27/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol/Evalca	3079	.80	94%
415	Methanol/Evalca	2980	.81	[redacted] 92%
238	Methanol/PPG	5251	.85	76%
234	Methanol/Evalca	6534	.80	94%
210	MEK	7035	.82	[redacted] 88%
416	Empty	—	—	—
213	Empty	—	—	—
414	Empty	—	—	—
413	Empty	—	—	—

Date: 3/11/09

Trailer	Product (Contents)	Volume	Density	% Product
226	Methanol/Evalca	6,577	.81	[redacted] 92%
415	Methanol/Evalca	3,101	.81	[redacted] 92%
238	Methanol/PPG	5251	.85	76%
234	Methanol/Evalca	6743	.81	[redacted] 92%
210	MEK	7035	.82	[redacted] 88%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 2/16/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol/PPG	5251	.85	[redacted] 76%
234	Methanol/Evalca	6530	.80	94%
415	Between	1932	—	—
213	MEC	3310	1.21	—
414	Unit-3 WASTE WATER	4800	—	—
413 from 270	Methanol/Evalca	Needs to Process		—
210	MEK	7035	.82	[redacted] 88%
416	Methanol/PPG	1228	.80	94%

Date: 2/19/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol/PPG	5251	.85	76%
234	Methanol/Evalca	6530	.80	94%
415	Between	1932	—	—
213	Empty			
[redacted]	[redacted]	[redacted]	[redacted]	—
414	Unit 3 Waste Water	4800	—	—
413 Frm 270	Methanol/Evalca	Needs to Process		—
210	MEK	7035	.82	[redacted] 88%
116	Empty			
226	Methanol/Evalca	2,887	.81	[redacted] 92%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 1/29/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol PPG		.82	[redacted] 88%
234	Methanol Evalca	5685	.82	[redacted] 88%
415	Between	1800	—	—
213	MEC	3648	1.21	
414	Empty	—	—	—
413	Heptane	3100	—	—
210	MEK	5575	.81	[redacted] 92%
416	Empty	—	—	—

Date: 2/04/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol PPG	5257	.85	[redacted] 76%
234	Methanol Evalca	5685	.82	[redacted] 88%
415	Between	1932	—	—
213	MEC	3310	1.21	
414	Dist #3 water	4038		
413	Heptane	1336	—	—
210	MEK	7035	.82	[redacted] 88%
416	Empty	—	—	—

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 1/24/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol PPG	6637 ±	.85	76 %
234	Methanol Evalca	2427 ±	.82	~~88~~ 88 %
415	Between	~~1800~~ 1800	—	—
213	MEC	~~3648~~ 3648	1.21	100 %
414	Empty	—	—	—
413	~~Empty~~ Heptane	~~3100~~	—	—
210	MEK	~~4902~~	.82	~~88~~ 88 %

Date: 1/24/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol PPG	3811	.85	~~76~~ 76 %
234	Methanol Evalca	~~5685~~	.82	~~88~~ 88 %
415	Between	~~1800~~	—	—
213	MEC	3648	1.21	
414	Empty	—	—	—
413	Heptane	~~3100~~	—	—
210	MEK	4902	.82	~~88~~ 88 %
416	Empty	—		

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 1/13/09

Trailer	Product (Contents)	Volume	Density	% Product
416	Methanol PPG	2348	.84	~~10~~ 80%
234	Methanol Evalca	5685	.83	~~81~~ 84%
415	Between	2200	-	-
213	MEC	1,236	1.17	81 90
414	Between	5537	-	-
413	Heptane	2980	.71	-
210	MEK	3900	.81	~~90~~ 92%

Date: 1/14/09

Trailer	Product (Contents)	Volume	Density	% Product
238	Methanol PPG	3811	.85	76%
234	Methanol Evalca 5685	[redacted]	.82	~~80~~ 88 %
415	Between	2200	-	-
213	MEC	1,236	1.17	81 %
414	Between	5537	-	-
413	Heptane	2980	.71	-
210	MEK	3900	.81	~~81~~ 92%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date: 1/9/09

Trailer	Product (Contents)	Volume	Density	% Product
416	Methanol/PPG	1780	.86	72%
234	Methanol/Evalca	5280	.82	~~88%~~ 85%
415	Between	2200	—	—
213	MEC	1,236	1.17	81%
414	Between	5537	—	—
413	Heptane	2980	.71	—
210	MEK	3900	.81	~~98%~~

Date: 1/10/09

Trailer	Product (Contents)	Volume	Density	% Product
416	Methanol PPG	1403	.85	76%
234	Methanol Evalca	5476	.82	~~88%~~ 88%
415	Between	2200	—	—
213	MEC	1,236	1.17	81%
414	Between	5537	—	—
413	Heptane	2980	.71	—
210	MEK	3900	.81	~~98%~~ 92%

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date:				
Trailer	Product (Contents)	Volume	Density	% Product

Date:				
Trailer	Product (Contents)	Volume	Density	% Product

CES Environmental Services, Inc.

SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

Date:				
Trailer	Product (Contents)	Volume	Density	% Product

Date:				
Trailer	Product (Contents)	Volume	Density	% Product

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SPECIAL PROCESSING - PRODUCT INVENTORY SHEET

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Trailer	Product (Contents)	Volume	Density	% Product

Date:				
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CES Environmental Services, Inc.

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Trailer	Product (Contents)	Volume	Density	% Product

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Trailer	Product (Contents)	Volume	Density	% Product

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CES Environmental Services, Inc.

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Trailer	Product (Contents)	Volume	Density	% Product

Date:				
Trailer	Product (Contents)	Volume	Density	% Product

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CES Environmental Services, Inc.

OPERATIONS TRAILER DISTILLATION PRODUCT TRANSFER LOG SHEET

DATE	PRODUCT NAME	TRAILER TRANSFER INFORMATION	
		FROM TRAILER	TO TRAILER
9-29-08	evalca Methanol, 6500 Gals	2815 & 413	2815
10-3-08	PPG Methylene, 4200 Gals	213	venevia
10-7-08	stream 3 Zach, 6000 Gals	15817	Schneider
10-14-08	stream 3 Zach, 6000 Gals	226	Anacheac Transport
10-21-08	evalca Methanol, 6000 Gals	415, 413	smitty's
11/21/08	Stream 3-Zach - 7000 gals	T476, 220	Mid State
12/1/08	Stream 3-Zach - 6,700 gal	347, 220	Schneider
12/8/08	Stream 3-Zach - 6321 gals	15817	Schneider
12/12/08	Stream 3-Zach - 5880 gals	LT878	Midstate
12/18/08	Stream 3-Zach - 5880 gals	415	Midstate
12/19/08	Stream 3-Zach - 6000 gal	L0932	Midstate
12/22/08	Methanol Evalca - 6,865 gals	234	JAS
12/22/08	Methanol Evalca - 6148 gal	234	Heniff
12/31/08	Stream-3-Zach - 7,500 gal	220, 415	Midstate
1/3/09	Stream-3-Zach - 7,500 gals	415 + some of 216	Midstate
1/3/09	Stream-3-Zach -	216, 415	Midstate
1/7/09	Stream-3-Zach - 7,500 gal	SP8247, some of LT878	Lancer
1/8/09	Stream-3-Zach - 6,780 gal	L0932	Midstate
1/9/09	Stream-3-Zach - 6,873 gal	some of 231, 878	PAR Tech
1/15/09	Stream-3-Zach - 7,845 gals	some of 220 & some of LT1305	Midstate
1/20/09	Stream-3-Zach 8,051 gals	some of LT1305 & 215	Midstate
[redacted]			

CES Environmental Services, Inc.

OPERATIONS TRAILER DISTILLATION PRODUCT TRANSFER LOG SHEET

DATE	PRODUCT NAME	TRAILER TRANSFER INFORMATION	
		FROM TRAILER	TO TRAILER
1/20/09	Methylene Cloride	2815	PS Transport
1/22/09	Stream-3-Zach	216,215-1,961 gals	For Zancer Onshore-Trans.
2/18/09	MEC - 3,408 gals	213	PS Transport
2/18/09	Toulene	LT1305	Petrotech m Express
2/24/09	Stream-3-Zach, 6721 gals	216	Hydrocarbon Engineering
5/29/09	Stream-3 Zach - 5898 gals	28013	Hydrocarbon Eng.
5/29/09	Stream-3-Zach - 5922 gals	215	Hydrocarbon Eng.
6/4/09	Stream-3-Zach - 6257 gals	3001	Hydrocarbon Eng.
6/4/09	Stream-3-Zach - 5946 gals	216	Hydrocarbon Eng.
6/15/09	Stream-3-Zach - 5801 gals	215	Hydrocarbon Eng.
6/15/09	Stream-3-Zach. 6586 gals	220	Hydrocarbon Eng.
6/22/09	Stream-3-Zach	231	Hydrocarbon Eng.
6/22/09	Methanol PPG 5,251	238	Lone Star Transport
6/23/09	Stream-3-Zach 5801 gals	20604	Hydrocarbon Eng.

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OPERATIONS TRAILER DISTILLATION PRODUCT TRANSFER LOG SHEET

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OPERATIONS TRAILER DISTILLATION PRODUCT TRANSFER LOG SHEET

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		FROM TRAILER	TO TRAILER

CES Environmental Services, Inc.

Dual Drum Carbon Trains - Maintenance and Monitoring Log

Date	initials	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
		VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
8/12	JC	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:		PLANT CLOSED.					
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
8/13	JC	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed: 10:00	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							

EPAHO114000560

CES Environmental Services, Inc.

Dual Drum Carbon Trains - Maintenance and Monitoring Log

Date	initials	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
		VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							

EPAHO114000561

CES Environmental Services, Inc.

Dual Drum Carbon Trains - Maintenance and Monitoring Log

Date	initials	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
		VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							
Date	initials	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status	VOC indicator status
		□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent	□ Good □ Spent
		Time changed:	Time changed:	Time changed:	Time changed:	Time changed:	Time changed:
Notes:							

EPAHO114000562

CES Environmental Services, Inc.

Dual Drum Carbon Trains - Maintenance and Monitoring Log

		Unit 1		Unit 2		Unit 3		Unit 4		Unit 5		Unit 6	
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent	◻ Good	◻ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													

EPAHO11400563

CES Environmental Services, Inc.

Dual Drum Carbon Trains - Maintenance and Monitoring Log

		Unit 1		Unit 2		Unit 3		Unit 4		Unit 5		Unit 6	
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													
Date	initials	VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status		VOC indicator status	
		□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent	□ Good	□ Spent
		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:		Time changed:	
Notes:													

EPAHO11400564

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:	3-16-09		3-17-09
TIME:	0630	TIME:	4:00p.m
Readings:	4467-4491	Readings:	4491 - 4516
Volumes:	24000	Volumes:	25,000
Initials:		Initials:	CC

DATE:	3-17-09		3-18-09
TIME:	0630	TIME:	4:00pm
Readings:	4516-4550	Readings:	4550-4586
Volumes:	34000	Volumes:	36,000
Initials:		Initials:	CC

DATE:	3-18-09		
TIME:	0630	TIME:	
Readings:	4586-4598	Readings:	4598-4626
Volumes:	12000	Volumes:	28,000
Initials:		Initials:	CC

DATE:	3-19-09		
TIME:	0630	TIME:	4:00p.m
Readings:	4626-4647	Readings:	4647-4679
Volumes:	21,000	Volumes:	32,000
Initials:	CA	Initials:	CC

DATE:	3-20-09		
TIME:	0630	TIME:	4:00p.m.
Readings:	4679-4696	Readings:	4696-4710
Volumes:	17000	Volumes:	14,000
Initials:		Initials:	CC

DATE:	3-23-09		
TIME:	0630	TIME:	4:00p.m
Readings:	4710-4737	Readings:	4737-4792
Volumes:	27000	Volumes:	55,000
Initials:		Initials:	CC

DATE:	3-24-09		
TIME:	0630	TIME:	4:00pm
Readings:	4792-4833	Readings:	4933-4871
Volumes:	41000	Volumes:	38,000
Initials:		Initials:	CC

DATE:	3-25-09		3-26-09
TIME:	0630	TIME:	4:00p.m
Readings:	4871-4888	Readings:	4998-4929
Volumes:	17000	Volumes:	41,000
Initials:		Initials:	CC

DATE:	3-26-09		3-27
TIME:	0630	TIME:	4:00p.m
Readings:	4929-4950	Readings:	4950-4972
Volumes:	21,000	Volumes:	22,000
Initials:		Initials:	CC

DATE:	3-27-09		3-28
TIME:	0630	TIME:	4:00p.m.
Readings:	4972-4990	Readings:	4990-5031
Volumes:	18000	Volumes:	41,000
Initials:		Initials:	CC

DATE:	3-30-09		3-31
TIME:	0630	TIME:	4:00pm
Readings:	5031-5052	Readings:	5052-5074
Volumes:	21000	Volumes:	22,000
Initials:		Initials:	CC

DATE:	3-31-09		4-1-09
TIME:	0630	TIME:	4:00pm
Readings:	5074-5102	Readings:	5102-5141
Volumes:	28000	Volumes:	39,000
Initials:		Initials:	CC

MARCH = 1,117,000 gall ÷ 22 days = 50,772 gall/day

EPAHO114000566

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

21 DATE: 2-27-09			
TIME:	0630	TIME:	4:00p.m
Readings:	3936 - 3979	Readings:	3979 - 4021
Volumes:	43000	Volumes:	42,000
Initials:		Initials:	CC

DATE: 3-6-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4193 - 4208	Readings:	4208 - 4227
Volumes:	15,000	Volumes:	19,000
Initials:		Initials:	CC

22 DATE: 2-28-09		FEB - month = 1,041,000 gal.	
TIME:	0630	TIME:	÷ 22 days =
Readings:	4021 - 4034	Readings:	47,318 gal./day
Volumes:	13000	Volumes:	
Initials:		Initials:	

DATE: 3-9-09		3-10-09	
TIME:	0630	TIME:	
Readings:	4227 - 4252	Readings:	4252 - 4276
Volumes:	25000	Volumes:	24,000
Initials:		Initials:	CC

DATE: 3-2-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4034 - 4049	Readings:	4049 - 4073
Volumes:	19000	Volumes:	24,000
Initials:		Initials:	CC

DATE: 3-10-09		3-11-09	
TIME:	0630	TIME:	4:00p.m
Readings:	4276 - 4292	Readings:	4292 - 4326
Volumes:	16000	Volumes:	34,000
Initials:		Initials:	CC

DATE: 3-3-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4073 - 4095	Readings:	4095 - 4115
Volumes:	22000	Volumes:	20,000
Initials:		Initials:	CC

DATE: 3-11-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4326 - 4363	Readings:	4363 - 4395
Volumes:	37000	Volumes:	32,000
Initials:		Initials:	CC

DATE: 3-4-09			
TIME:	0600	TIME:	4:00p.m
Readings:	4115 - 4134	Readings:	4134 - 4166
Volumes:	19000	Volumes:	32,000
Initials:		Initials:	CC

DATE: 3-12-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4385 - 4408	Readings:	4408 - 4427
Volumes:	23000	Volumes:	19,000
Initials:		Initials:	CC

DATE: 3-5-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4166 - 4193	Readings:	4193 - 4139
Volumes:	33000	Volumes:	
Initials:		Initials:	CC

DATE: 3-13-09			
TIME:	0630	TIME:	4:00p.m
Readings:	4427 - 4453	Readings:	4453 - 4467
Volumes:	26000	Volumes:	14,000
Initials:		Initials:	CC

EPAHO114000567

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

9 DATE:	2-11-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3352 - 3365	Readings:	3365 - 3393
Volumes:	13000	Volumes:	28,000
Initials:		Initials:	CC

10 DATE:	2-12-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3393 - 3411	Readings:	3411 - 3447
Volumes:	18000	Volumes:	36,000
Initials:		Initials:	CC

11 DATE:	2-13-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3447 - 3482	Readings:	3482 - 3509
Volumes:	35000	Volumes:	27,000
Initials:		Initials:	CC

12 DATE:	2-16-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3509 - 3535	Readings:	3535 - 3571
Volumes:	26000	Volumes:	36,000
Initials:		Initials:	CC

13 DATE:	2-17-09		
TIME:	0630	TIME:	
Readings:	3571 - 3587	Readings:	
Volumes:	16000	Volumes:	
Initials:		Initials:	

14 DATE:	2-18-09		
TIME:	0630	TIME:	CC
Readings:	3587 - 3621	Readings:	[redacted]
Volumes:	34,000	Volumes:	3621 - 3676
Initials:	BrA	Initials:	55,000

15 DATE:	2-19-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3676 - 3689	Readings:	3689 - 3719
Volumes:	13000	Volumes:	30,000
Initials:		Initials:	CC

16 DATE:	2-20-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3719 - 3746	Readings:	3746 - 3765
Volumes:	27000	Volumes:	19,000
Initials:		Initials:	CC

17 DATE:	2-23-09		2-24-09
TIME:	0630	TIME:	4:00p.m
Readings:	3765 - 3773	Readings:	3773 - 3778
Volumes:	8000	Volumes:	5,000
Initials:		Initials:	CC

18 DATE:	2-24-09		
TIME:	0630	TIME:	4:00p.m.
Readings:	3776 - 3795	Readings:	3795 - 3815
Volumes:	17000	Volumes:	20,000
Initials:		Initials:	CC

19 DATE:	2-25-09		2-26-09
TIME:	0630	TIME:	4:00p.m
Readings:	3815 - 3835	Readings:	3835 - 3879
Volumes:	20000	Volumes:	44,000
Initials:		Initials:	CC

20 DATE:	2-26-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3879 - 3901	Readings:	3901 - 3936
Volumes:	22000	Volumes:	35,000
Initials:		Initials:	CC

EPAHO1140000568

713 996-0401

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:	1-27-09		1-26
TIME:	0630	TIME:	4:00p.m
Readings:	2684 - 2710	Readings:	2710 - 2742
Volumes:	26,000	Volumes:	32,000
Initials:		Initials:	CC

3 DATE:	2-3-09		
TIME:	0630	TIME:	4:00p.m
Readings:	3094 - 3114	Readings:	3114 - 3148
Volumes:	20000	Volumes:	34,000
Initials:		Initials:	CC

DATE:	1-28-09		1-29
TIME:	0630	TIME:	4:00p.m
Readings:	2742 - 2762	Readings:	2762 - 2824
Volumes:	20000	Volumes:	62,000
Initials:		Initials:	CC

4 DATE:	2-4-09		2/4
TIME:	0630	TIME:	4:00pm
Readings:	3148 - 3173	Readings:	3173 - 3180
Volumes:	25000	Volumes:	7000
Initials:		Initials:	CC

DATE:	1-29-09		1-30
TIME:	0630	TIME:	4p.m
Readings:	2824 - 2854	Readings:	2854 - 2921
Volumes:	30000	Volumes:	67,000
Initials:		Initials:	CC

5 DATE:	2-5-09		
TIME:	0630	TIME:	4:00 p.m.
Readings:	3180 - 3195	Readings:	3195 - 3232
Volumes:	15000	Volumes:	37,000
Initials:		Initials:	CC

DATE:	1-30		1-31
TIME:		TIME:	4.00p.m
Readings:	2921 - 2953	Readings:	2953 - 2993
Volumes:	32,000	Volumes:	40,000
Initials:		Initials:	CC

6 DATE:	2-6-09		
TIME:	0600	TIME:	4:00p.m
Readings:	3232 - 3260	Readings:	3260 - 3285
Volumes:	28000	Volumes:	25,000
Initials:		Initials:	CC

1 DATE:	2-1-09		
TIME:		TIME:	
Readings:	2993 - 3038	Readings:	
Volumes:	45,000	Volumes:	
Initials:	GA	Initials:	

7 DATE:	2-9-09		2-10
TIME:	0600	TIME:	4:00p.m
Readings:	3285 - 3317	Readings:	3317 - 3344
Volumes:	32000	Volumes:	27,000
Initials:		Initials:	CC

2 DATE:	2-2-09		
TIME:	0630	TIME:	7:00p.m
Readings:	3038 - 3069	Readings:	3069 - 3094
Volumes:	31000	Volumes:	25,000
Initials:		Initials:	CC

8 DATE:	2-10-09		
TIME:	0630	TIME:	
Readings:	3344 - 3344	Readings:	3344 - 3352
Volumes:	0	Volumes:	8006
Initials:		Initials:	

*- Water Treatment Processing Volume Log Sheet, 8-29-2008 ACTIVE

EPAHO114000569

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

↓ NIGHT ↓

DATE:	1-13-09		
TIME:	0630	TIME:	5:00pm
Readings:	1969 - 1990	Readings:	1990 - 2029
Volumes:	21000	Volumes:	39,000
Initials:		Initials:	CC

DATE:	1-14-09		
TIME:	0630	TIME:	
Readings:	2029 - 2047	Readings:	
Volumes:	18000	Volumes:	
Initials:		Initials:	

DATE:	1-15-09		1-16-09
TIME:	0630	TIME:	5:00pm
Readings:	2071 - 2074	Readings:	2074 - 2088
Volumes:	8000	Volumes:	11,000
Initials:		Initials:	CC

DATE:	1-16-09		1-17-09
TIME:	0630	TIME:	5:00pm
Readings:	2088 - 2108	Readings:	2108 - 2164
Volumes:	20000	Volumes:	56,000
Initials:		Initials:	CC

DATE:	1-19-09		
TIME:	0630	TIME:	5:00pm
Readings:	2164 - 2180	Readings:	2180 - 2236
Volumes:	16000	Volumes:	56,000
Initials:		Initials:	CC

DATE:	1-20-09		
TIME:	0630	TIME:	5:00pm
Readings:	2236 - 2295	Readings:	2295 - 2345
Volumes:	59000	Volumes:	50,000
Initials:		Initials:	CC

DATE:	1-21-09		
TIME:	0630	TIME:	
Readings:	2345 - 2385	Readings:	
Volumes:	40000	Volumes:	
Initials:		Initials:	

DATE:			
TIME:	1-22-09	TIME:	1-22-09
Readings:	2345 - 2437	Readings:	2385 - 2437
Volumes:	52,000	Volumes:	52,000
Initials:	CC	Initials:	CC

DATE:	1-22-09		1-23-09
TIME:	0630	TIME:	5:00pm
Readings:	2437 - 2483	Readings:	2483 - 2532
Volumes:	46000	Volumes:	49,000
Initials:		Initials:	CC

DATE:	1-23-09		1-24-09
TIME:	0630	TIME:	
Readings:	2532 - 2551	Readings:	2551 - 2577
Volumes:	19000	Volumes:	26,000
Initials:		Initials:	CC

DATE:	1-24-09		
TIME:	0640	TIME:	
Readings:	2577 - 2604	Readings:	
Volumes:	27000	Volumes:	
Initials:		Initials:	

DATE:	1-26-09		
TIME:	06:20	TIME:	5:00p.m
Readings:	2604 - 2642	Readings:	2642 - 2684
Volumes:	38000	Volumes:	42,000
Initials:		Initials:	CC

EPAHO114000570

DEC –
27 work days
x 65,000/day
=1,755,000

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

85,000

DATE:	12-30-08		
TIME:	0630	TIME:	
Readings:	1310 - 1336	Readings:	
Volumes:	26000	Volumes:	
Initials:		Initials:	

DATE:	1-6-09		
TIME:	6630	TIME:	5:00p.m
Readings:	1573 - 1616	Readings:	1616 - 1658
Volumes:	43000	Volumes:	42,000
Initials:		Initials:	CC

59,000

DATE:	12-31-08		
TIME:	0630	TIME:	5:00p.m
Readings:	1355 - 1382	Readings:	1382 - 1414
Volumes:	27000	Volumes:	32,000
Initials:		Initials:	CC

DATE:	1-7-09		
TIME:	0630	TIME:	
Readings:	1658 - 1677	Readings:	
Volumes:	19000	Volumes:	
Initials:		Initials:	

88,000

42,000

DATE:	1-2-09		1-3-09
TIME:	0630	TIME:	5:00p.m
Readings:	1414 - 1450	Readings:	1450 - 1502
Volumes:	36000	Volumes:	52,000
Initials:		Initials:	CC

DATE:	1-8-09		
TIME:	0630	TIME:	5:00p.m
Readings:	1703 - 1727	Readings:	1727 - 1750
Volumes:	24000	Volumes:	23,000
Initials:		Initials:	CC

73,000

DATE:	1-3-09		
TIME:	0630	TIME:	
Readings:	1502 - 1505	Readings:	
Volumes:	3000	Volumes:	
Initials:		Initials:	

DATE:	1-9-09		1-10
TIME:	0630	TIME:	5:00
Readings:	1750 - 17-89	Readings:	1789 - 1823
Volumes:	39,000	Volumes:	34,000
Initials:		Initials:	

73,000

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	1-10-09		1-11
TIME:	5:30	TIME:	7:00 A.m
Readings:	1823 - 1873	Readings:	1873 - 1896
Volumes:	50,000	Volumes:	23,000
Initials:		Initials:	

68,000

DATE:	1-5-09		
TIME:	0630	TIME:	5:00
Readings:	1505 - 1535	Readings:	1535 - 1573
Volumes:	30000	Volumes:	38,000
Initials:		Initials:	CLH

DATE:	1-12-09		
TIME:	0630	TIME:	
Readings:	1896 - 1942	Readings:	
Volumes:	46000	Volumes:	
Initials:		Initials:	

LEB-008

EPAHO114000571

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:	12-18-08		12-18-08
TIME:	0630	TIME:	5:00
Readings:	783 - 805	Readings:	805 - 819
Volumes:	22000	Volumes:	14,000
Initials:		Initials:	CLH

62,000

DATE:	12-19-08		12-20-08
TIME:	0630	TIME:	5:00pm
Readings:	819 - 851	Readings:	851 - 881
Volumes:	32000	Volumes:	30,000
Initials:		Initials:	CC

DATE:	12-20-08		
TIME:	0630	TIME:	
Readings:	881 - 921	Readings:	
Volumes:	40000	Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-22-08		12-22-08
TIME:	0630	TIME:	5:00
Readings:	931 - 966	Readings:	966 - 1012
Volumes:	29000	Volumes:	46,000
Initials:		Initials:	CLH

58,000

DATE:	12-23-08		12-23-08
TIME:	0630	TIME:	5:00pm
Readings:	1012 - 1040	Readings:	1040 - 1070
Volumes:	28,000	Volumes:	30,000
Initials:		Initials:	CC

DATE:	12-24-08		
TIME:	0630	TIME:	
Readings:	1070 - 1082	Readings:	
Volumes:	12000	Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

46,000

DATE:	12-26-08		12-26-08
TIME:	0630	TIME:	5:00
Readings:	1082 - 1127	Readings:	1127 - 1158
Volumes:	45000	Volumes:	
Initials:		Initials:	CLH

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-27-08		
TIME:	7:00 AM	TIME:	
Readings:	1158 - 1224	Readings:	
Volumes:	66000 GLS	Volumes:	
Initials:	?	Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

61,000

DATE:	12-29-08		12-30-08
TIME:	0600	TIME:	
Readings:	1249 - 1279	Readings:	1279 - 1310
Volumes:	30000	Volumes:	31,000
Initials:		Initials:	CC

EPAHO114000572

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

90,000

avg: 70,000/day

DATE:	12-5-08		
TIME:	0630	TIME:	
Readings:	62-	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-12-08		12-12-08
TIME:	0630	TIME:	5:00
Readings:	472-514	Readings:	514-562
Volumes:	42000	Volumes:	~~42,000~~ 48,000
Initials:		Initials:	CLH

75,000

DATE:	12-6-08		12-07-08
TIME:	0630	TIME:	6:30
Readings:	156-197	Readings:	197-231
Volumes:	41000 gal.	Volumes:	34000 gl.
Initials:		Initials:	?

DATE:	12-13-08		
TIME:	7:00 AM	TIME:	
Readings:	562-592	Readings:	
Volumes:	31000 GLs	Volumes:	
Initials:	?	Initials:	

DATE:	12-8-08		12-8-08
TIME:	0630	TIME:	5:00
Readings:	231-259	Readings:	TK-5-6-10-9-4
Volumes:	28000	Volumes:	
Initials:		Initials:	CLH

DATE:	12-14-08		
TIME:	8:00 AM	TIME:	
Readings:	592-636	Readings:	
Volumes:	44000	Volumes:	
Initials:	?	Initials:	

DATE:	12-9-08		12-9-08
TIME:	0630	TIME:	5:00pm
Readings:	290-336	Readings:	336-367
Volumes:	46000	Volumes:	31,000
Initials:		Initials:	CL

DATE:	12-15-08		12-16
TIME:	0630	TIME:	5:00pm
Readings:	636-661	Readings:	
Volumes:	25000	Volumes:	661-669
Initials:		Initials:	8,000 CL

50,000

DATE:	12-10-08		
TIME:	0630	TIME:	
Readings:	367-412	Readings:	
Volumes:	45000	Volumes:	
Initials:		Initials:	

DATE:	12-16-08		12/16/08
TIME:	0630	TIME:	3:00
Readings:	669-691	Readings:	691-719
Volumes:	22000	Volumes:	28,000
Initials:		Initials:	CLH

DATE:	12-11-08		12-12
TIME:	0630	TIME:	
Readings:	424-438	Readings:	472
Volumes:	14000	Volumes:	
Initials:		Initials:	CL

69,000

DATE:	12-17-08		12-18-08
TIME:		TIME:	5:00
Readings:	719-760	Readings:	760-783
Volumes:	41,000	Volumes:	23,000
Initials:		Initials:	CL

EPAHO114000573

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

avg. 70K/day

DATE:	11-22-08		
TIME:	0630	TIME:	
Readings:	2817	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11/29/08 SAT		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11/23/08 SUN		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11/30/08 SUN		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-24-06	11-24-06	
TIME:	0630	TIME:	5:00
Readings:	2845	Readings:	[redacted]
Volumes:		Volumes:	TK-9-6-10-12-59-7
Initials:		Initials:	CLH

DATE:	12-1-06		
TIME:	0630	TIME:	
Readings:	2910	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-25-06		
TIME:	0630	TIME:	
Readings:	2864	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-2-06		
TIME:	0630	TIME:	
Readings:	2930	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-26-06		
TIME:	0630	TIME:	
Readings:	2893	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-3-06		
TIME:	0630	TIME:	12-5-08
Readings:	2946	Readings:	110 -
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-26-06		
TIME:	0630	TIME:	
Readings:	2893	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	12-4-06		12-4-06
TIME:	0800	TIME:	5:00
Readings:	0000+39	Readings:	39-62
Volumes:	39000	Volumes:	23,000
Initials:		Initials:	CLH

EPAHO114000574

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

avg. 70,000/day

DATE:	11-8-08		
TIME:	0630	TIME:	
Readings:	2484	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-14-08		
TIME:	0630	TIME:	
Readings:	2667	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

6-5-7-8-9-10-11-8-7-9-12-10-9-5

DATE:	11/9/08 SUN		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-16-08		
TIME:	6:10 a.m	TIME:	
Readings:	MU che	Readings:	
Volumes:	15 TANKS	Volumes:	
Initials:		Initials:	

DATE:	11-10-08		
TIME:	0630	TIME:	5:00
Readings:	2569	Readings:	
Volumes:		Volumes:	TK-5-7-8-6
Initials:		Initials:	CLH

DATE:	11-17-08		11-17-08
TIME:	0630	TIME:	5:00
Readings:	2650	Readings:	
Volumes:		Volumes:	7-6-4-5-8-9-10-12
Initials:		Initials:	CLH

DATE:	11-11-08		11-11-08
TIME:	6630	TIME:	5:00
Readings:	2520	Readings:	
Volumes:		Volumes:	TK-5-6-7-4-8-6-9
Initials:		Initials:	CLH

5 1 12 1 9

DATE:	11-18-08		11-18-08
TIME:	0630	TIME:	5:00
Readings:	2650	Readings:	
Volumes:		Volumes:	4-10-4-6-9-7-5
Initials:		Initials:	CLH

8 1 4

DATE:	11-12-08		11-14-08
TIME:	5:00	TIME:	5:00 p.m
Readings:		Readings:	
Volumes:	TK-8-4-6-10-5-7	Volumes:	6-9-4-5-7-8-
Initials:	CLH	Initials:	6-45-7-12

DATE:	11-19-08	6 1 9 10	11-20-08
TIME:	5:00	TIME:	5:00 p.m
Readings:		Readings:	6,10,12,5,4,6,10
Volumes:	6-10-9-10-9-10-9-5-4-	Volumes:	2,6,7.4,2,8
Initials:	CLH	Initials:	CC

DATE:	11-13-08		11-15-08
TIME:	0630	TIME:	5:00 p.m
Readings:	2571	Readings:	
Volumes:		Volumes:	6-4-5-7-9-10-12
Initials:		Initials:	8-4-5

DATE:	11-21-08		11-21-08
TIME:	0630	TIME:	5:00 p.m
Readings:	2780	Readings:	4,5,1,12,10,9,7,
Volumes:		Volumes:	8,
Initials:		Initials:	

EPAHO114000575

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

avg. 70,000/day

DATE:	10-24-08		
TIME:	0630	TIME:	
Readings:	2206 –	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11/2/08 SUN		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

70,000

DATE:	10-28		
TIME:	7:00 AM	TIME:	
Readings:	2285 – 2316	Readings:	
Volumes:	31000	Volumes:	
Initials:		Initials:	

DATE:	11/3/08		
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-29-08	(TK) 5,12,7,4,8	
TIME:	9900 AM	TIME:	5:28
Readings:	2320 – 2333	Readings:	2333 – 2341
Volumes:	13000	Volumes:	
Initials:		Initials:	CLH

DATE:	11-4-08	11-4-08	
TIME:	0630	TIME:	5:00
Readings:	2427 –	Readings:	
Volumes:		Volumes:	(TK) 4-5-12-9-7-8-12
Initials:		Initials:	CLH

TK → 9-10-4-5-7-12

DATE:	10-30-08	6,4,5,7,9,9,10	
TIME:	2341	TIME:	
Readings:		Readings:	2369
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-5-08	11-6-08	
TIME:	0630	TIME:	
Readings:	2442 –	Readings:	
Volumes:		Volumes:	4,5,6,9,10,5
Initials:		Initials:	EC

TK → 10-12-4-5-7-8-10-4

DATE:	10-31-08		
TIME:	8:00 AM	TIME:	
Readings:	2369 – 2381	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-6-08	11-6-08	
TIME:	5:00	TIME:	0630
Readings:		Readings:	2463 –
Volumes:	8-6-9-7-10-12-9	Volumes:	
Initials:	CLH	Initials:	

70,000

DATE:	11/1/08		
TIME:	9:00 AM	TIME:	
Readings:	2381	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	11-7-08		
TIME:	0630	TIME:	
Readings:	2476 –	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

NOV
27 work days
× 70,000/day
= 1,890,000

EPAHO114000576

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

avg. 70,000/day

DATE:	10-12-06		
TIME:		TIME:	
Readings:	1931-1945	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-13-06		
TIME:	0630	TIME:	
Readings:	1945-1956	Readings:	
Volumes:	11000	Volumes:	
Initials:		Initials:	

DATE:	10-14-06		
TIME:	0630	TIME:	
Readings:	1967-1976	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-15-06		
TIME:	0630	TIME:	
Readings:	1987-2005	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-16-06		
TIME:	0630	TIME:	
Readings:	2024-2049	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-17-06		
TIME:	0630	TIME:	
Readings:	[illegible]-2060-2074	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-18-06		
TIME:	0630	TIME:	
Readings:	2094-2110	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-19-06		
TIME:		TIME:	
Readings:	2110-2121	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-20-06		
TIME:	0630	TIME:	
Readings:	2121-2130	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-21-06		
TIME:	0630	TIME:	
Readings:	2144-2156	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-22-06		
TIME:	0630	TIME:	
Readings:	2166-2177	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	10-23-06		
TIME:	0630	TIME:	
Readings:	2196-2206	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

EPAHO114000577

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

OCT-
27 work days
x 75,000/day
= 2,025,000

34,000

DATE:	9-29-08		
TIME:	0630	TIME:	
Readings:	1492 - 1512	Readings:	
Volumes:	20000	Volumes:	
Initials:		Initials:	

DATE:	10-6-08		
TIME:	0630	TIME:	
Readings:	1752 - 1766	Readings:	
Volumes:	14000	Volumes:	20,000
Initials:		Initials:	

59,000

DATE:	9-30-08		10-1-08
TIME:	0630	TIME:	5:00 A.M
Readings:	1541 - 1561	Readings:	CC
Volumes:	2000	Volumes:	1561 - 1590
Initials:		Initials:	29,000

DATE:	10-7-08		10-7-08
TIME:	0630	TIME:	5:30
Readings:	1781 - 1800	Readings:	8 Tanks
Volumes:	19000	Volumes:	40,000
Initials:		Initials:	CLH

45,000

30,000

DATE:	10-1-08		
TIME:	0630	TIME:	
Readings:	1590 - 1600	Readings:	
Volumes:	10000	Volumes:	20,000
Initials:		Initials:	

DATE:	10-8-08		
TIME:	0630	TIME:	
Readings:	1817 - 1832	Readings:	
Volumes:	15000	Volumes:	30,000
Initials:		Initials:	

31,000

47,000

DATE:	10-2-08		10-3-08
TIME:	0630	TIME:	5:30
Readings:	1614 - 1631	Readings:	1634 - 1661
Volumes:	17000	Volumes:	30,000
Initials:		Initials:	CC

DATE:	10-9-08		10-9-08
TIME:	0630	TIME:	5:00 A.M
Readings:	1839 - 1851	Readings:	
Volumes:	12000	Volumes:	1868 → 19,000
Initials:		Initials:	CC

49,000

41,000

DATE:	10-3-08		
TIME:	0630	TIME:	[illegible]
Readings:	1661 - 1682	Readings:	[illegible]
Volumes:	21000	Volumes:	[illegible] 20,000
Initials:		Initials:	[illegible]

DATE:	10-10-08		
TIME:	0630	TIME:	5:00 P.m 5:00 A.M
Readings:	1868 - 1895	Readings:	1895 - 1914
Volumes:	30,000	Volumes:	19,000 11 tanks
Initials:		Initials:	CC

47,000

47,000

DATE:	10-4-08		
TIME:	0630	TIME:	
Readings:	1706 - 1733	Readings:	
Volumes:	27000	Volumes:	20,000
Initials:		Initials:	

DATE:	10-11-08		
TIME:	9:30	TIME:	
Readings:	[illegible] 1914 - 1931	Readings:	
Volumes:	17,000	Volumes:	30,000
Initials:		Initials:	

EPAHO114000578

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE: 9-15-08			
TIME:	8:00 - 5:30	TIME:	
Readings:	490 - 523	Readings:	
Volumes:	33000	Volumes:	
Initials:		Initials:	

DATE: 9-17-08			
TIME:		TIME:	
Readings:	? - 634	Readings:	
Volumes:	?	Volumes:	
Initials:	CC	Initials:	

DATE: 9-17-08			
TIME:	0630	TIME:	
Readings:	634 - 683	Readings:	
Volumes:	49000 1700	Volumes:	
Initials:		Initials:	

DATE: 9-18-08		9-19-08	
TIME:	0630	TIME:	5:00 A.M
Readings:	729 - 768	Readings:	768 - 821
Volumes:	39000 1700	Volumes:	53,000
Initials:		Initials:	CC

DATE: 9-19-08			
TIME:	0630	TIME:	5:30
Readings:	821 - 876	Readings:	876 - 927
Volumes:	55000 1700	Volumes:	51,000
Initials:		Initials:	CLH

DATE: 9-20-08		9-21-08	
TIME:	0700	TIME:	9:00 AM
Readings:	927 - 966	Readings:	966 - 106
Volumes:	39000	Volumes:	40000 CLS
Initials:		Initials:	YO

DATE: 9-22-08		9-23	
TIME:	0630	TIME:	5:30 5:00 AM
Readings:	1006 - 1054	Readings:	1054 - 1111
Volumes:	48000 1700	Volumes:	57,000
Initials:		Initials:	CC

DATE: 9-23-08			
TIME:	7:00 AM	TIME:	5:30
Readings:	1111 - 1166	Readings:	1166 - 1207
Volumes:	55000	Volumes:	41,000
Initials:		Initials:	CLH

DATE: 9-24-08		9-25-08	
TIME:	0630	TIME:	5:00 PM 5:30 PM
Readings:	1207 - 1246	Readings:	1246 - 1296
Volumes:	39000 1712	Volumes:	50,000
Initials:		Initials:	CC

DATE: 9-25-08			
TIME:	0630	TIME:	5:30
Readings:	1296 - 1328	Readings:	1328 - 1364
Volumes:	32000 1720	Volumes:	36,000
Initials:		Initials:	CLH

DATE: 9-26-08			
TIME:	0630	TIME:	
Readings:	1364 - 1404	Readings:	
Volumes:	40000 1730	Volumes:	
Initials:		Initials:	

DATE: 9-27-08		9-28-08	
TIME:	0630	TIME:	9:00 AM
Readings:	1438 - 1468	Readings:	1468 - 1492
Volumes:	30000	Volumes:	
Initials:		Initials:	

298

1312
1225
24

EPAHO114000579

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:	8-31-08		
TIME:	8:30	TIME:	
Readings:	Son Day	Readings:	
Volumes:	1830 - 1861	Volumes:	
Initials:	31000	Initials:	

DATE:	9-8-08		9-16-08
TIME:	0630	TIME:	0700
Readings:	248 - 276	Readings:	547 - 582
Volumes:	40000	Volumes:	35000 16330
Initials:		Initials:	

DATE:	9-2-08		9-2-08
TIME:	0600	TIME:	1730
Readings:	1861 - 1887	Readings:	1887 - 1904
Volumes:	26000	Volumes:	17000
Initials:		Initials:	

DATE:	9-9-08		
TIME:	0630	TIME:	
Readings:	294 - 313	Readings:	
Volumes:	35000	Volumes:	
Initials:		Initials:	

DATE:	9-3-08		5:30 5:00
TIME:	0630	TIME:	
Readings:	1904 - 22	Readings:	22 - 67
Volumes:	35,000 mm	Volumes:	45,000
Initials:		Initials:	CC

DATE:	9-10-08		
TIME:	0630	TIME:	
Readings:	329 - 371	Readings:	
Volumes:	42000 17:00	Volumes:	
Initials:		Initials:	

DATE:	9-4-08		9-5-08
TIME:	0630	TIME:	0630
Readings:	67 - 118	Readings:	150 - 184
Volumes:	51000	Volumes:	34000
Initials:		Initials:	

DATE:			
TIME:	5:30	TIME:	
Readings:	371 - 411	Readings:	
Volumes:	40000	Volumes:	
Initials:	CLH	Initials:	

DATE:			
TIME:	5:30	TIME:	5:30
Readings:	118 - 150	Readings:	184 - 220
Volumes:	32000	Volumes:	36,000
Initials:	CLH	Initials:	CC

DATE:	9-4-08		
TIME:	0630	TIME:	
Readings:	411 - 445	Readings:	
Volumes:	34000	Volumes:	
Initials:		Initials:	

DATE:	9-7-08		
TIME:	9:00 AM	TIME:	
Readings:	135 - 48000	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:	9-12-06		
TIME:	6630	TIME:	
Readings:	470 -	Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

EPAHO114000580

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

This is a Weekly Log sheet for a 7 day week. This waste water treatment volume sheet is to be completed every day while waste water is processin sheet starts on a Monday at 06:00 AM. Record the reading at the start of the day shift. A recording can be made again if wanted. The night shift mu record a start time and reading with an Initial. The volumes are a simple calculation.

DATE:		8-10-08	8-19-08	8-22-08	8-27-08
TIME:	START 06:00 AM	8:00 AM	5:30p.m	0600	0600
Initials:		373 - 411	CC		
Reading:			905 - 951	1202 - 1255	1561 - 1603
Volume:		38000	46,000	53000	42000 17:30

DATE:	8-11-08		8-19-08			
TIME:	START 06:00 AM	5:30p.m	0600	5:30p.m	5:30	
Initials:		CC		CC	CLH	
Reading:	411 - 452	452 - 482	951 - 988	1255 - 1312	1603 - 1654	
Volume:	41000 17:30	30,000	988 - 37000	57,000	51,000	

DATE:	8-12-08			8-23-8	8-28-08	
TIME:	START 06:00 AM	5:30p.m	5:30 PM	6:00	0600	
Initials:		CC	CLH			
Reading:	482 - 519	519 - 543	988 - 1018	1312 - 1353	1654 - 1700	
Volume:	37000 17:30	24000	30,000	41000	56000 17:30	

DATE:	8-13-08		8-20-08	8-24-08	8-29-08	
TIME:	START 06:00 AM	5:30 PM	0606	9:00 AM	8-28-08	
Initials:		CLH		SALVADOR	CC	
Reading:	543 - 582	582 - 630	1018 - 1057	1353 - 1409	12-10-1735	
Volume:	39000 17:30	48000	39000	56000	25,000	

DATE:	8-14-08			8/25/08 am	8-29-08	
TIME:	START 06:00 AM	5:30p.m	5:30p.m	8am	0600	
Initials:		CC	CC	mm		
Reading:	630 - 674	674 - 720	1057 - 1099	1409 1442	1735 - 1764	
Volume:	41000 17:30	46,000	42,000	33,000	49000	

DATE:	8-15-08	8-17-08	8-21-08	8-26-08		
TIME:	START 06:00 AM	8:00 AM	0600	0600		
Initials:						
Reading:	720 - 761	824 - 870	1099 - 1145	1485 - 1534		
Volume:	41000 17:30	46000	46000	49000	27000	

DATE:	08-16-08	08-18-08		8-26-08	8-30-08	
TIME:	START 06:00 AM	0600	5:00	5:30p.m	0600	
Initials:			CLH	CC		
Reading:	7867 824	870 - 905	1145 - 1202	1534 - 1561	1764 - 1831	
Volume:	36000	35000	57,000	27,000	20000	

EPAHO11400581

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

This is a Weekly Log sheet for a 7 day week. This waste water treatment volume sheet is to be completed every day while waste water is processing. T sheet starts on a Monday at 06:00 AM. Record the reading at the start of the day shift. A recording can be made again if wanted. The night shift must record a start time and reading with an Initial. The volumes are a simple calculation.

DATE:	SAMPLE 7-26-08		7-28-08			8-03-08		8-9-08
TIME:	START 06:00 AM	TIME:	06:00	TIME:		TIME: 8:30	TIME:	0600
Initials:		Initials:		Initials:		Initials:	Initials:	
Reading:	3497-3534	Reading:	3618-3661	Reading:		Reading: 103 - 154	Reading:	331-373
Volume:	37000 GAL.	Volume:	43000 17:30	Volume:		47000	Volume:	42000

DATE:			7-29-08			8-4-08		
TIME:	START 06:00 AM	TIME:	5:00A.m	TIME:		TIME: 0600	TIME:	
Initials:		Initials:	CC	Initials:		Initials:	Initials:	
Reading:		Reading:	3661-3696	Reading:		Reading: 154-200	Reading:	
Volume:		Volume:	35,000	Volume:		46000 17:30	Volume:	

DATE:			7-29-08			8-5-08		
TIME:	START 06:00 AM	TIME:	0600	TIME:		TIME: 0600	TIME:	
Initials:		Initials:		Initials:		Initials:	Initials:	
Reading:		Reading:	3696-3739	Reading:		Reading: 226 = 29	Reading:	
Volume:		Volume:	43000 17:30	Volume:		29 17:20	Volume:	

DATE:			7-30-08		7-31-08		8-6-08	
TIME:	START 06:00 AM	TIME:	0600	TIME:	5:00p.m	TIME: 6:00p.m	TIME:	
Initials:		Initials:		Initials:	CC	Initials:	Initials:	
Reading:		Reading:	3778-3815	Reading:	3815-3862	Reading: 29-63	Reading:	
Volume:		Volume:	37000 17:20	Volume:	47,000	Volume: ~~29~~ 34,000	Volume:	

DATE:			7-31-08			8608		
TIME:	START 06:00 AM	TIME:	0600	TIME:	6:00p.m	TIME: 0600	TIME:	
Initials:		Initials:		Initials:		Initials:	Initials:	
Reading:		Reading:	3862-3899	Reading:	3599-3936	Reading: 63-102	Reading:	
Volume:		Volume:	37000 17:30	Volume:	~~37~~ Σ37,000	Volume: 39000 17:30	Volume:	

DATE:			8-1-08			8-7-08		
TIME:	START 06:00 AM	TIME:	0600	TIME:	3:30p.m	TIME: 0600	TIME:	
Initials:		Initials:		Initials:	CC	Initials:	Initials:	
Reading:		Reading:	3936-21	Reading:	21-69	Reading: 87-139	Reading:	
Volume:		Volume:	52,000	Volume:	48,000	Volume: 52000 GAL 17:30	Volume:	

DATE:						8-8-08		
TIME:	START 06:00 AM	TIME:	6:30	TIME:		TIME: 0600	TIME:	5:30 5:00
Initials:		Initials:		Initials:		Initials:	Initials:	CC
Reading:		Reading:	69 - 107	Reading:		Reading: 228 - 260	Readin	80-331
Volume:		Volume:	38,000	Volume:		Volume: 32000 17:30	Volume:	51,000

EPAHO11400582

WASTE WATER TREATME' PROCESSING VOLUME LOG SHEET

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

EPAHO114000583

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
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Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

EPAHO114000584

WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
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Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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WASTE WATER TREATMENT PROCESSING VOLUME LOG SHEET

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

DATE:			
TIME:		TIME:	
Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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Volumes:		Volumes:	
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Volumes:		Volumes:	
Initials:		Initials:	

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Readings:		Readings:	
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Volumes:		Volumes:	
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Readings:		Readings:	
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Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
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Readings:		Readings:	
Volumes:		Volumes:	
Initials:		Initials:	

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8

EPAHO114000589

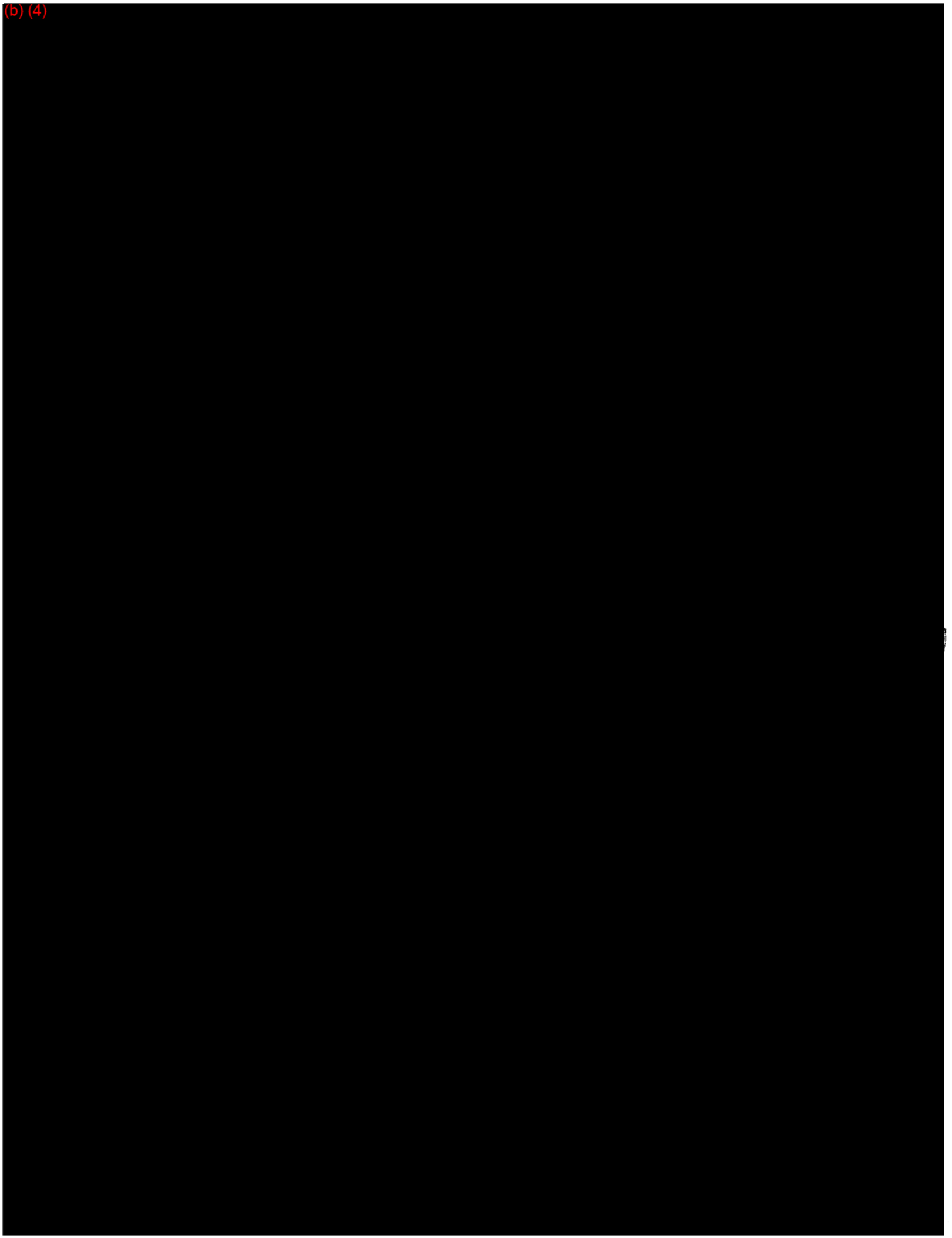
Distillation Log Book

Strapping Charts

(b) (4)

(b) (4)

[redacted]


(b) (4)

Standard Operating Procedure

THINK... USE GOOD JUDGMENT	CES Environmental Services, Inc.	***YOUR ATTITUDE COUNTS***
Date Issued: 11/25/2008	DEPARTMENT(S): -Operations -Processing -Maintenance and Field Services	Revised Date: 00/00/0000
SOP Number: 08-041	SOP Title: Carbon and Diesel Scrubbing (Distillation)	SOP Description: Operation and Maintenance of Carbon and Diesel Scrubbing at CES Environmental Services, Inc.

This Standard Operating Procedure (SOP) details the procedures for Operating and Maintaining the Carbon and Diesel Scrubbing.

The below Test Procedures should be followed each day that the distillation unit is performed. Please note: This does not apply to distillation vapors directed to the thermal oxidizer.

Requirements:

1. All distillation unit maintenance testing is performed by the **Special Processing Technicians**. Note: Test procedures for specific units are below detailed.
2. All Vapors from applicable distillations will be Scrubbed by a Diesel Scrubber Tote followed by Two Carbon Canisters.
3. Check the Level of the Diesel Fuel in the Diesel Scrubber Tote. If the Tote contains less than 100 Gallons then add Diesel Fuel until the Level is back up to 100 Gallons.
4. If the Carbon in the Canisters is Spent, then Diesel Fuel must also be changed when the Carbon is replaced.
5. The **Laboratory** will run a CHLOR-D-TECT on the "Old" Diesel and determine if it can be Recycled into Burner Fuel or if it will have to be dealt with as Waste.
6. When the Carbon needs to be replaced then the Spent Carbon waste will be characterized and managed properly. This determination will be made by the **Laboratory and Quality Assurance Supervisor.**
7. All Testing and Change Out of the Carbon and the Diesel Fuel (along with all other pertinent Distillation Information, i.e. Time Unit Turned On/Off, Time Samples taken, and Density of Samples) must be Logged in the **Distillation Log Book** located on the Bench Table in the **Main Processing Facility Laboratory.** This Distillation Processing Log Sheet is located on the **Shared Drive** within the **Forms and Logos Folder**. Each month, the completed Distillation Log Sheets

will be removed from the **Distillation Log Book** and filed in the **HSE Office** in the appropriate **Environmental Compliance Files**.

Specific Carbon Absorber Test Procedures:

Methylene Chloride (Dichloromethane) Test Instructions:

1. Cut both ends of the Detector Tube and Pretreat Tubes using the Tip Cutter.
2. Align and Pretreat the Detector Tube with Arrows and attach with the Rubber Joiner.
3. Align the Guide Marks on Shaft and the Aspirating Pump.
4. Pull an Air Sample from the Vent Pipe on top of the Second Carbon Canister using the appropriate Gas Detector Tube.
5. Pull the Pump Handle to Full Stroke and wait 90 Seconds.
6. Repeat Step 4 to make 2 Pump Strokes (180 Seconds).
7. Read the Scale on the Indicator Tube by a Color Change from White to Reddish Orange.
8. If there is a Color Change in the Tube then take the Tube to the **Laboratory and Quality Assurance Supervisor** for Analysis and wait for guidance from the **Processing Manager** on whether to turn Off the **Distillation Unit** and Change Out the Carbon and the Diesel Fuel.

Methanol (Methyl Alcohol) Test Instructions:

1. Cut both Ends of the Detector Tube using the Tip Cutter.
2. Align the Detector Tube with the Arrow Facing Pump.
3. Align the Guide Marks on the Shaft and the Aspirating Pump.
4. Pull an Air Sample from the Vent Pipe on top of the Second Carbon Canister using the appropriate Gas Detector Tube.
5. Pull the Pump Handle to Full Stroke and wait 90 Seconds.
6. Read Scale on the Indicator Tube by a Color Change from Yellowish Orange to Light Green.
7. If there is a Color Change in the Tube then take the Tube to the **Laboratory and Quality Assurance Supervisor** for Analysis and wait for guidance from the **Processing Manager** on whether to turn Off the **Distillation Unit** and Change Out the Carbon and the Diesel Fuel.

Methyl Ethyl Ketone Test Instructions:

1. Cut both Ends of the Detector Tube using the Tip Cutter.
2. Align the Detector Tube with the Arrow Facing Pump.
3. Align the Guide Marks on the Shaft and the Aspirating Pump.

4. Pull an Air Sample from the Vent Pipe on top of the Second Carbon Canister using the appropriate Gas Detector Tube.
5. Pull the Pump Handle to Full Stroke and wait 90 Seconds.
6. Repeat Step 4 to make 2 Pump Strokes (180 Seconds).
7. Read the Scale on the Indicator Tube by a Color Change of Orange to Brownish Green.
8. If there is a Color Change in the Tube then take the Tube to the **Laboratory and Quality Assurance Supervisor** for Analysis and wait for guidance from the **Processing Manager** on whether to turn Off the **Distillation Unit** and Change Out the Carbon and the Diesel Fuel.

DISTILLATION UNIT GUIDELINES

- Never leave the distillation unit while transferring material in or out. If you must leave shut the operation down or get someone who is QUALIFIED to watch it for you.
- Always wear proper PPE when operating the distillation units. When handling or transferring this includes: hard hat, safety glasses, face shield, slicker suit, PVC boots and gloves and respiratory protection.
- Make sure you always know the levels in the transfer tote in the front unit and the tank trailers you are pumping or distilling into. Do not over fill trailers or totes.
- Always do a vapor exchange while transferring any material into or out of the distillation units.
- Do not spill any material, if you do contain and report immediately.
- Always double check the trailer number you are loading into or out of, never load the material in the wrong trailer.
- Always monitor the temperatures and fill out your log every hour.
- Do not damage equipment by pumping against closed valves or throttled inlets.
- Ensure all hoses are not kinked or pinched closed.
- Do not let the chiller shut off during distillation, if the chiller malfunctions, stop heating the distillation unit until the chiller is working.
- Make sure all vapors are being scrubbed to carbon during distillation.
- Make sure all hoses are disconnected from trailers before you attempt to move them.
- Close all valves and latch the dome before you move any trailer with holding material.
- By double checking every step and paying close attention, the operator should be confident that mistakes will not occur. Under no circumstances should the operator take for granted that the operation is ready. He must always double check and verify that every procedure is done correctly and ask questions if needed.

TARGET SHEET

SITE NAME: CES ENVIRONMENTAL

CERCLIS I.D.: TXD008950461

TITLE OF DOC.: [REDACTED] CES ORIGINALS - DISK 5 FOLDER 7

DATE OF DOC.: 07/31/2014

NO. OF PGS. THIS TARGET SHEET REPLACES: 113

SDMS #: 9586091 **RELATED #:** 9531694

SENSITIVE ?	X	**MISSING PAGES ?**	
ALTERN. MEDIA ?		**CROSS REFERENCE ?**	

LAB DOCUMENT ?		**LAB NAME:**	
ASC./BOX #:			
CASE #:		**SDG #:**	

COMMENTS : PAGES 798-910 (BATES NUMBERS EPAHO114000600-EPAHO114000712) WERE REDACTED FROM THIS DOCUMENT DUE TO FOIA EXEPTION B(4) - CONFIDENTIAL BUSINESS INFORMATION.

DATE	TRAILER #	CONTENTS	DENSITY	QUANTITY	% PRODUCT

Tr. #213

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MISSION PETROLEUM CARRIERS, INC.

TANK GAUGE TABLE

E. W. SAYBOLT & CO., INC.

JOS. H. McCABE JOS. H. McCABE, JR.
APPROVED AND LICENSED BY THE NEW YORK PRODUCE EXCHANGE

INSPECTORS OF PETROLEUM

HOUSTON 2, TEXAS

GALENA PARK, TEXAS TRAILER NO. 486

SERIAL NO. OMR-632104

GAUGE HEIGHT 6'-5 1/2"

IN	0 FT	IN	1 FT	IN	2 FT	IN	3 FT	IN	4 FT	IN	5 FT	IN	6 FT	IN
0		0	[illegible]	0	[illegible]	0	3.208	0	4.790	0	6.275	0	7.128	0
1/4	1	1/4	[illegible]	1/4	[illegible]	1/4	3.242	1/4	4.822	1/4	6.300	1/4	7.139	1/4
1/2	3	1/2	531 6	1/2	[illegible]	1/2	3.276	1/2	4.855	1/2	6.325	1/2	7.150	1/2
3/4	5	3/4	538	3/4	[illegible]	3/4	3.310	3/4	4.888	3/4	6.350	3/4	7.161	3/4
1	7	1	559	1	[illegible]	1	3.344	1	4.921	1	6.375	1	7.172	1
1/4	9	1/4	581 4	1/4	[illegible]	1/4	3.378	1/4	4.954	1/4	6.400	1/4	7.183	1/4
1/2	11	1/2	603	1/2	[illegible]	1/2	3.412	1/2	4.987	1/2	6.426	1/2	7.195	1/2
3/4	13	3/4	624	3/4	[illegible]	3/4	3.446	3/4	5.019	3/4	6.451	3/4	7.206	3/4
2	15	2	646	2	[illegible]	2	3.480	2	5.052	2	6.476	2	7.217	2
1/4	17	1/4	668	1/4	[illegible]	1/4	3.514	1/4	5.085	1/4	6.501	1/4	7.228	1/4
1/2	19	1/2	689	1/2	[illegible]	1/2	3.548	1/2	5.118	1/2	6.526	1/2	7.239	1/2
3/4	21	3/4	711	3/4	2027	3/4	3.582	3/4	5.151	3/4	6.551	3/4	7.251	3/4
3	23	3	733	3	2058	3	3.616	3	5.184	3	6.577	3	7.251	3
1/4	25	1/4	757	1/4	2089	1/4	3.648	1/4	5.214	1/4	6.601	1/4	7.252	1/4
1/2	30	1/2	782	1/2	2120	1/2	3.680	1/2	5.245	1/2	6.625	1/2	7.252	1/2
3/4	35	3/4	806	3/4	2152	3/4	3.712	3/4	5.276	3/4	6.649	3/4	7.253	3/4
4	40	4	831	4	2183	4	3.745	4	5.307	4	6.673	4	7.253	4
1/4	45	1/4	856	1/4	2215	1/4	3.777	1/4	5.338	1/4	6.697	1/4	7.254	1/4
1/2	51	1/2	880	1/2	2246	1/2	3.809	1/2	5.369	1/2	6.721	1/2	7.254	1/2
3/4	59	3/4	905	3/4	2278	3/4	3.841	3/4	5.400	3/4	6.745	3/4	7.255	3/4
5	67	5	929	5	2309	5	3.874	5	5.431	5	6.769	5	7.256	5
1/4	75	1/4	954	1/4	2340	1/4	3.906	1/4	5.462	1/4	6.793	1/4	7.256	1/4
1/2	83	1/2	978	1/2	2372	1/2	3.938	1/2	5.493	1/2	6.817	1/2	7.257	1/2
3/4	91	3/4	1003	3/4	2403	3/4	3.970	3/4	5.524	3/4	6.841	3/4		3/4
6	100	6	1028	6	2435	6	4.003	6	5.555	6	6.866	6		6
1/4	113	1/4	1054	1/4	2467	1/4	4.035	1/4	5.585	1/4	6.887	1/4		1/4
1/2	126	1/2	1.080	1/2	2499	1/2	4.067	1/2	5.615	1/2	6.908	1/2		1/2
3/4	139	3/4	1.106	3/4	2532	3/4	4.099	3/4	5.645	3/4	6.930	3/4		3/4
7	153	7	1.132	7	2564	7	4.131	7	5.676	7	6.951	7		7
1/4	166	1/4	1.158	1/4	2596	1/4	4.163	1/4	5.706	1/4	6.973	1/4		1/4
1/2	179	1/2	1.184	1/2	2629	1/2	4.196	1/2	5.736	1/2	6.994	1/2		1/2
3/4	192	3/4	1.210	3/4	2661	3/4	4.228	3/4	5.766	3/4	7.016	3/4		3/4
8	206	8	1.236	8	2693	8	4.260	8	5.797	8	7.037	8		8
1/4	219	1/4	1.262	1/4	2726	1/4	4.292	1/4	5.827	1/4	7.058	1/4		1/4
1/2	232	1/2	1.288	1/2	2758	1/2	4.324	1/2	5.857	1/2	7.080	1/2		1/2
3/4	245	3/4	1.314	3/4	2790	3/4	4.356	3/4	5.887	3/4	7.101	3/4		3/4
9	259	9	1.340	9	2823	9	4.389	9	5.918	9	7.123	9		9
1/4	276	1/4	1.369	1/4	2855	1/4	4.422	1/4	5.947	1/4	7.140	1/4		1/4
1/2	294	1/2	1.398	1/2	2887	1/2	4.455	1/2	5.977	1/2	7.157	1/2		1/2
3/4	312	3/4	1.427	3/4	2919	3/4	4.489	3/4	6.007	3/4	7.174	3/4		3/4
10	330	10	1.456	10	2951	10	4.522	10	6.037	10	7.191	10		10
1/4	348	1/4	1.485	1/4	2983	1/4	4.556	1/4	6.066	1/4	7.208	1/4		1/4
1/2	366	1/2	1.515	1/2	3015	1/2	4.589	1/2	6.096	1/2	7.225	1/2		1/2
3/4	383	3/4	1.544	3/4	3047	3/4	4.623	3/4	6.126	3/4	7.242	3/4		3/4
11	401	11	1.573	11	3079	11	4.656	11	6.156	11	7.259	11		11
1/4	419	1/4	1.602	1/4	3111	1/4	4.689	1/4	6.185	1/4	7.276	1/4		1/4
1/2	437	1/2	1.631	1/2	3143	1/2	4.723	1/2	6.215	1/2	7.293	1/2		1/2
3/4	455	3/4	1.660	1/4	3.176	3/4	4.756	3/4	6.245	1/4	7.310	3/4		3/4

STRAPPED BY: TWM 7/18/73

COMPUTED BY: CEK 7/18/73

CC: [illegible]

FORM M-11-C

J. G. Iguarra

DEPUTY INSPECTOR OF PETROLEUM
APPROVED BY NEW YORK PRODUCE EXCHANGE

EPAHO114000714

Tr. 413, 414, 415, 416, 411

5 1/2"

ATTN: MATT BOWMAN
CES ENVIRONMENT.
FAX 713-974-1461

)chart

STRAPPING CHART

59chart

STRAPPING CHART

TRAIGHT RND (59" ID x 456" Seam/Seam)

otal. lume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)	Total Volume	Height from Bottom (In Inches)
1.8	0.25	437.2	7.75	1148.4	15.25	1991.6	22.75	2890.3	30.25	3781.78	37.75	4601.98	45.25	5267.21	52.75
1.2	0.50	457.7	8.00	1174.9	15.50	2021.0	23.00	2920.4	30.50	3810.66	38.00	4627.23	45.50	5285.24	53.00
5.8	0.75	478.4	8.25	1201.5	15.75	2050.5	23.25	2950.6	30.75	3839.45	38.25	4652.30	45.75	5302.94	53.25
3.5	1.00	499.4	8.50	1228.3	16.00	2080.1	23.50	2980.7	31.00	3868.16	38.50	4677.20	46.00	5320.28	53.50
2.0	1.25	520.7	8.75	1255.2	16.25	2109.6	23.75	3010.9	31.25	3896.78	38.75	4701.92	46.25	5337.25	53.75
1.3	1.50	542.2	9.00	1282.2	16.50	2139.3	24.00	3041.0	31.50	3925.32	39.00	4726.46	46.50	5353.85	54.00
1.3	1.75	564.0	9.25	1309.3	16.75	2169.0	24.25	3071.1	31.75	3953.76	39.25	4750.82	46.75	5370.06	54.25
2.1	2.00	586.0	9.50	1336.6	17.00	2198.7	24.50	3101.2	32.00	3982.11	39.50	4774.98	47.00	5385.87	54.50
3.4	2.25	608.3	9.75	1364.0	17.25	2228.5	24.75	3131.2	32.25	4010.37	39.75	4798.95	47.25	5401.26	54.75
5.4	2.50	630.8	10.00	1391.5	17.50	2258.3	25.00	3161.2	32.50	4038.53	40.00	4822.73	47.50	5416.21	55.00
7.9	2.75	653.5	10.25	1419.1	17.75	2288.2	25.25	3191.2	32.75	4066.58	40.25	4846.30	47.75	5430.72	55.25
0.9	3.00	676.4	10.50	1446.9	18.00	2318.1	25.50	3221.2	33.00	4094.53	40.50	4869.66	48.00	5444.77	55.50
4.5	3.25	699.6	10.75	1474.7	18.25	2348.0	25.75	3251.2	33.25	4122.38	40.75	4892.81	48.25	5458.32	55.75
8.5	3.50	723.0	11.00	1502.7	18.50	2378.0	26.00	3281.1	33.50	4150.11	41.00	4915.74	48.50	5471.37	56.00
3.0	3.75	746.5	11.25	1530.7	18.75	2408.0	26.25	3310.9	33.75	4177.74	41.25	4938.46	48.75	5483.88	56.25
8.0	4.00	770.3	11.50	1558.9	19.00	2438.0	26.50	3340.7	34.00	4205.25	41.50	4960.95	49.00	5495.83	56.50
2.4	4.25	794.3	11.75	1587.1	19.25	2468.1	26.75	3370.5	34.25	4232.64	41.75	4983.20	49.25	5507.19	56.75
9.2	4.50	818.4	12.00	1615.5	19.50	2498.2	27.00	3400.3	34.50	4259.91	42.00	5005.22	49.50	5517.91	57.00
5.4	4.75	842.8	12.25	1643.9	19.75	2528.3	27.25	3430.0	34.75	4287.05	42.25	5027.00	49.75	5527.96	57.25
2.9	5.00	867.3	12.50	1672.5	20.00	2558.4	27.50	3459.6	35.00	4314.07	42.50	5048.53	50.00	5537.27	57.50
9.8	5.25	892.0	12.75	1701.1	20.25	2588.5	27.75	3489.2	35.25	4340.96	42.75	5069.81	50.25	5545.79	57.75
6.3	5.50	916.8	13.00	1729.8	20.50	2618.7	28.00	3518.7	35.50	4367.71	43.00	5090.82	50.50	5553.41	58.00
4.0	5.75	942.0	13.25	1758.5	20.75	2648.8	28.25	3548.2	35.75	4394.33	43.25	5111.58	50.75	5560.02	58.25
2.0	6.00	967.3	13.50	1787.3	21.00	2679.0	28.50	3577.6	36.00	4420.81	43.50	5132.06	51.00	5565.43	58.50
0.4	6.25	992.7	13.75	1816.4	21.25	2709.2	28.75	3607.0	36.25	4447.15	43.75	5152.26	51.25	5569.25	58.75
9.1	6.50	1018.2	14.00	1845.4	21.50	2739.3	29.00	3636.3	36.50	4473.34	44.00	5172.17	51.50	5569.25	59.00
8.1	6.75	1044.0	14.25	1874.5	21.75	2769.5	29.25	3665.5	36.75	4499.38	44.25	5191.80	51.75		
7.5	7.00	1069.9	14.50	1903.7	22.00	2799.7	29.50	3694.7	37.00	4525.27	44.50	5211.12	52.00		
7.1	7.25	1095.9	14.75	1932.9	22.25	2829.9	29.75	3723.8	37.25	4551.00	44.75	5230.14	52.25		
7.0	7.50	1122.1	15.00	1962.2	22.50	2860.1	30.00	3752.8	37.50	4576.57	45.00	5248.83	52.50		

EPAHO11400071S

249

BUTLER MANUFACTURING COMPANY

CAPACITY CHART

CHART NO. T-28593

MODEL: 6700 G.S.F. HC-30755 65-3/4" I.D. x 446" Shell LT-326 79554 98

CUSTOMER: Chem Haulers, Inc.

SERIAL NO. 1958B10

COMPARTMENT 1 of 1

CAPACITIES IN U.S. GALLONS - INSIDE Bottom OF SHELL

IN.	0 FT.	IN.	1 FT.	IN.	2 FT.	IN.	3 FT.	IN.	4 FT.	IN.	5 FT.
0	0	0	849	0	2235	0	3764	0	5251	0	6435
¼	3	¼	874	¼	2267	¼	3796	¼	5280	¼	6456
½	8	½	900	½	2298	½	3827	½	5308	½	6474
¾	14	¾	926	¾	2329	¾	3859	¾	5337	¾	6492
1	22	1	952	1	2361	1	3891	1	5366	1	6509
¼	30	¼	978	¼	2392	¼	3923	¼	5394	¼	6525
½	39	½	1004	½	2424	½	3955	½	5423	½	6543
¾	50	¾	1031	¾	2455	¾	3987	¾	5451	¾	6559
2	61	2	1058	2	2487	2	4019	2	5479	2	6574
¼	72	¼	1085	¼	2519	¼	4051	¼	5507	¼	6589
½	85	½	1112	½	2550	½	4083	½	5534	½	6604
¾	97	¾	1139	¾	2582	¾	4115	¾	5562	¾	6619
3	111	3	1166	3	2614	3	4146	3	5589	3	6631
¼	125	¼	1194	¼	2646	¼	4178	¼	5617	¼	6644
½	139	½	1222	½	2678	½	4210	½	5644	½	6656
¾	154	¾	1250	¾	2709	¾	4241	¾	5671	¾	6668
4	170	4	1278	4	2741	4	4273	4	5698	4	6679
¼	186	¼	1305	¼	2773	¼	4305	¼	5724	¼	6689
½	202	½	1334	½	2805	½	4336	½	5751	½	6698
¾	219	¾	1363	¾	2837	¾	4368	¾	5777	¾	6707
5	236	5	1391	5	2869	5	4399	5	5803	5	6714
¼	254	¼	1420	¼	2901	¼	4431	¼	5829	¼	6721
½	272	½	1449	½	2933	½	4462	½	5854	½	6725
¾	291	¾	1478	¾	2965	¾	4493	¾	5880	¾	6729
6	309	6	1507	6	2997	6	4524	6	5905	6	
¼	328	¼	1536	¼	3029	¼	4556	¼	5930	¼	
½	348	½	1566	½	3061	½	4587	½	5955	½	
¾	368	¾	1595	¾	3093	¾	4618	¾	5980	¾	
7	388	7	1625	7	3125	7	4649	7	6004	7	
¼	408	¼	1654	¼	3157	¼	4680	¼	6028	¼	
½	429	½	1684	½	3189	½	4711	½	6052	½	
¾	450	¾	1714	¾	3221	¾	4741	¾	6076	¾	
8	472	8	1744	8	3253	8	4772	8	6100	8	
¼	493	¼	1774	¼	3285	¼	4803	¼	6123	¼	
½	515	½	1804	½	3316	½	4833	½	6146	½	
¾	537	¾	1835	¾	3348	¾	4864	¾	6169	¾	
9	560	9	1865	9	3380	9	4894	9	6191	9	
¼	583	¼	1895	¼	3412	¼	4924	¼	6213	¼	
½	606	½	1926	½	3444	½	4954	½	6235	½	
¾	629	¾	1956	¾	3476	¾	4984	¾	6257	¾	
10	652	10	1987	10	3508	10	5014	10	6278	10	
¼	676	¼	2018	¼	3540	¼	5044	¼	6299	¼	
½	700	½	2049	½	3572	½	5074	½	6320	½	
¾	724	¾	2080	¾	3604	¾	5104	¾	6341	¾	
11	749	11	2111	11	3636	11	5133	11	6361	11	
¼	773	¼	2142	¼	3668	¼	5163	¼	6381	¼	
½	798	½	2173	½	3700	½	5192	½	6400	½	

TRL-255

INCHES	GALLONS
.00	0.
.25	3.
.50	8.
.75	14.
1.00	22.
1.25	31.
1.50	40.
1.75	51.
2.00	62.
2.25	74.
2.50	86.
2.75	100.
3.00	113.
3.25	128.
3.50	142.
3.75	158.
4.00	174.
4.25	190.
4.50	207.
4.75	224.
5.00	242.
5.25	260.
5.50	278.
5.75	297.
6.00	316.
6.25	336.
6.50	355.
6.75	376.
7.00	396.
7.25	417.
7.50	438.
7.75	460.
8.00	482.
8.25	504.
8.50	526.
8.75	549.
9.00	572.
9.25	595.
9.50	619.
9.75	642.
10.00	667.
10.25	691.
10.50	715.
10.75	740.
11.00	765.
11.25	790.
11.50	816.
11.75	841.
12.00	867.
12.25	893.
12.50	920.
12.75	946.
13.00	973.

INCHES	GALLONS
13.25	1000.
13.50	1027.
13.75	1054.
14.00	1081.
14.25	1109.
14.50	1137.
14.75	1165.
15.00	1193.
15.25	1221.
15.50	1250.
15.75	1278.
16.00	1307.
16.25	1336.
16.50	1365.
16.75	1394.
17.00	1423.
17.25	1453.
17.50	1483.
17.75	1512.
18.00	1542.
18.25	1572.
18.50	1602.
18.75	1633.
19.00	1663.
19.25	1694.
19.50	1724.
19.75	1755.
20.00	1786.
20.25	1817.
20.50	1848.
20.75	1879.
21.00	1910.
21.25	1942.
21.50	1973.
21.75	2005.
22.00	2037.
22.25	2068.
22.50	2100.
22.75	2132.
23.00	2164.
23.25	2196.
23.50	2228.
23.75	2261.
24.00	2293.
24.25	2325.
24.50	2358.
24.75	2390.
25.00	2423.
25.25	2455.
25.50	2488.
25.75	2521.
26.00	2554.
26.25	2587.

INCHES	GALLONS
26.50	2619.
26.75	2652.
27.00	2685.
27.25	2719.
27.50	2752.
27.75	2785.
28.00	2818.
28.25	2851.
28.50	2884.
28.75	2918.
29.00	2951.
29.25	2984.
29.50	3018.
29.75	3051.
30.00	3085.
30.25	3118.
30.50	3152.
30.75	3185.
31.00	3219.
31.25	3252.
31.50	3286.
31.75	3319.
32.00	3353.
32.25	3386.
32.50	3420.
32.75	3454.
33.00	3487.
33.25	3521.
33.50	3554.
33.75	3588.
34.00	3621.
34.25	3655.
34.50	3688.
34.75	3722.
35.00	3755.
35.25	3789.
35.50	3822.
35.75	3856.
36.00	3889.
36.25	3923.
36.50	3956.
36.75	3989.
37.00	4023.
37.25	4056.
37.50	4089.
37.75	4122.
38.00	4155.
38.25	4188.
38.50	4222.
38.75	4255.
39.00	4288.
39.25	4320.
39.50	4353.

INCHES	GALLONS
39.75	4386.
40.00	4419.
40.25	4452.
40.50	4484.
40.75	4517.
41.00	4549.
41.25	4582.
41.50	4614.
41.75	4646.
42.00	4679.
42.25	4711.
42.50	4743.
42.75	4775.
43.00	4807.
43.25	4839.
43.50	4870.
43.75	4902.
44.00	4934.
44.25	4965.
44.50	4997.
44.75	5028.
45.00	5059.
45.25	5090.
45.50	5121.
45.75	5152.
46.00	5183.
46.25	5213.
46.50	5244.
46.75	5274.
47.00	5305.
47.25	5335.
47.50	5365.
47.75	5395.
48.00	5424.
48.25	5454.
48.50	5484.
48.75	5513.
49.00	5542.
49.25	5571.
49.50	5600.
49.75	5629.
50.00	5657.
50.25	5686.
50.50	5714.
50.75	5742.
51.00	5770.
51.25	5798.
51.50	5826.
51.75	5853.
52.00	5880.
52.25	5907.
52.50	5934.
52.75	5961.

INCHES	GALLONS
53.00	5987.
53.25	6014.
53.50	6040.
53.75	6066.
54.00	6091.
54.25	6117.
54.50	6142.
54.75	6167.
55.00	6192.
55.25	6216.
55.50	6240.
55.75	6265.
56.00	6288.
56.25	6312.
56.50	6335.
56.75	6358.
57.00	6381.
57.25	6403.
57.50	6425.
57.75	6447.
58.00	6469.
58.25	6490.
58.50	6511.
58.75	6531.
59.00	6552.
59.25	6571.
59.50	6591.
59.75	6610.
60.00	6629.
60.25	6647.
60.50	6665.
60.75	6683.
61.00	6700.
61.25	6717.
61.50	6733.
61.75	6749.
62.00	6765.
62.25	6779.
62.50	6794.
62.75	6807.
63.00	6821.
63.25	6833.
63.50	6845.
63.75	6856.
64.00	6867.
64.25	6876.
64.50	6885.
64.75	6893
65.00	6899.
65.25	6904.
65.50	6907.
.00	0.
.00	0.

T-478 : 261 & 262 + .338

CALIBRATION CHART STRAIGHT ROUND
INNAGE
** US GALLONS **

COMPARTMENT LENGTH= 468.000 INCHES
HEAD GALLONAGE= 171. GALLONS
BARREL/CPT I.D.= 65.855 INCHES
INCREMENT= .250 INCHES

	0 FT	1 FT	2FT	3FT	4 FT	5 FT
.00	0.	873.	2324.	3958.	5531.	6766.
.25	3.	900.	2357.	3992.	5561.	6785.
.50	8.	926.	2390.	4026.	5591.	6804.
.75	14.	953.	2424.	4060.	5621.	6822.
1.00	22.	980.	2457.	4094.	5651.	6840.
1.25	31.	1007.	2490.	4128.	5681.	6858.
1.50	40.	1035.	2524.	4163.	5711.	6875.
1.75	51.	1063.	2557.	4197.	5740.	
2.00	62.	1090.	2591.	4230.	5769.	
2.25	74.	1118.	2624.	4264.	5798.	6923.
2.50	86.	1147.	2658.	4298.	5827.	6938.
2.75	99.	1175.	26[illegible]		5856.	6953.
3.00	113.	1204.	2725.	4366.	5885.	6967.
3.25	128.	1232.	2759.	4400.	5913.	6980.
3.50	142.	1261.	2793.	4433.	5942.	6993.
3.75	158.	1290.	2827.	4467.	5970.	7005.
4.00	174.	1320.	2861.	4501.	5998.	7017.
4.25	190.	1349.	[illegible]	[illegible]	[illegible]	7027.
4.50	207.	1378.	2929.	4567.	6053.	7037.
4.75	224.	1408.	2963.	4601.	6080.	7046.
5.00	242.	1438.	2997.	4634.	6107.	7054.
5.25	260.	1468.	3031.	4667.	6134.	7062.
5.50	278.	1498.	3066.	4701.	6161.	7067.
5.75	297.	1529.	3100.	[illegible]	[illegible]	7071.
6.00			[illegible]	4767.	6214.	
6.25	336.	1589.	3168.	4800.	6240.	
6.50	356.	1620.	3202.	4833.	6266.	
6.75	377.	1651.	3237.	4865.	6291.	
7.00	398.	1682.	3271.	4898.	6317.	
7.25	419.	1713.	3305.	4931.	6342.	
7.50	440.	1744.	3340.	4963.	6367.	
7.75	462.	1776.	3374.	4996.	6391.	
8.00	484.	1807.	3408.	5028.	6416.	
8.25	506.	1839.	3443.	5060.	6440.	
8.50	529.	1870.	3477.	5092.	6464.	
8.75	552.	1902.	3512.	5124.	6487.	
9.00	575.	1934.	3546.	5156.	6511.	
9.25	598.	1966.	3580.	5188.	6534.	
9.50	622.	1998.	3615.	5220.	6556.	
9.75	646.	2030.	3649.	5252.	6579.	
10.00	670.	2063.	3683.	5283.	6601.	
10.25	695.	2095.	3718.	5314.	6623.	
10.50	720.	2127.	3752.	5346.	6644.	
10.75	745.	2160.	3786.	5377.	6666.	
11.00	770.	2193.	3821.	5408.	6686.	
11.25	795.	2225.	3855.	5439.	6707.	
11.50	821.	2258.	3889.	5469.	6727.	
11.75	847.	2291.	3923.	5500.	6747.	

TOTAL COMPARTMENT VOLUME 7072. GALLONS.
THIS CHART IS BASED ON THEORETICAL DIMENSIONS.
AN ACTUAL WATER CALIBRATION MAY BE NECESSARY FOR GREATER ACCURACY.

Received Fax : OCT 25 2001 10:05AM Fax Station : HP LASERJET 3200 p. 1

10-25-01;10:12AM;Matlack Inc. ;302 426 3298 # 1/ 1

LIQUID and BULK TANK DIVISION
FRUEHAUF CORPORATION

P. O. BOX 727 • UNIONTOWN, PENNSYLVANIA 15401 • TEL. (412) 438-0585

TANK GAUGE TABLE

TANK MUST BE LEVEL TO INSURE ACCURATE CAPACITY READINGS

2812 ST-2813 Thru 2817 Tr. # 2815

NAME MATLACK INC. SERIAL NO. UNV 6369-10 COMPARTMENT 1 OF 1

JULY 5, 1979

0 FT.		1 FT.		2 FT.		3 FT.		4 FT.		5 FT.		6 FT.	
IN.	GALLONS	IN.	GALLONS	IN.	GALLONS	IN.	GALLONS	IN.	GALLONS	IN.	GALLONS	IN.	GALLONS
0		0	468	0	1746	0	3366	0	5100	0	6699	0	7879
⅛	2	⅛	489	⅛	1777	⅛	3400	⅛	5133	⅛	6728	⅛	7894
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
1	7	1	553	1	1869	1	3500	1	5233	1	6814	1	7939
⅛	8	⅛	574	⅛	1900	⅛	3536	⅛	5266	⅛	6842	⅛	7959
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
2	13	2	637	2	2000	2	3645	2	5366	2	6928	2	7999
⅛	15	⅛	658	⅛	2033	⅛	3682	⅛	5400	⅛	6957	⅛	8009
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
3	20	3	725	3	2133	3	3791	3	5500	3	7042	3	8039
⅛	27	⅛	750	⅛	2167	⅛	3827	⅛	5533	⅛	7071	⅛	8049
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
4	49	4	825	4	2267	4	3936	4	5633	4	7149	4	8072
⅛	56	⅛	850	⅛	2300	⅛	3972	⅛	5666	⅛	7174	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
5	78	5	925	5	2400	5	4082	5	5766	5	7249	5	
⅛	85	⅛	950	⅛	2433	⅛	4118	⅛	5800	⅛	7274	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
6	112	6	1025	6	2533	6	4227	6	5900	6	7349	6	
⅛	124	⅛	1050	⅛	2567	⅛	4263	⅛	5933	⅛	7374	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
7	159	7	1131	7	2666	7	4372	7	6033	7	7449	7	
⅛	171	⅛	1161	⅛	2700	⅛	4409	⅛	6066	⅛	7474	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
8	206	8	1254	8	2809	8	4518	8	6166	8	7544	8	
⅛	218	⅛	1285	⅛	2845	⅛	4554	⅛	6199	⅛	7566	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
9	253	9	1377	9	2954	9	4663	9	6299	9	7633	9	
⅛	265	⅛	1408	⅛	2991	⅛	4700	⅛	6333	⅛	7655	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
10	300	10	1500	10	3100	10	4809	10	6433	10	7719	10	
⅛	321	⅛	1531	⅛	3133	⅛	4845	⅛	6466	⅛	7739	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	
11	384	11	1623	11	3233	11	4954	11	6566	11	7799	11	
⅛	405	⅛	1654	⅛	3266	⅛	4991	⅛	6599	⅛	7819	⅛	
¼		¼		¼		¼		¼		¼		¼	
⅜		⅜		⅜		⅜		⅜		⅜		⅜	

MARKER HEIGHT _____ MARKER HEIGHT _____ MARKER HEIGHT _____

Quiz

EPAHO1140000720

DISTILLATION QUIZ

Name_____ **Date**_____

1. What does vapor exchange mean and how is it accomplished when transloading into a distillation unit?

2. Explain how and where to pump the water created by steam condensate in the front distillation unit when the water plant guys are not here.

3. Where should the water under the back sump be pumped when the sump fills up?

4. At what temperature does Mehtylene Chloride boil?
5. At what temperature does Methanol boil?
6. At what temperature does water boil?

7. What purpose does the chiller serve in distillation?

8. If you close the valve coming from the distillation tower to the chiller during distillation what could happen?

9. Is it possible to collapse a tank trailer while unloading? If so how?

10. Explain how our distillation system works.

MEK → .85

Evalca → .87

~~413~~

415-69½

416-28½

255-45¼

262-28½

213 22

#2 249-27½

414-54½

~~413-53~~

#3 538/28 7000

569¼

1440

7009

CES Environmental Services, Inc.

LAB PRODUCT SAMPLES

Methylene Chloride & Methanol Only!

4/67

DISTILLATION UNIT 1 PROCESSING LOG SHEET

(North Unit in the Warehouse Facility)

DATE	Distillation Unit Operation Time		Sampling TIME (per hour)	DENSITY	PROCESSING TEMPERTURE				
	ON	OFF			POT	STACK 1 (Middle)	STACK 2 (East)	CHILLER IN	CHILLER OUT

Distillation Unit 1 Processing Log Sheet, Warehouse Unit, 6-24-2008

DISTILLATION UNIT 3 PROCESSING LOG SHEET

South South ISO Unit No. 65

DATE	Distillation Unit Operation Time		Sampling TIME (per hour)	DENSITY	PROCESSING TEMPERTURE				
	ON	OFF			POT	STACK BOTTOM	STACK TOP		

Distillation Unit 3 Processing Log Sheet, South South ISO Unit No. 65 , 6-24-2008, Active

OPERATOR: _____ Date: _____

	ok	not ok	explain/corrections
Check level of caustic/bleach vat	☐	☐	_____
Check smell of caustic/bleach vat sample	☐	☐	_____
Check level of deodorizer vat	☐	☐	_____
Check smell of deodorizer vat sample	☐	☐	_____
Check smell of sample port on stack	☐	☐	_____
Drain valve below blower	☐	☐	_____
Clean all containments & catch pans	☐	☐	_____
Is liquid blowing out of stack?	☐	☐	_____
Check site glasses for proper flow	☐	☐	_____
Check for unusual noises	☐	☐	_____
Check for leaks on or around area	☐	☐	_____
Drain knockout drum	☐	☐	_____

OPERATOR NOTES. (Please be specific on any problems noted or corrective action taken.)

_____

_____

_____

_____

CES Environmental Services, Inc.

PRODUCT DATA LOG SHEET

OIL & SOLVENT TESTING

Product Log

EPAHO114000730

LAB
T-21
8/4/09
CE

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7-29	Time 11:15	Tubal-CAIN	Trailer No.= 241	Btu= %Solids= 4%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 89347 OUT#: Profile No.= 3439	Water (% ppm)= 96% . #'s/gal= 8.34	Specific Gravity = 1.00 ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Fuel Oil + Water			Inbound YES NO Outbound YES NO OUT #: TK-2391			
			PH & TOC. Phenol 5 Processdown						
Date 8-3	Time 10:30	Ammo	Trailer No.= BT407	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 89562 OUT#: Profile No.= 2366	Water (% ppm)= .091 . #'s/gal= 7.22	Specific Gravity = .9866 ... API= 32			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1245			
Date	Time		Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#: Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:			Inbound YES NO Outbound YES NO OUT #:			
Date	Time		Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#: Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:			Inbound YES NO Outbound YES NO OUT #:			

EPAHO114000732

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7-23	Time 10:55	ALAMO	Trailer No.= BT407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#: 89253 Profile No.= 2366	Water (% ppm)= 0.03% . #'s/gal= 7.20	Specific Gravity = .864 ... API= 32.27		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Low Flash 0:1			Inbound YES NO Outbound YES NO OUT #:	1238		
Date 7-24	Time 12:00	RIO MAR	Trailer No.= 264	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 89224 OUT#: 89344 Profile No.= 2619 2401	Water (% ppm)= 351 . #'s/gal= 7.26	Specific Gravity = .870 ... API= 31.14		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Flush 0:1			Inbound YES NO Outbound YES NO OUT #:	1241	Smitty	
			Color 3.5				45[illegible]	44.520 / 6132	
Date 7-27	Time 11:40A	ALAMO	Trailer No.= BT407	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → MR		IN #: OUT#: 89312 Profile No.= 2366	Water (% ppm)= 0.32 . #'s/gal=	Specific Gravity = 0.878 ... API= 30		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil - Low Flash			Inbound YES NO Outbound YES NO OUT #:	1240		
Date 7/28	Time 3:55PM	ALAMO	Trailer No.= BT 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → CRH		IN #: OUT#: 89377 Profile No.= 2366	Water (% ppm)= 0.02% . #'s/gal= 7.25	Specific Gravity = 0.870 ... API= 31.14		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: LOW FLASH BLACK OIL			Inbound YES NO Outbound YES NO OUT #:			
			5500 GAL						

EPAHO114000733

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/22	Time 9 25	IN #: 89149 OUT#: Profile No.= 2481	Trailer No.= 226	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials CRH			Water (% ppm)= 4555 PPM (UNPROCESSED) #'s/gal=	Specific Gravity = 0.915 ... API= 23.1			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BASE OIL (FROM PACES LUBRIZOL DRUM)			Inbound (YES) NO Outbound YES NO OUT #:			
			>8 color						
Date 7-22	Time 10:10	U.S. Oil	Trailer No.= 263	Btu= %Solids 8	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: OUT#: 89142 Profile No.= 2303	Water (% ppm)= 23% #'s/gal= 8.53	Specific Gravity = 1.023 ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1233			
			14% Rag 55% Oil						
Date 7-22	Time 11:35	ces@southcoast	Trailer No.= 204	Btu= %Solids= 10%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 89121 OUT#: Profile No.= 2481	Water (% ppm)= 35% #'s/gal= 8.07	Specific Gravity = .968 ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: R.O.S. Slop			Inbound YES NO Outbound YES NO OUT #:			
			12% Rag 48% Grease						
Date 7-23	Time 9:07	Zach	Trailer No.= 220	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 89137 OUT#: 89286 Profile No.= 3283	Water (% ppm)= #'s/gal= 6.55	Specific Gravity = 785 ... API= 48.75			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3			Inbound (YES) NO Outbound ~~YES~~ NO OUT #: 1236			1244
			Color clear Ph 5				36020 / 5499		REJECTED BY CHEMCRAFT SOLD TO K SOLV 7/27/09

Product Solvent and Oil Log and Testing Data Sheet 9-22-2008 ACTIVE

EPAHO114000734

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7-20	Time 6:34	Alamo	Trailer No.= BT 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#": 89056 Profile No.= 2366	Water (% ppm)= 0.14% . #'s/gal= 7.32	Specific Gravity = .880 ... API= 29.2			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Low Flash Oil			Inbound YES NO Outbound (YES) NO OUT #:	1228		
			47880 / 6541						
Date 7/20	Time 1020	ZACH	Trailer No.= 8040	Btu= %Solids 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → CH		IN #: 89010 OUT#": 89120 Profile No.= 3283	Water (% ppm)= 0% . #'s/gal= 6.36	Specific Gravity = 0.763 ... API= 53.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: STREAM 3 (RESTRICTED LIGHT ENDS)			Inbound (YES) NO Outbound YES NO OUT #:	1232 → 1239		
			38040 LBS 5981 GALLONS	pH 5 (CLEAR)		Chem-Orph, Inc	Reject Pg 210 Del 7-27-09		
Date 7-21	Time 6:55		Trailer No.= BT407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#": Profile No.=	Water (% ppm)= 0.72% . #'s/gal= 7.30	Specific Gravity = .876 ... API= 30			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Low Flash Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 7-21	Time .	Alamo	Trailer No.= BT407	Btu= %Solids= 4	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#": 89105 Profile No.= 2366	Water (% ppm)= 1.3 . #'s/gal= 7.22	Specific Gravity = .866 ... API= 31.89			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Low flash Black oil			Inbound YES NO Outbound (YES) NO OUT #:	1230		
			46960 / 6504						

EPAHO1140000735

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/17	Time 1103	KMCO 88975	Trailer No.=252	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No. 25015	Water (% ppm)= 15% . #'s/gal= 7.53	Specific Gravity = .904 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Fuel Blendstock Majority 5% Odorous, Not Miscible w/ black oil or water			Inbound YES NO Outbound YES NO OUT #:	REJECTED 35500 / 47114 Product Only		
Date 7/17	Time 1300	TK4 1:1	Trailer No.=	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0.00 . #'s/gal=	Specific Gravity = ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil			Inbound YES NO Outbound YES NO OUT #:			
Date 7/17	Time 1300	T4 3:1	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0.00% . #'s/gal=	Specific Gravity = ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil			Inbound YES NO Outbound YES NO OUT #:			
Date 7/17	Time 1430	US OIL	Trailer No.=210	Btu= %Solids= 12	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: 88812 Profile No.=2363	Water (% ppm)= 53% . #'s/gal= 8,382	Specific Gravity = 1.005 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil 5 Rag 30% oil			Inbound YES NO Outbound (YES) NO OUT #:	1227		

EPAHO114000736

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET for the ASH

➡ Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7.16	Time	Alamo	Trailer No.= BT 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡		IN #: OUT#": 89037 Profile No.= 2366	Water (% ~~ppm~~)= 0.~~35~~% #'s/gal= ~~7.25~~ 7.19	Specific Gravity = .882 ... API= ~~30~~ 32.			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Low Flash Oil				Inbound YES NO Outbound (YES) NO OUT #: 1225		
Date 7/16	Time 20:00	Base Oil Smithy	Trailer No.= Dist Unit	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	P	IN #: OUT#": 89116 Profile No.= 2481	Water (% ppm)= 275 #'s/gal= 7.24	Specific Gravity = 0.868 ... API= 31.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil				Inbound YES NO Outbound (YES) NO OUT #: 1237		
			Dark Amber, Clear Color=4.5						
Date 7.17	Time 8.30	ZACH	Trailer No.= 215	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	SB	IN #: 89004 OUT#": Profile No.= 3283	Water (% ppm)= 0 #'s/gal= 6.33	Specific Gravity = .760 ... API= 54.68			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3				Inbound (YES) NO Outbound YES NO OUT #:		
			clear PH 3				24,000 / 3791		
Date	Time	TK40P/TK11	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡		IN #: OUT#": Profile No.=	Water (% ppm)= 2.95 #'s/gal=	Specific Gravity = .863 ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black OIL				Inbound YES NO Outbound YES NO OUT #:		
			50/50 mix						

Product Solvent and Oil Log and Testing Data Sheet 9-22-2008 ACTIVE

EPAHO114000737

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7-14	Time 9:37	ZACH	Trailer No.= 220	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SG		IN #: 88905 OUT#: Profile No.= 3283	Water (% ppm)= 2.6% . #'s/gal= 6.59	Specific Gravity = .790 ... API= 47.61			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: STREAM 3				Inbound (YES) NO Outbound YES NO OUT #:		
Returned to Sender 38040 / 5772									
Date 7/15	Time 1118	U.S. OIL	Trailer No.= 210	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: 88810 Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BLACK OIL				Inbound YES NO Outbound (YES) NO OUT #: 1221		
4% Solids, 26% H2O, 5% Rag 65% Oil									
Date 7/15	Time 8:00	ALAMO	Trailer No.=	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: 88947 Profile No.=	Water (% ppm)= 0.04 . #'s/gal= 7.21	Specific Gravity = .864 ... API= 32.27			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Low flash black oil				Inbound YES NO Outbound (YES) NO OUT #: 1220		
Date 7/15	Time 1525	ALAMO	Trailer No.=	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: 88948 Profile No.=	Water (% ppm)= .54 . #'s/gal= 7.04	Specific Gravity = .848 ... API= 36.15			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:				Inbound YES NO Outbound (YES) NO OUT #: 1223		
Low flash Black oil									

EPAHO114000738

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION . & % ASH Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/13	Time 1330	Base Oil	Trailer No.= TK30P	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#: Profile No.=	Water (% ppm)= 615ppm #'s/gal= 7.21	Specific Gravity = 0.864 ... API= 32.3			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil				Inbound YES NO Outbound YES NO OUT #:		
			Color 4.5. Hazy Brown Liquid						
Date 7/13	Time 1930	ZaCh 88800	Trailer No.= 3001	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#: 88904 Profile No.= 3283	Water (% ppm)= 0 #'s/gal= 6.31	Specific Gravity = 0.757 ... API= 55.4			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3				Inbound (YES) NO Outbound (YES) NO OUT #: 1218		
			Water White, Clear Liquid pH=4.5 38020/6025						
Date 7/13	Time 1945	Lubrizol 88673 88953	Trailer No.= 7253	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#: Profile No.= 2552	Water (% ppm)= 0 #'s/gal= 8.01	Specific Gravity = 0.960 ... API= 15.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: B-485 Alkylated Phenol				Inbound (YES) NO Outbound (YES) NO OUT #: 1229		
			Amber, Clear Liquid 45940/5735						
Date 7-14	Time 7:13		Trailer No.= 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	61.029 Crucible Tare wt.	64.0254 Crucible wt. w/ sample	61.0239 Crucible wt. w/ ash
Initials → SB		IN #: OUT#: Profile No.=	Water (% ppm)= 1.71% #'s/gal= 7.17	Specific Gravity = .860 ... API= 33			Sample wt. (A) = 3.0045	Ash wt. (B) = .003	ASH % (B/A) = .09
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #:		
			Flash 72°						

EPAHO114000739

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH
Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/11	Time 11:00	Methanol	Trailer No.= 226	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: 88788 Profile No.= 2432	Water (% ppm)= 0 . #'s/gal= 6.92	Specific Gravity = 0.830 ... API= 39.0			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Methanol			Inbound YES NO Outbound (YES) NO OUT #: 1216			
			pH 6 Slt yellow tint, Clear (26900)						
Date 7/13	Time 9:00	SOLD TO US OIL	Trailer No.= 210	Btu= %Solids 8	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: 88808 Profile No.=	Water (% ppm)= 40% . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1212			
			52% Oil						
Date 7/13	Time 11:15	TK9 OP	Trailer No.=	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: Profile No.=	Water (% ppm)= 0.10 . #'s/gal= 7.22	Specific Gravity = 0.866 ... API= 31.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 7/13	Time 12:30	Base Oil	Trailer No.= 410	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 88316 OUT#: 88868 Profile No.= 2481	Water (% ppm)= 200 . #'s/gal= 7.59	Specific Gravity = 0.910 ... API= 24.0		Ash 0.26 FP > 150 Color 7	Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound YES NO Outbound (YES) NO OUT #: 1213			
						40060/5278			

EPAHO11400740

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION . & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 9/10	Time 940	Post Unit Smitty's	Trailer No.= 110	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AI		IN #: OUT#: 88869 Profile No.= 2481	Water (% ppm)= . #'s/gal= 7.25 60 ppm	Specific Gravity = .870 ... API= 31.14			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base oil				Inbound YES NO Outbound (YES) NO OUT #: 1215		
			color 4						
Date 9/10	Time 910	BT 407	Trailer No.=	Btu= %Solids	Flash Pt.=	Chloride=	61.0088 Crucible Tare wt.	64.5394 Crucible wt. w/ sample	61.0215 Crucible wt. w/ ash
Initials → AI		IN #: OUT#: 88852 Profile No.= 23666	Water (% ppm)= 1.67% . #'s/gal= 7.17	Specific Gravity = .860 ... API= 33.03			Sample wt. (A) = 3.5306	Ash wt. (B) = 0.0127	ASH % (B/A) = 0.36
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil				Inbound YES NO Outbound (YES) NO OUT #: 1214		
			FP 79°F				45840/6393		
Date 9/10	Time 940	Sapus 88550	Trailer No.= 104	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.= 2220	Water (% ppm)= 123 . #'s/gal= 7.25	Specific Gravity = .869 ... API= 31.33			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base oil				Inbound (YES) NO Outbound YES NO OUT #:		
			color 3				2589 Sn1		
Date 9/10	Time 950	Tk6 op	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0.05% . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil				Inbound YES NO Outbound YES NO OUT #:		

EPAHO114000741

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/9	Time 1200	BT 407	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 2.10 . #'s/gal= 7.03	Specific Gravity = .843 ... API= 36.35			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil				Inbound YES (NO) Outbound YES NO OUT #:		
Date 7/9	Time 1300	BT 407	Trailer No.=	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0.45% . #'s/gal= 7.37	Specific Gravity = .884 ... API= 28.56			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Low Flash Blackoil				Inbound YES (NO) Outbound YES NO OUT #:		
Date 7/9	Time 16:20	Hydrocarbon Engineering	Trailer No.= 8013	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#: 88727 Profile No.=	Water (% ppm)= 0 . #'s/gal= 6.21	Specific Gravity = 0.745 ... API= 58.4			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Restricted Lite Ends White, Hazy Liquid pH=7				Inbound (YES) NO Outbound (YES) NO OUT #: 1208 6050 gal Cross Roads 105		
Date 7-10	Time 6:53	SOPUS	Trailer No.= 104	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 88550 OUT#: Profile No.= 2220	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil				Inbound YES NO Outbound YES NO OUT #: 2589 gal		

EPAHO1140000742

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/9	Time 900	TK 11 OP	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: OUT#: Profile No.=	Water (% ppm)= 7,01% . #'s/gal=	Specific Gravity= .862 ... API= 32.65		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
			PRODUCT Name: Black oil			Inbound YES NO Outbound YES NO OUT #:			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									
Date 7/9	Time 920	Zach	Trailer No.= 231	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: 88208 OUT#: Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.33	Specific Gravity= .760 ... API= 54.68		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
			PRODUCT Name: Stream 3			Inbound YES NO Outbound YES NO OUT #:			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			Clear pH 4				38000 / 6003		
Date 7/9	Time 930	Zach	Trailer No.= 220	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: 88209 OUT#: 88728 Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.30	Specific Gravity= .756 ... API= 55.66		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
			PRODUCT Name: Stream 3			Inbound YES NO Outbound YES NO OUT #: 1209			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			Clear pH 4				43,100 / 6841		
Date 7/9	Time 1101	TK4 OP 88851	Trailer No.= 2060T	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: OUT#: Profile No.= 2360	Water (% ppm)= 1,54 . #'s/gal= 7.26	Specific Gravity= .871 ... API= 30.95		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
			PRODUCT Name: Black oil Abamo Lo Flash Black Oil			Inbound YES NO Outbound YES NO OUT #: 1211			ship 7/10
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									

EPAHO114000743

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/7	Time 1130	SHELL 88655	Trailer No.= 228	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 88655 OUT#: Profile No.=	Water (% ppm)= 1255 ppm #'s/gal= 7.21	Specific Gravity = .865 ... API= 32		.~~850~~	Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound (YES) NO Outbound YES NO OUT #:			
			Color 6 green tint 5764gal						
Date 7/8	Time 1200	Shell Global 88548	Trailer No.= 256	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: Profile No.= 2220	Water (% ppm)= 200 #'s/gal= 7.22	Specific Gravity = 0.866 ... API= 31.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound (YES) NO Outbound YES NO OUT #:			
			Color 2.5 Lt Brown, Clear Liquid 33020/4573						
Date 7/5	Time 1440	Hydrocarbon End	Trailer No.= 216	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0 #'s/gal= 6.305	Specific Gravity = .756 ... API= 55.66			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Restricted Light ends			Inbound YES NO Outbound (YES) NO OUT #:			
			Cloudy						
Date 7/8	Time 1600	Smitty's	Trailer No.= 406	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: 88701 Profile No.= 2481	Water (% ppm)= 0 #'s/gal= 7.14	Specific Gravity = 0.856 ... API= 33.8			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound YES NO Outbound (YES) NO OUT #:			Big 4 Trlr 100
			Color 4.5 Red, Clear Liquid 30260/4238						

EPAHO114000744

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION . & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/6	Time 1135	BT407 [redacted]	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: [redacted] OUT#: 88649 Profile No.=	Water (% ppm)= 0.00 . #'s/gal= 7.18	Specific Gravity = .860 ... API= 33.03			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BURNER FUEL [redacted]				Inbound YES NO Outbound (YES) NO OUT #: 1203		
Date 7/6	Time 1400	Zach 88599	Trailer No.= 216	Btu= 0 %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials JP		IN #: OUT#: 88659 Profile No.= 3263	Water (% ppm)= 0 . #'s/gal= 6.37	Specific Gravity = 0.764 ... API= 53.7			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3				Inbound (YES) NO Outbound (YES) NO OUT #: 1205		
Water White Clear pH 5 ~~4940/7840~~ 38060/5975									
Date 7/6	Time 1645	SunCoast	Trailer No.= Ind	Btu= %Solids= 1%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials JP		IN #: 88650 OUT#: Profile No.= 2803	Water (% ppm)= 3.09 . #'s/gal= 7.12	Specific Gravity = 0.854 ... API= 34.2			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Oily Water Mix				Inbound (YES) NO Outbound YES NO OUT #:		
2800 Gal									
Date 7/6	Time 20:00	Ethyl	Trailer No.= 233	Btu= 0.5 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials JP		IN #: 88610 OUT#: Profile No.= 3405	Water (% ppm)= 0.96 . #'s/gal= 7.37	Specific Gravity = 0.884 ... API= 28.6			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Solvent Products				Inbound (YES) NO Outbound YES NO OUT #:		
Lt Brown Hazy Liquid 2500 gal									

EPAHO1140000745

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION . & % ASH Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/2	Time 1207	Kinder Morgan	Trailer No.= 228	Btu= %Solids= .1%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: 88577 OUT#": 88601 Profile No.= 2031	Water (% ppm)= 0% . #'s/gal= 6.85	Specific Gravity = .821 ... API= 41		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Refinery Feedstock			Inbound (YES) NO Outbound (YES) NO OUT #: 1199			
			Dark Hazy liquid			31480/5302			
Date 7/2	Time 1630	Suncoast	Trailer No.=	Btu= 3% %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 88602 OUT#": Profile No.= 3306	Water (% ppm)= 3% . #'s/gal= 7.29	Specific Gravity = 0.874 ... API= 30.4		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Used Oil			Inbound (YES) NO Outbound YES NO OUT #:			
			2 Bag	2800 gal					
Date 7/2	Time 2000	Ethyl	Trailer No.= 233	Btu= %Solids= 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 88449 OUT#": Profile No.= 3405	Water (% ppm)= 0% . #'s/gal= 7.37	Specific Gravity = 0.884 ... API= 28.6		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Solvent Products			Inbound (YES) NO Outbound YES NO OUT #:			
			Slt Haze, Purple Liquid			5360/727			
Date 7-6	Time 11:00	Shell	Trailer No.= 228	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 88545 OUT#": Profile No.= 2220	Water (% ppm)= 107ppm . #'s/gal= 7.16	Specific Gravity = .859 ... API= 33.2		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound YES NO Outbound YES NO OUT #:			
			color 6.0			27440/5832			

EPAHO114000746

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7/1	Time 1945	Afton	Trailer No.= 271	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88370 OUT#: Profile No.= 3272	Water (% ppm)= 3% . #'s/gal= 7.21	Specific Gravity = 0.865 ... API= 32.1			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Bulk Product			Inbound (YES) NO Outbound YES NO OUT #:			
Date 7/1	Time 2200	Ethyl	Trailer No.=233	Btu= 0 %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88356 OUT#: Profile No.= 3405	Water (% ppm)= 0 . #'s/gal= 7.42	Specific Gravity = 0.89 ... API= 27.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Solvent Products			Inbound (YES) NO Outbound YES NO OUT #:			
SH Hazey Purple Liquid 9060/1221									
Date	Time	Afton / Ship Coast	Trailer No.= Tk 4	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#: Profile No.=	Water (% ppm)= 0% . #'s/gal= 7.36	Specific Gravity = .882 ... API= 28.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 7/2	Time 1100	TK9 OP	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: OUT#: Profile No.=	Water (% ppm)= 1.2 . #'s/gal= 7.34	Specific Gravity = 0.88 ... API= 29.3			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:			Inbound YES NO Outbound YES NO OUT #:			

EPAHO114000747

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 7-1	Time 11:26	Hydrocarbon	Trailer No.= BT 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB.		IN #: 88458 OUT#: Profile No.= 2365	Water (% ppm)= 0.00% #'s/gal= 7.16	Specific Gravity = .858 ... API= 33			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1194		
Date 7/1	Time 1225	Kinder morgan	Trailer No.= 234	Btu= 0.5 %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88133 OUT#: 88229 Profile No.= 2031	Water (% ppm)= 38 #'s/gal= 6.86	Specific Gravity = 0.822 ... API= 40.6			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Refinery Feedstock Brown, Hazy Liquid				Inbound (YES) NO Outbound (YES) NO OUT #: 1192 44,440/6478		
Date 7/1	Time 1530	Afton PA	Trailer No.= 228	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88369 OUT#: Profile No.= 3272	Water (% ppm)= 36 #'s/gal= 7.25	Specific Gravity = 0.869 ... API= 31.3			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Bulk Product				Inbound YES NO Outbound YES NO OUT #: 27060/3732		
Date 7/1	Time 1925	Kinder morgan	Trailer No.= 234	Btu= 0.5 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88134 OUT#: Profile No.= 2031	Water (% ppm)= 39 #'s/gal= 6.85	Specific Gravity = 0.821 ... API= 40.9			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Refinery Feed stock Brown Hazy Liquid				Inbound (YES) NO Outbound (YES) NO OUT #: 1195 44100/6438		

EPAHO114000748

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/30	Time 845	TK3 OP	Trailer No.= TK3 OP	Btu= %Solids=	Flash Pt.=	Chloride=	61.6069 Crucible Tare wt.	64.1255 Crucible wt. w/ sample	61.6097 Crucible wt. w/ ash
Initials → AL		IN #: OUT#": Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=		Sample wt. (A) = 3.1186	Ash wt. (B) = .0028	ASH % (B/A) = .09%	
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:			Inbound YES NO Outbound YES NO OUT #:			
Date 6/30	Time 940	Nov	Trailer No.= 105	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: 88353 OUT#": Profile No.= 3380	Water (% ppm)= .01% . #'s/gal= 6.84	Specific Gravity = .821 ... API= 40.85		Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =	
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Diesel			Inbound YES NO Outbound YES NO OUT #:			
			500 Gallon						
Date 6/30	Time 1440	Kinder Morgan	Trailer No.= 210	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88131 OUT#": Profile No.= 2031	Water (% ppm)= 0 . #'s/gal= 6.84	Specific Gravity = 0.820 ... API= 41.1		Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =	
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Restricted Refinery Feedstock			Inbound (YES) NO Outbound (YES) NO OUT #: 1189			
			45560/6661						
Date 6/30	Time 1900	Kinder Morgan	Trailer No.= 234	Btu= %Solids= 0.5	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: 88132 OUT#": Profile No.= 88230 2031	Water (% ppm)= 4% . #'s/gal= 6.90	Specific Gravity = 0.827 ... API= 39.6		Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =	
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Refinery Feedstock			Inbound (YES) NO Outbound (YES) NO OUT #: 1190			
			Brown, Hazy Liquid 44280/6417						

EPAHO1140000749

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/26	Time 2020	Zach	Trailer No.= 8013	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 88181 OUT#": 88226 Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.27	Specific Gravity = 0.752 ... API= 56.7			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3			Inbound (YES) NO Outbound (YES) NO OUT #: 1204			
			Clear, Water White pH=3			37940/6051			
Date 6-29	Time 7:50		Trailer No.= TK4	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#": Profile No.=	Water (% ~~ppm~~)= 3.45% . #'s/gal= 7.44	Specific Gravity = .892 ... API= 27			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 6/29	Time 1640	ZaCh	Trailer No.= 215	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 88233 OUT#": Profile No.= 3283	Water (% ppm)= 38 . #'s/gal= 6.24	Specific Gravity = 0.748 ... API= 57.7			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream3			Inbound (YES) NO Outbound (YES) NO OUT #: 1184			
			Water White/Slt Haze pH=3			37020/5933			
Date 6-30	Time 7:10	Kinder Morgan	Trailer No.= 234	Btu= %Solids= 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 88128 OUT#": 88228 Profile No.= 2736 2351	Water (% ppm)= 0% . #'s/gal= 6.83	Specific Gravity = .825 ... API= 41.0			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Refinery feedstock			Inbound (YES) NO Outbound (YES) NO OUT #: 1186			
						44940/6583			

EPAHO114000750

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/25	Time 1830	Kinder Morgan	Trailer No.= 234	Btu= %Solids= 0.5%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: 88109 OUT#: Profile No.= 2031	Water (% ppm)= 0 . #'s/gal= 6.87	Specific Gravity = 0.824 ... API= 40.2			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) Brown Hazy Liquid 40540/5901			PRODUCT Name: Refinery Feedstock			Inbound (YES) NO Outbound YES NO OUT #:			
Date 6/26	Time 7:55	Kinder Morgan	Trailer No.= 210	Btu= %Solids 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 78158 OUT#: Profile No.= 2231	Water (% ppm)= 0 . #'s/gal= 6.88	Specific Gravity = 0.820 ... API= 39.80			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) BROWN HAZY Liquid 43560/6531			PRODUCT Name: Refinery Feedstock			Inbound (YES) NO Outbound YES NO OUT #: 1180			
Date 6/26	Time 13:40	Kinder Morgan	Trailer No.= 234	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: 88128 OUT#: 88226 Profile No.= 2031	Water (% ppm)= 2% . #'s/gal= 6.82	Specific Gravity = 0.818 ... API= 41.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) Brown, Hazy Liquid 43220/6337			PRODUCT Name: Refinery Feedstock			Inbound YES NO Outbound (YES) NO OUT #: 1181			
Date 6/26	Time 1950	Kinder Morgan	Trailer No.= 210	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: 88127 OUT#: Profile No.= 2031	Water (% ppm)= 0.5% . #'s/gal= 6.84	Specific Gravity = 0.820 ... API= 41.1			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) Brown Hazy Liquid 42980/6284			PRODUCT Name: Refinery Feedstock			Inbound YES NO Outbound YES NO OUT #:			

EPAHO114000751

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/23	Time 6:45		Trailer No.= TK7 OP	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#": Profile No.=	Water (% ppm)= .648 . #'s/gal=	Specific Gravity = .865 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil			Inbound YES NO Outbound YES NO OUT #:			
Date 6/23	Time 850		Trailer No.= BT 407	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → CRH		IN #: OUT#": 1176 Profile No.=	Water (% ppm)= 0.699% . #'s/gal= 7.27	Specific Gravity = 0.872 ... API= 30.7		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BURNER FUEL			Inbound YES NO Outbound YES NO OUT #:			
Date 6/23	Time 1615	Zach 88048	Trailer No.= 3001	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: OUT#": Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.54	Specific Gravity = 0.784 ... API= 49.0		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3			Inbound (YES) NO Outbound YES NO OUT #:			
Water white, clear, no solids pH=4 38,000#/5810 gal									
Date 6/29	Time 7:49	ALAMO	Trailer No.= TK5 OP	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#": 88250 Profile No.= 2366	Water (% ppm)= 0.88% . #'s/gal= 7.39	Specific Gravity = .886 ... API= 28		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil			Inbound YES NO Outbound (YES) NO OUT #: 1182			

EPAHO114000752

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/5	Time 1440	IN #: 87431	Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		OUT#": Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = 1.02 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: KMTEX @ Ventyo			Inbound YES NO Outbound YES NO OUT #:			
Date 6/9	Time 1050	USOil	Trailer No.= 406	Btu= %Solids= 22%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 87645 OUT#": Profile No.= 2363	Water (% ppm)= 30% . #'s/gal= 7.92	Specific Gravity = 0.950 ... API= 17.4		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #: 1172			
Oil 33% Gas 15% H2O 30% Solid 22%									
Date 6-19	Time 11:15	Rohmoor 87794	Trailer No.= 233	Btu= %Solids= 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JB		IN #: OUT#": Profile No.= 2619	Water (% ppm)= 0% . #'s/gal= 7.17	Specific Gravity = 0.8600 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Flash Oil			Inbound YES NO Outbound YES NO OUT #:			
4971 / 35640 D									
Date 6/22	Time 1500		Trailer No.= TK30P	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#": Profile No.=	Water (% ppm)= .18% . #'s/gal=	Specific Gravity = .88 ... API= 29		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base oil			Inbound YES NO Outbound YES NO OUT #: Color 2.5			

EPAHO114000753

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/18	Time 10:45	SunCoast	Trailer No.= Ind	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: 87891 OUT#: Profile No.= 2803	Water (% ppm)= 15% . #'s/gal= 7.37	Specific Gravity = 0.884 ... API= 28.6		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Oily Water 6500 gal			Inbound (YES) NO Outbound YES NO OUT #:			
79% Oil 5% Rag 15% H2O 1% Solids									
Date 6/18	Time 1740		Trailer No.= Tk 9 OP	Btu= 0 %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#: Profile No.=	Water (% ppm)= 0.06 . #'s/gal= 7.29	Specific Gravity = 0.874 ... API= 30.4		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 6/18	Time 1800	Zach	Trailer No.= 604	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: 87849 OUT#: Profile No.= 3283	Water (% ppm)= 3-5% . #'s/gal= 6.37	Specific Gravity = 0.764 ... API= 53.7		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3			Inbound (YES) NO Outbound YES NO OUT #:			
Clear, water white, Free water layer 5674 gal									
Date 6-19	Time 4:30	Rob Mott	Trailer No.= 233	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 87795 OUT#: Profile No.= 2619	Water (ppm)= 3318ppm . #'s/gal= 7.17	Specific Gravity = .860 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Flash Oil			Inbound YES NO Outbound YES NO OUT #:			
After heat 726 ppm									5225 gal / 37,460 lb

EPAHO114000754

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/15	Time 1820	Port Houston IN #: 87646 OUT#: Profile No.= 2726	Trailer No.= 243	Btu= %Solids= 0.5	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: J			Water (% ppm)= 11.5 . #'s/gal= 7.23	Specific Gravity = 0.867 ... API= 31.7			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Used Oil				Inbound (YES) NO Outbound YES NO OUT #:		
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			86% Oil 2% Rag 11.5% H2O 0.5% Solids						
Date 6/16	Time 1730	Zach IN #: 87758 OUT#: 87913 Profile No.= 3283	Trailer No.= 231	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: J			Water (% ppm)= 0 . #'s/gal= 6.44	Specific Gravity = 0.772 ... API= 51.8			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Stream 3				Inbound (YES) NO Outbound YES NO OUT #: 1173		
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			pH=4 water white/very slight haze 39720#/6168 gal						
Date 6/17	Time 11:30	IN #: OUT#: Profile No.=	Trailer No.= JK90P	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: J			Water (% ppm)= 0.50 . #'s/gal= 7.28	Specific Gravity = 0.873 ... API= 30.6			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #:		
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									
Date 6/17	Time 2020	VSOil IN #: 87644 OUT#: Profile No.= 2363	Trailer No.= 209	Btu= %Solids= 10%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: J			Water (% ppm)= 15% . #'s/gal= 7.71	Specific Gravity = 0.925 ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1190		
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			70% Oil 5% Rag 15% H2O 10% Solids						

EPAHO114000755

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/11	Time 1230	US Oil Rev	Trailer No.= 4086	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 87412 OUT#: Profile No.= 2363	Water (% ppm)= . #'s/gal=	Specific Gravity = 0.942 ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound (YES) NO Outbound (YES) NO OUT #: 1161			
			Oil 45% Rag 10% H2O 39% Solid 6%						
Date 6/11	Time 9:25	Zach 87544	Trailer No.= 215	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.23	Specific Gravity = 0.747 ... API= 57.9		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3 pH= 5			Inbound (YES) NO Outbound (YES) NO OUT #: 1162			
			Water White, SH Haze 36960#/5933gal						
Date 6/12	Time 1040		Trailer No.= BJT 407	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= .007 . #'s/gal= 7.19	Specific Gravity = .862 ... API= 32.65		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil			Inbound YES NO Outbound YES NO OUT #:			
Date 6/12	Time 1244		Trailer No.= TK9 OP	Btu= %Solids= 6	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → dH		IN #: OUT#: Profile No.=	Water (% ppm)= 0.000% . #'s/gal= 7.28	Specific Gravity = 0.873 ... API= 30.5		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BLACK OIL			Inbound YES NO Outbound YES NO OUT #:			

EPAHO114000756

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6-9	Time 2:59		Trailer No.= TK11	Btu= %Solids=0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#: Profile No.=	Water (% ppm)= 0.94% . #'s/gal= 7.25	Specific Gravity = .873 ... API= 31		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound YES NO OUT #:			
Date 6-10	Time 7 AM		Trailer No.=	Btu= %Solids 8	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →	AL	IN #: OUT#: Profile No.=	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil 4040 oil 52 % WATER			Inbound YES NO Outbound YES NO OUT #:			
Date 6/10	Time 1545	ZACH	Trailer No.= 220	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →	CRH/ AL	IN #: 87492 OUT#: Profile No.= 3283	Water (% ppm)= 0 . #'s/gal= 6.22	Specific Gravity = .746 ... API= 58		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: (STREAM 3) Light Ends pH 5			Inbound (YES) NO Outbound YES NO OUT #: 5A1 611 H_2O = 0			
Date 6/11	Time 1200	USOil ~~87444~~	Trailer No.= 209	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →	J	IN #: OUT#: 87411 Profile No.= 23603	Water (% ppm)= . #'s/gal=	Specific Gravity = ... API=		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil 50% Oil 10% Rag 36% H_2O 4% Solids			Inbound YES NO Outbound (YES) NO OUT #: 1159			

EPAHO114000757

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET for the ASH

➡ Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6/8	Time 15:10	Global	Trailer No.= TT406	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	P	IN #: 87363 OUT#": 87408 Profile No.= 3186	Water (% ppm)= 12.4 #'s/gal= 7.81	Specific Gravity = 0.937 ... API= 19.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Oily Water			Inbound YES NO Outbound YES NO OUT #:			
			62% Oil 20% RaG 12% H2O 6% solids → US Oil Rev 4400 Gal						
Date 6-8	Time 4:00	Syncoast	Trailer No.=	Btu= %Solids 8%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	SB	IN #: 87402 OUT#": Profile No.= ~~3306~~ 2803	Water (% ppm)= 21.4% #'s/gal= 8.02	Specific Gravity = .962 ... API= 15.6			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Oily Water			Inbound YES NO Outbound YES NO OUT #:			
			Rag 10%						
Date 6/8	Time 19:00	Lubrizol	Trailer No.= 252	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	P	IN #: 87318 OUT#": 87832 Profile No.= 2551	Water (% ppm)= 0.04 #'s/gal= 7.56	Specific Gravity = 0.907 ... API= 24.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Line Flush Oil			Inbound YES NO Outbound YES NO OUT #: Transfer-409 1167			
			Dark - C-8 H2O - 555 ppm 44620/5902						
Date 6/9	Time 10:30	Hydrocarbon Res	Trailer No.= 416	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	AL	IN #: 87834 OUT#": Profile No.= 2481	Water (% ppm)= 173 PPM #'s/gal= 7.37	Specific Gravity = .884 ... API= 28.56			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BLACK OIL			Inbound YES NO Outbound YES NO OUT #: 1171			
			TT357 Firebird Send email ~6042 gal						

Product Solvent and Oil Log and Testing Data Sheet 9-22-2008 ACTIVE

EPAHO114000758

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6.3	Time 7:35		Trailer No.= BT407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#: Profile No.=	Water (% ~~ppm~~) 0.39% #'s/gal= 7.33	Specific Gravity = .880 ... API= 29			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO	Outbound YES NO	OUT #:	
Date 6-3	Time 11:50	Suncoast	Trailer No.=	Btu= %Solids 5%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 87151 OUT#: Profile No.= 2803	Water (% ppm)= 10.4% #'s/gal= 7.25	Specific Gravity = .870 ... API= 31			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound (YES) NO	Outbound YES NO	OUT #:	
			10% Rag - Grease 74% Oil						
Date 6-5	Time 7:50	Vertex	Trailer No.= 104	Btu= %Solids= 24%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 87167 OUT#: Profile No.= 3361	Water (% ppm)= #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Oily Water			Inbound YES NO	Outbound YES NO	OUT #:	
Date 6/8	Time 1500	Hydrocarbon	Trailer No. TK4OP	Btu= %Solids= 0%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#: 87493 Profile No.= 2362	Water (% ppm)= 0.07 #'s/gal= 7.07	Specific Gravity = 0.848 ... API= 35.4			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO	Outbound (YES) NO	OUT #: 1157	
			Send email						

EPAHO114000759

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 6.2	Time 9:15	Hydrocarbon Engineering	Trailer No.= 407	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#: 86975 Profile No.= 2366	Water (% ppm)= 0% . #'s/gal= 7.25	Specific Gravity = 872 ... API= 31		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black 0:1 Cross Roads Jet 101			Inbound YES NO Outbound YES NO OUT #:		1147 6300 gallons	
Date 6-2	Time 3:22	Zach	Trailer No.= 216	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials 20:00 SB →		IN #: 86992 87052 OUT#: Profile No.= 3283 2352	Water (% ppm)= 0 . #'s/gal= 6.28	Specific Gravity = 0.753 ... API= 56.42		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3 Water White/clear			Inbound (YES) NO Outbound (YES) NO OUT #:		1150 37940/6041	
Date 6.2	Time 3:40	RobMax	Trailer No.= 213	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 86982 OUT#: 87037 Profile No.= 2619	Water (% ppm)= 174 ppm . #'s/gal= 7.27	Specific Gravity = 872 ... API= 30		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Flush 0:1 PetroTech Energy color 2			Inbound (YES) NO Outbound (YES) NO OUT #:		1165 6215	
Date 6.2	Time 3:55	Zach	Trailer No.= 3001	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials 19:55 → SB		IN #: 86946 87051 OUT#: Profile No.= 3283 2352	Water (% ppm)= 0 . #'s/gal= 6.31	Specific Gravity = 0.757 ... API= 55.42		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3 pale yellow color/clear			Inbound (YES) NO Outbound (YES) NO OUT #:		1150 37960/6016	

EPAHO114000760

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET for the ASH

➡ Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/27	Time	Ball	Trailer No.= 271	Btu= %Solids= 1%	Flash Pt.=	Chloride= 100	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	AL	IN #: F6651 OUT#": Profile No.= 2987	Water (% ppm)= 3.66 #'s/gal= 7.48	Specific Gravity = .898 ... API= 26.07			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BASE OIL			Inbound YES NO Outbound YES NO OUT #:			
Date 5/22	Time	Lubrizol	Trailer No.=	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	AL	IN #: OUT#": Profile No.= 2552	Water (% ppm)= 1.14 #'s/gal=	Specific Gravity = .868 ... API= 14.67			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:			Inbound YES NO Outbound YES NO OUT #:			
Date 5/22	Time 12:00	US Oil Recv.	Trailer No.= 409	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	[illegible]	IN #: OUT#": 86564 Profile No.= 2363	Water (% ppm)= #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Used Oil (Centrifuge Material)			Inbound YES NO Outbound YES NO OUT #: 1146			
			70% oil 5% Rag 17% H_2O 8% Solids						
Date 6.2	Time 9:04	Smitty's	Trailer No.= 414	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials ➡	SB	IN #: 87229 OUT#": Profile No.= 2481	Water (% ppm)= 3PPM #'s/gal= 7.25	Specific Gravity = .875 ... API= 31			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BASE Oil			Inbound YES NO Outbound YES NO OUT #: 1153			
			color 5.0			DT105 Driver fax back Hvy Wt			

Product Solvent and Oil Log and Testing Data Sheet 9-22-2008 ACTIVE

EPAHO114000761

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER OR TRUCK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/27	Time 2:00	Alamo TK 40P	Trailer No.= 2060T	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: 86243 OUT#: Profile No.= 2366	Water (% ppm)= 1.35 1329 #'s/gal= 7.44	Specific Gravity = .892 ... API= 27.13			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =

ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

PRODUCT Name: Black oil — Inbound YES NO Outbound YES NO OUT #: 48120/6468 1141

Date	Time		Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
5/27	9:00 AM	416	416	0					
Initials JP 0/3	13:00	IN #: OUT#: 87033 Profile No.= 2481	Water (% ppm)= 1400 #'s/gal= 7.35	Specific Gravity = 0.882 ... API= 28.93			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =

ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

PRODUCT Name: Base oil — Inbound YES NO Outbound (YES) NO OUT #: 1148

Color & Hydrocarbon Resource

Date	Time		Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
5/29	9:00	215	215						
Initials		IN #: OUT#: Profile No.=	Water (% ppm)= — #'s/gal= 6.23	Specific Gravity = .748 ... API= 57.67			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =

ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal., Total lbs., OTHER TEST DATA , etc.)

PRODUCT Name: Light end — Inbound YES NO Outbound YES NO OUT #:

Clear Hydrocarbon 4139 gallons

Date	Time		Trailer No.=	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
5-29	9:25	Lubri201	209	%Solids= 0					
Initials SB		IN #: 86439 OUT#: Profile No.= 2552	Water (% ppm)= 0 #'s/gal= 8.22	Specific Gravity = .962 ... API= 15.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =

ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal., Total lbs., OTHER TEST DATA , etc.)

PRODUCT Name: Alkylated Phenol — Inbound (YES) NO Outbound YES NO OUT #:

EPAHO114000762

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/22	Time 1440	Shell 86565	Trailer No.= 259	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → d		IN #: OUT#": Profile No.=	Water (% ppm)= .6555 #'s/gal=	Specific Gravity = .866 ... API= 31		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base oil			Inbound (YES) NO Outbound YES NO OUT #:			
6458 gallons color pink clarity Hazy									
Date 5/22	Time 2015	Shell Global 86574	Trailer No.= 259	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: OUT#": Profile No.= 2220	Water (% ppm)= 6458ppm #'s/gal= 7.24	Specific Gravity = 0.868 ... API= 31.52		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound (YES) NO Outbound YES NO OUT #:			
6386 gal. Hazy, Burnt Orange									
Date 5/26	Time 1000	Hydrocarbon	Trailer No.= BT 467	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → CRH		IN #: OUT#": 86674 Profile No.= 2366	Water (% ppm)= 0 0/0 #'s/gal= 7.15	Specific Gravity = 0.858 ... API= 33		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BURNER FUEL			Inbound YES NO Outbound (YES) NO OUT #: 1140			
Date 5/26	Time 1740	ZACH	Trailer No.= 8013	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → P		IN #: 86627 OUT#": 86832 Profile No.= 2556	Water (% ppm)= 0 #'s/gal= 6.50	Specific Gravity = 0.779 ... API= 50.14		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Stream 3			Inbound (YES) NO Outbound YES NO OUT #: 1143			
.1000 0.1 pH=5 pale yellow/hazy 37980/5843 Hydrocarbon Eng. TT 18807 Cross Roads									

EPAHO114000763

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
5/20	1040	SunCoast 86427	Trailer No.= Ind	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: Profile No.= 3306	Water (% ppm)= 7,806 . #'s/gal= 7.37	Specific Gravity = 0.884 ... API= 28.57			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil 82% Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/21	Time 1430	USoil	Trailer No.= 264	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 20% . #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil				Inbound YES NO Outbound YES NO OUT #:		
Date 5/2	Time 1300		Trailer No.= TK 4 SP	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → AL		IN #: OUT#: Profile No.=	Water (% ppm)= 0.00% . #'s/gal=	Specific Gravity = .882 ... API= 28			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name:				Inbound YES NO Outbound YES NO OUT #:		
Date 5/21	Time 1330	Midstates	Trailer No.= 223	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: OUT#: 86426 Profile No.= 2366	Water (% ppm)= 2.42 . #'s/gal= 7.72	Specific Gravity = 0.926 ... API= 21.3			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil (FROM BP TK 4)				Inbound YES NO Outbound (YES) NO OUT #: 1137 6500 gal		

EPAHO114000764

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
5/15	1220	Alamo	Trailer No.= 2060T	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: P		IN #: 86163 OUT#: Profile No.= 2366	Water (% ppm)= 1.65 #'s/gal= 7.54	Specific Gravity = 0.905 ... API= 24			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1134		
							6350		
Date 5/18	Time 925	Midstate	Trailer No.= TK40P	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: AL		IN #: OUT#: 86425 Profile No.= 2366	Water (% ppm)= 3.8 #'s/gal= 7.72	Specific Gravity = .926 ... API= 21.31			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black oil				Inbound YES NO Outbound (YES) NO OUT #: 1136		
							6405 gal		
Date 5-19	Time 11:13	Allied	Trailer No.= 141	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: SB		IN #: 86127 OUT#: Profile No.= 2150	Water (% ppm)= #'s/gal=	Specific Gravity = ... API=			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Methanol				Inbound YES NO Outbound YES NO OUT #:		
			FLASH 80 REDIRECT TO NEW PARK				4597 gal		
Date 5/20	Time 0958	Hydro Carbon Eng.	Trailer No.= BT407	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials: CRH		IN #: 86521 OUT#: Profile No.= 2366	Water (% ppm)= 0.0 % #'s/gal= 7.24	Specific Gravity = 0.868 ... API= 31.52			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BURNER FUEL				Inbound YES NO Outbound (YES) NO OUT #: 1138		
			Tare 33460						

EPAHO114000765

CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/14	Time 7:10	Alamo IN #: 86130 OUT#: 1131 Profile No.= 2366	Trailer No.=GPTK4 Water (% ppm)= 2.09% #'s/gal= 7.37	Btu= %Solids= Specific Gravity = .884 ... API= 28	Flash Pt.=	Chloride= Sample wt. (A) =	Crucible Tare wt. Ash wt. (B) =	Crucible wt. w/ sample ASH % (B/A) =	Crucible wt. w/ ash
Initials AL			PRODUCT Name: Blend Oil 6491 gallons			Inbound YES NO Outbound YES NO OUT #:			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									
Date 5/14	Time 1610	Alamo IN #: 86131 OUT#: 1132 Profile No.= 2366	Trailer No.= GPTK4 Water (% ppm)= 2.09% #'s/gal= 7.37	Btu= %Solids Specific Gravity = .884 ... API= 28	Flash Pt.=	Chloride= Sample wt. (A) =	Crucible Tare wt. Ash wt. (B) =	Crucible wt. w/ sample ASH % (B/A) =	Crucible wt. w/ ash
Initials AL			PRODUCT Name: Black oil 6491 Gallons			Inbound YES NO Outbound YES NO OUT #:			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									
Date 5/15	Time 800	Hydrocarbon IN #: 86345 OUT#: 1135 Profile No.= 2366	Trailer No.= 487 Water (% ppm)= 0.0% #'s/gal= 7.03	Btu= %Solids= 1% Specific Gravity = 0.844 ... API= 36	Flash Pt.=	Chloride= Sample wt. (A) =	Crucible Tare wt. Ash wt. (B) =	Crucible wt. w/ sample ASH % (B/A) =	Crucible wt. w/ ash
Initials AL			PRODUCT Name: BURNER FUEL			Inbound YES NO Outbound (YES) NO OUT #: 1135			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									
Date 5/15	Time 800	Alamo IN #: 86162 OUT#: Profile No.= 2366	Trailer No.= TK4 GP Water (% ppm)= 1.65 #'s/gal= 7.54	Btu= %Solids= Specific Gravity = .905 ... API= 24	Flash Pt.=	Chloride= Sample wt. (A) =	Crucible Tare wt. Ash wt. (B) =	Crucible wt. w/ sample ASH % (B/A) =	Crucible wt. w/ ash
Initials AL			PRODUCT Name: Black oil			Inbound YES NO Outbound (YES) NO OUT #: 1133			
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)									

EPAHO114000766

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CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH

Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/13	Time 9:11 AM	CES	Trailer No.= BT407	Btu= %Solids= <1%	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials CRH		IN #: OUT#: 76094 Profile No.= 2366	Water (% ppm)= 0.17% #'s/gal= 7.05 lb/GAL	Specific Gravity = 0.846 ... API= 36		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BURNER FUEL			Inbound YES NO Outbound (YES) NO OUT #: 1130			
			8500 GALS Hydro Carbon Eng						
Date 5/13	Time 9:17	CES	Trailer No.= OP TK4	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials CRH		IN #: OUT#: Profile No.=	Water (% ppm)= ~~2.3%~~ 1.7% #'s/gal= 7.59	Specific Gravity = 0.911 ... API= 24		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: BLACK OIL			Inbound YES NO Outbound YES NO OUT #:			
Date 5/13	Time 13:15	Midstate	Trailer No.= 208	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials P		IN #: 85975 OUT#: Profile No.= 2306	Water (% ppm)= 0.39 #'s/gal= 7.14	Specific Gravity = 0.856 ... API= 33.80		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1129			7001 gal
Date 5/14	Time 8:48	Smitty's	Trailer No.= 410	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials P		IN #: OUT#: 87136 Profile No.= 2481	Water (% ppm)= .153 ppm #'s/gal= 2.44	Specific Gravity = .892 ... API= 27		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil			Inbound YES NO Outbound (YES) NO OUT #: 1152			
			color 4.0						6/5/09

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CES Environmental Services, Inc.

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Date 5/11	Time 1500	Lubrizol	Trailer No.= 270	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 85961 OUT#": Profile No.= 2551	Water (% ppm)= 422 ppm . #'s/gal= 7.55	Specific Gravity = 0.906 ... API= 27			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Line Flush Oils				Inbound (YES) NO Outbound YES NO OUT #: Ash 0.04		
			Color 6						
Date 5/11	Time 1400	Hydrocarbon	Trailer No.= BT407	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: OUT#": 85977 Profile No.= 2366	Water (% ppm)= 0 . #'s/gal= 7.00	Specific Gravity = 0.840 ... API= 37			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Sale of Black Oil (Low Flash)				Inbound YES NO Outbound (YES) NO OUT #: 1124 6019 gal		
			TT208						
Date 5/12	Time 6:00	Midstate	Trailer No.= OP TK45P	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL		IN #: 85974 OUT#": Profile No.= 2368	Water (% ppm)= 3.14% . #'s/gal= 7.61	Specific Gravity = .913 ... API= 23.48			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1126		
			90-5						
Date 5-12	Time 9:23	Alamo	Trailer No.= TK4	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: OUT#": 86030 Profile No.= 2360	Water (% ppm)= 3.34% . #'s/gal= 7.47	Specific Gravity = .895 ... API= 26.42			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #: 1127		
							6091 gal		

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CES Environmental Services, Inc.

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							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5-4	Time 5:30	MARTIN IN #: 8584S OUT#: Profile No.= 1675	Trailer No.= 241	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB			Water (% ppm)= .31% . #'s/gal= 7.42	Specific Gravity = .890 ... API= 27.4			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Oily Water				Inbound YES NO Outbound YES NO OUT #:		

ALL Load Information Everything:
Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH		
							Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/11	Time 9:09	ALAMO IN #: OUT#: 85721 Profile No.= 2364	Trailer No.= 4152 11 0.P	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials AL			Water (% ppm)= 336 . #'s/gal=	Specific Gravity = .8672 ... API= 31			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #: 1122		

ALL Load Information Everything:
Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/11	Time 9:09	Hydrocarbon 8594P IN #: OUT#: Profile No.= 3172	Trailer No.=	Btu= %Solids= 8					
Initials AL			Water (% ppm)= 42% . #'s/gal= 8.02	Specific Gravity = .962 ... API= 15.6			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #:		

5% Rag 45% Oil

ALL Load Information Everything:
Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/11	Time 9:15	CES ALAMO IN #: OUT#: 85972 Profile No.= 2366	Trailer No.= OP TK 3	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials CRH			Water (% ppm)= 1.7% . #'s/gal= 758	Specific Gravity = .910 ... API= 24			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
			PRODUCT Name: BLACK OIL				Inbound YES NO Outbound YES NO OUT #: 1125		

ALL Load Information Everything:
Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)

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CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

for the ASH
Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/7	Time 12:15	Hydrocarbon	Trailer No.= LT677	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85810 OUT#: Profile No.= 2366	Water (% ppm)= 0.50 #'s/gal= 7.16	Specific Gravity = 0.858 ... API= 33.42			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1120		
							46320 / 6469		
Date 5/7	Time 1315	Tidepart	Trailer No.= 104	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85428 OUT#: Profile No.= 3292	Water (% ppm)= 4.75 #'s/gal= 7.66	Specific Gravity = 0.919 ... API= 22.47			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/7	Time 1545	ALAMO	Trailer No.= TK 119	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials →		IN #: OUT#: 86028 Profile No.= 2366	Water (% ppm)= 8.7% #'s/gal= 7.33	Specific Gravity = .880 ... API= 30			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1125		
Date 5-7	Time 2135	MARTIN	Trailer No.= 205	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JB		IN #: 85785 OUT#: Profile No.= 1677	Water (% ppm)= .47% #'s/gal= 7.50	Specific Gravity = .900 ... API= 25.7			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Used Oil				Inbound (YES) NO Outbound YES NO OUT #:		

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CES Environmental Services, Inc.

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Use approximately 3 gram's sample

DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK N0.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5-6	Time 920	ALAMO	Trailer No.= 197	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials MR		IN #: OUT#": 85753 Profile No.=	Water (% ppm)= 0.0 . #'s/gal= 7.55	Specific Gravity = .9085 ... API= 25			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) 46480 lbs			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #:		
Date 5-6	Time 9:15	SunCoast	Trailer No.= Ind	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 85762 OUT#": Profile No.= 3306	Water (% ppm)= 14.0 . #'s/gal= 7.54	Specific Gravity = .904 ... API= 25			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) 86% 0:1			PRODUCT Name: Black 0:1				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/6	Time 12:40	Midstates	Trailer No.= 224	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials P		IN #: 85743 OUT#": Profile No.= 2366	Water (% ppm)= 1.44 . #'s/gal= 7.66	Specific Gravity = 0.919 ... API= 22.47			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.) 6871			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1117		
Date 5-6	Time 2:30	Tideport	Trailer No.= 1098	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 85495 OUT#": Profile No.= 3292	Water (% ppm)= 1.839 . #'s/gal= 7.46	Specific Gravity = 0.895 ... API= 26.60			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		

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CES Environmental Services, Inc.

PRODUCT TESTING - PROCESSING & SHIPPING LOG RECORD SHEET

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DATE	TIME	CUSTOMER JOB NUMBER CES OIL TANK NO.	Trailer Number & Other Testing Data	Btu % Solids	Flash Point (Deg F)	Chloride (Chlor-d-tect)	ASH CALCULATION & % ASH: Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Date 5/5	Time 1100	Alamo	Trailer No.= 90T	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85677 OUT#: Profile No.= 2366	Water (% ppm)= 0.00 . #'s/gal= 7.74	Specific Gravity = 0.928 ... API= 20.98			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1113		
							47980/6199		
Date 5/5	Time 1200	Suncoast	Trailer No.= 259	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85493 OUT#: Profile No.= 2803	Water (% ppm)= 5.42 . #'s/gal= 7.29	Specific Gravity = 0.874 ... API= 30.40			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/5	Time 1300	Tideport	Trailer No.= 1093	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85423 OUT#: Profile No.= 3292	Water (% ppm)= 4.07 . #'s/gal= 7.74	Specific Gravity = 0.928 ... API= 20.98			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/5	Time 1500	Tideport	Trailer No.= 1071	Btu= 0 %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → JP		IN #: 85424 OUT#: Profile No.= 3292	Water (% ppm)= 1.87 . #'s/gal= 7.81	Specific Gravity = 0.937 ... API= 19.51			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound YES NO OUT #:		

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Date 5-4	Time 11:18	ALAMO	Trailer No.= TK3	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 85613 OUT#: Profile No.= 2866	Water (% ~~ppm~~)= 4.2% #'s/gal= 7.60	Specific Gravity = .912 ... API= 24		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1109			
Date 5-5	Time 8:30	ALAMO	Trailer No.= TK3-4X	Btu= %Solids 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: OUT#: 85625 Profile No.= 2866	Water (% ~~ppm~~)= 2.28% #'s/gal= 7.80	Specific Gravity = .932 ... API= 20		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1110			
Date 5-5	Time 8:45	Hydrocarbon	Trailer No.= TK11	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: 85685 OUT#: Profile No.=	Water (% ppm)= 0% #'s/gal= 7.22	Specific Gravity = .866 ... API= 32		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1111			
Date 5-5	Time 10:20	ALAMO	Trailer No.= ~~TK6~~	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials SB		IN #: OUT#: 85674 Profile No.=	Water (% ~~ppm~~)= 0.28% #'s/gal= 7.78	Specific Gravity = .933 ... API= 20		Sample wt. (A) =	Ash wt. (B) =		ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil			Inbound YES NO Outbound (YES) NO OUT #: 1112			

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Date 5-1	Time 2:30	Tideport	Trailer No.= 1078	Btu= %Solids=	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 85419 OUT#: Profile No.= 3292	Water (% ppm)= 1.4% #'s/gal= 7.83	Specific Gravity = .940 ... API= 19.0			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5-1	Time 21:30	Tideport	Trailer No.= 1079	Btu= %Solids	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: 85420 OUT#: Profile No.= 3292	Water (% ppm)= .47% #'s/gal= 7.69	Specific Gravity = .918 ... API= 22.5			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound (YES) NO Outbound YES NO OUT #:		
Date 5/1	Time 16:00	Smitty's 85580	Trailer No.= 406	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → J		IN #: OUT#: Profile No.= 2481	Water (% ppm)= 200 #'s/gal= 7.30	Specific Gravity = 0.876 ... API= 30.03			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Base Oil				Inbound YES NO Outbound (YES) NO OUT #: 1106		
			Color 3.5 Big Four 6528 gal						
Date 5-4	Time 6:30	Aloha	Trailer No.= TK3	Btu= %Solids= 0	Flash Pt.=	Chloride=	Crucible Tare wt.	Crucible wt. w/ sample	Crucible wt. w/ ash
Initials → SB		IN #: OUT#: 85612 Profile No.= 2360	Water (% ppm)= 3.5% #'s/gal= 7.71	Specific Gravity = .925 ... API= 21			Sample wt. (A) =	Ash wt. (B) =	ASH % (B/A) =
ALL Load Information Everything: Trans. to info.,Ship to info.,date's,Total gal.,Total lbs., OTHER TEST DATA , etc.)			PRODUCT Name: Black Oil				Inbound YES NO Outbound (YES) NO OUT #: 1108		

EPAHO114000774

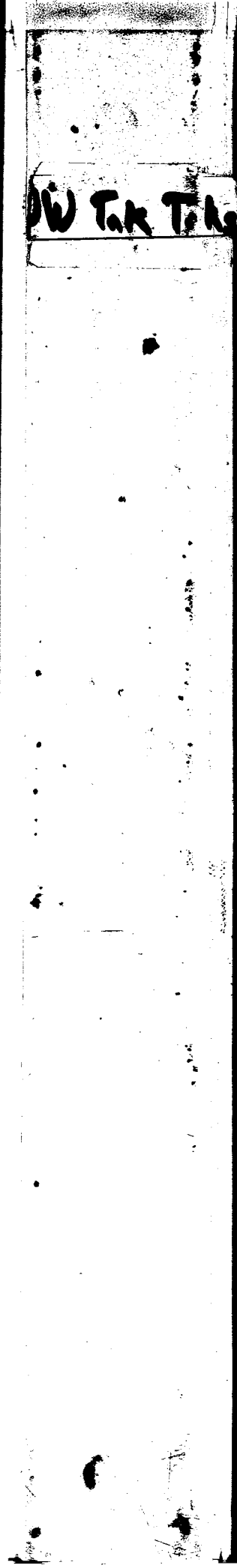
LAB
12-28-07

CES Environmental Services, Inc.

DATA LOG SHEET

WW INCOMING T/T WATER TESTING

EPAHO114000775



EPAHO114000776

LAB
T-21
8/4/09
CE

WASTE
WATER
TANK
TRUCK's

Sparco

BRAND

PRESENTATION BINDERS
1" ROUND RING

BLACK	19600
WHITE	19601
BLUE	19602

EPAHO114000779

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer / Job # / Profile #	(must test pH & TOC on every sample)	be important	CHECK
8-3	5:00	SB	270	Packless JOB #: 89461 Profile #: 2795	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (A)	
8-3	5:22	SB	233	Southern JOB #: 89554 Profile #: 2753	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5500 Out Job No. _____ (A)	
8-3	5:10	SB	256	Labarge JOB #: 89536 Profile #: 2557	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5300 Out Job No. _____ (A)	
				JOB #: _____ Profile #:	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= _____ Out Job No. _____	
				JOB #: _____ Profile #:	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= _____ Out Job No. _____	
				JOB #: _____ Profile #:	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= _____ Out Job No. _____	
				JOB #: _____ Profile #:	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= _____ Out Job No. _____	

WW Incoming Tank Truck Testing. Data Log Sheet 10-22-2008 Attic

EPAHO114000780

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 8/1	TIME 1115	Initials CRH	Trailer Number 205	PROLER JOB #: 89505 Profile #: 1443	pH= 7 TOC= 53550 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. INBOUND (HIGH TOC) [redacted] HEAT TREAT	
DATE 8-3	TIME 7:00	Initials SB	Trailer Number 755	Hexion JOB #: 89482 Profile #: 2657	pH=8 TOC= 17460 Phenol= ~~25~~ 20 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Ni - 0.003 Zn - 0.061	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5500 Out Job No. C	✓
DATE 8-3	TIME 8:30	Initials SB	Trailer Number 806	Hexion JOB #: 89539 Profile #: 3083	pH=5 TOC= 22300 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Ni (NEAT) - .023 Zn (NEAT) - .173	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5597 Out Job No. 20¢ C	✓
DATE 8-3	TIME 12:15	Initials SB	Trailer Number ISO 124105	Paces JOB #: 89521 Profile #: 3005	pH= 1.9 TOC= 5799 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Adjust PH	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. C	✓
DATE 8-3	TIME 2:25	Initials MR	Trailer Number 221	PACES JOB #: 89512 Profile #: 3005	pH= 10 TOC= 22010 Phenol= 50 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. C	✓
DATE 8-3	TIME 3:00	Initials SB	Trailer Number 252	Ameriforge JOB #: 89529 Profile #: 1003	pH= TOC= Phenol= METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6200 Out Job No. B	
DATE 8-3	TIME 4:00	Initials SB	Trailer Number 205	KMCO JOB #: 89542 Profile #: 1494	pH= 6 TOC= 21260 Phenol= METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Ni - .023 Zn - 0.115	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4374 Out Job No. RP90° B	✓

WW Incoming Tank Truck Testing, Data Log Sheet 10-22-2008 A...

EPAHO114000781

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	[illegible] be Important	CHECK
7-31	4:40	SB	271	VAM JOB #: 89502 Profile #: 1066	pH= 6 TOC= 8133 Phenol= 10 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 1,415 Out Job No. _____ B	✓
7-31	4:50	SB	205	TT Barge JOB #: 89366 Profile #:	pH= 6 TOC= 14940 Phenol= 20 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? >Flash 140	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ C	✓
7-31	5:50	SB	420	PACES JOB #: 89476 Profile #: 3005	pH= 5 TOC= 4829 Phenol= 25 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5500 Out Job No. _____ C	✓
7-31	6:00	CRH	270	HLW JOB #: 89517 Profile #: 3301	pH= 5 TOC= 2413 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ B	✓
8-1	900 AM	CRH	269	PACES JOB #: 89478 Profile #: 3005	pH= 5 TOC= 9032 Phenol= 15 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5314 Out Job No. _____ C	✓
8-1	[illegible] 900	CRH	[illegible] 256	[illegible] TT BARGE JOB #: 89365 Profile #: 3366	pH= 6 TOC= 10060 Phenol= 4 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? FLASH	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ TO OILY WATER TK *NEED PAPERWORK	
8-1	1019	CRH	267	PACES JOB #: 89508 Profile #: 3005	pH= 7 TOC= 4856 Phenol= 10 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ C	✓

WW Incoming Tank Truck Testing, Data Log Sheet 10-22-2008 Active

EPAHO114000782

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & SELECTS (must test pH & TOC on every sample)	DATE In this COLUMN ALL INFO that could be important	CHECK
7-31	12:40	SB	105	NOV JOB #: 89398 Profile #: 1986	pH= 5 TOC= 4635 Phenol= 2 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3000 Out Job No.	
7-31	1:15	CRH	269	PACES JOB #: 89479 Profile #: 3005	pH= 5 TOC= 6052 Phenol= 10 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. C	✓
7-31	1:20	CRH	233	KMCO JOB #: 89241 Profile #: 1997	pH= 7 TOC= 4544 Phenol= 0 METALS= EMULSION: YES NO % Solids= 52% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4287 Out Job No. C	✓
7-31	2:50	MR	270	PROLER JOB #: 89463 Profile #: 1443	pH= 10 TOC= 15,490 Phenol= 10 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.? Ni - 4.759 Zn - 4.231	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 8000 Out Job No. HEAT TREAT	✓
7-31	3:30	MR	225	PACES JOB #: 89477 Profile #: PA3005	pH= 9 TOC= 4680 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3000 Out Job No.	✓
7-31	4:00	SB	7253	Hexion JOB #: 89492 Profile #: 3083	pH= 5 TOC= 31460 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 8700 Out Job No. C	✓
7-31	4:15	SB	243	HLH JOB #: 89470 Profile #: 2836	pH= 7 TOC= 20130 Phenol= 10 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.? Heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓

EPAHO114000783

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7-31	7AM	MR	243	SOCOTHERM JOB #: 89444 Profile #: 2753	pH= 6 TOC= Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (D)	✓
7-31	7AM	MR	233	TT BARGE JOB #: 89397 Profile #: 3438	pH= 6 TOC= Phenol= 0 METALS= EMULSION: YES NO : % Solids= 0 Other TREAT or Test Info.? FP > 140°F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓
7-31	7AM	MR	278	TT BARGE JOB #: 893643 Profile #: 3366	pH= 5 TOC= Phenol= 200 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.? FP > 140°F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓
7-31	7AM	MR	IND	ENOHO SOCOTHERM JOB #: 89515 89446 Profile #: 2085	pH= 6 TOC= 47620 Phenol= 20 METALS= Ni - .518 Zn - 15 EMULSION: YES NO : % Solids= Other TREAT or Test Info.? HEAT TK B	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. 25# (B)	✓
7-31	9:40	SB	267	PACES JOB #: 89430 Profile #: 3005	pH=10.5 TOC= Phenol= 140 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	
7-31	11:30	SB	275	Resler JOB #: 89464 Profile #: 1443	pH= 6 TOC= 19900 Phenol= 7 METALS= EMULSION: YES NO : % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5800 Out Job No. (B)	✓
7-31	12:15	SB	271	FARQUK JOB #: 89237 Profile #: 1498	pH= 6 TOC= 39300 Phenol= 5 METALS= EMULSION: YES NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	

EPAHO114000784

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7-30	15:30	SB	680	Enviro JOB #: 89446 Profile #: 2985	pH= 5 TOC= 44400 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Ni .597 Zn .023	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6000 Out Job No. _____ 25! (B)	✓
7-30	10:35	SB	182	Hexion JOB #: 8945 Profile #: 3083	pH= 6 TOC= 37420 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5323 Out Job No. _____ 25! (C)	✓
7-30	11:00	SB	239	Paces JOB #: 89352 Profile #:	pH= 5 TOC=13[illegible] Phenol= 20 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (A)	✓
7-30	3:20	SB	256	VAM-USA JOB #: 89395 Profile #: 3006	pH= 9 TOC= Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4000 Out Job No. _____ (B)	
7-30	3:05	SB	243	Miller JOB #: 89406 Profile #: 1327	pH= 6 TOC= Phenol= 0 METALS= EMULSION: YES NO: % Solids= 35% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ 43! (B)	
7-30	3:15	SB	Ind	TWM JOB #: 89489 Profile #: 1952	pH= 6 TOC= Phenol= 8 METALS= EMULSION: YES NO: % Solids= 2% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 1[illegible] Out Job No. _____ (B)	✓
7-30	4:30	SB	235	Dresser JOB #: 89408 Profile #: 1813	pH= 8 TOC= Phenol= 40 ppm METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (B)	

EPAHO114000785

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE	TIME	Initials	Trailer Number	ENVIRO	pH=5 TOC=62400 Phenol=10 METALS= EMULSION: YES (NO) % Solids=0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=6000 Out Job No.	
7-29	1:30	SB	T 688	JOB #: 89407 Profile #: 3374/2	Ni-.258 Zn-9.56	25¢ (B)	✓
DATE	TIME	Initials	Trailer Number	PACES	pH=9 TOC=5716 Phenol=~50 METALS= EMULSION: YES (NO): % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=~5000 Out Job No.	
7-29	2:30	MR	225	JOB #: 89357 Profile #: 3005	Ni-.099 Zn-.037	(C)	✓
DATE	TIME	Initials	Trailer Number	PACES	pH=2.6 TOC=3842 Phenol=30 METALS= EMULSION: YES (NO) % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=5000 Out Job No.	
7-29	3:00	SB	269	JOB #: 89324 Profile #: 3005		(C)	✓
DATE	TIME	Initials	Trailer Number	PACES	pH=10 TOC=4570 Phenol=20 METALS= EMULSION: YES (NO) % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=5000 Out Job No.	
7-29	3:10	SB	254	JOB #: 89355 Profile #: 3005		(C)	✓
DATE	TIME	Initials	Trailer Number	TT BARGE	pH=6 TOC=9986 Phenol=10 METALS= EMULSION: YES (NO): % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=5800 Out Job No.	
7-30	7AM	MR	~~254~~ 252	JOB #: 89362 Profile #: 3366	FP-110°F	HEAT TK BLALEY TRL. (C)	✓
DATE	TIME	Initials	Trailer Number	Phoenix	pH=6 TOC=3726 Phenol=0 METALS= EMULSION: (YES) NO: % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=1500 Out Job No.	
7-30	9:30	SB	Ind	JOB #: 89443 Profile #: 2653		(B)	✓
DATE	TIME	Initials	Trailer Number	TT Barge	pH=5 TOC=1730 Phenol=6 METALS= EMULSION: (YES) NO: % Solids=0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL=5000 Out Job No.	
7-30	10:00	SB	205	JOB #: 89361 Profile #: 3366	FP 105°	(C)	✓

EPAHO114000786

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7-29	8:45	SB	240	Faruk JOB #: 89236 Profile #: 1998	pH= 8 TOC= 18470 Phenol= 4 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (5)	✓
7-29	9:00	SB		Hexion JOB #: 89324 Profile #: 2657	pH= 10 TOC= Phenol= 3 ppm METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6500 Out Job No. _____ 25¢ (6)	✓
7-29	9:25	SB		Hexion JOB #: 89305 Profile #:	pH= 10 TOC= Phenol= 300 ppm METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6500 Out Job No. _____ 25¢ (4)	✓
7-29	9:15	SB	270	TT Barge JOB #: 89262 Profile #: 3366	pH= 7 TOC= Phenol= METALS= EMULSION: YES NO: % Solids= 4% Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ Flash 120	✓
7-29	9:30	SB	428	Coastal JOB #: 89393 Profile #:	pH= 10 TOC= 126100 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.? 13%17% Glycol	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5600 Out Job No. _____ 25¢ Process to system	✓
7-29	11:00	SB		TWM JOB #: 89402 Profile #: 4450	pH= 6 TOC= ~~9428~~ 944 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.? Ni-.006 Zn-0.167	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2925 Out Job No. _____ HYDROCARBON LAYER (B)	
7-29	11:15	SB	271	Quest JOB #: 89282 Profile #: 1263	pH= 5 TOC= 42890 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (C)	

EPAHO114000787

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 7-28	TIME 3:05	Initials SB	Trailer Number 252	H+W JOB #: 89288 Profile #: 3348	pH= 5 TOC= 2069 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7-28	TIME 4:20	Initials SB	Trailer Number 271 ~~205~~	Quest JOB #: 89282 Profile #: 1273	pH= 1.89 TOC= Phenol= METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. C Rejected	
DATE 7-28	TIME 4:30	Initials SB	Trailer Number 205	Socotherm JOB #: 89315 Profile #: 2753	pH= 2.7 TOC= 1070 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 2 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. A	✓
DATE 7-28	TIME 4:40	Initials SB	Trailer Number	Enviro JOB #: 89378 Profile #: 2084	pH= 10 TOC= 6509 Phenol= 8 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7-28	TIME 4:45	Initials SB	Trailer Number 225	Pacos JOB #: 89325 Profile #: 3005	pH= 2.7 TOC= 4900 Phenol= 12 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. C	✓
DATE 7-29	TIME 8:40	Initials MR	Trailer Number 256	TT BARGE JOB #: 89284 Profile #: 3433	pH= TOC= 5235 Phenol= METALS= EMULSION: YES NO: % Solids= — Other TREAT or Test Info.? FP - 110°F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4800 Out Job No. heat	✓
DATE 7-29	TIME 8:50	Initials MR	Trailer Number 233	TT BARGE JOB #: 89665 Profile #: 3366	pH= 5 TOC= 15630 Phenol= 40 METALS= Ni - 6134 Zn - 2004 EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? FP > 140°F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No.	✓

EPAHO114000788

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	LEAD OPER. CALLED CHECK
7-28	8:15	SB	7414	Heaton JOB #: 89298 Profile #: 2657	pH= 10 TOC= Phenol= 225 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process to system 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5446 Out Job No. 25¢ (C)	✓
7-28	8:30	SB	1881	Heaton JOB #: 89299 Profile #: 2657	pH=10 TOC= Phenol= 300 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? Process to system 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5408 Out Job No. 25¢ (C)	✓
7-28	10:20	SB	105	National Oilwell JOB #: 89308 Profile #: 3383	pH= 6 TOC= 4079 Phenol= 4 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 12000 Out Job No. (B)	✓
7-28	12:00	SB	205	H L H JOB #: 89310 Profile #: 1623	pH= 6 TOC= 3885 Phenol= 5 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (B)	✓
7-28	2:05	SB	241	GATX JOB #: 89281 Profile #: 1393	pH= 6 TOC= 1331 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 10 Other TREAT or Test Info.? Ni- 1.103 Zn- 0.361 (NEAT)	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. 18¢ (C)	✓
7-28	2:30	SB	269	Praces JOB #: 89324 Profile #: 3005	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	
7-28	3:00	SB	243	H L W JOB #: 89287 Profile #: 3387	pH= 5 TOC= 1470 Phenol= 2 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (B)	✓

EPAHO114000789

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7-27	12:00	SB	258	Paces JOB #: 89278 Profile #: 3025	pH=2.5 TOC= 5112 Phenol= 2 METALS= EMULSION: (YES) NO : % Solids= 8% Other TREAT or Test Info.? 1-2% NAPTHENIC ACID	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4350 Out Job No. _____ Rejected (D)	
7-27	11:10	SB	Ind	SynCoast JOB #: 89296 Profile #: 2803	pH=7 TOC= 6808 Phenol= 4 METALS= EMULSION (YES) NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 2805 Out Job No. _____	✓
7-27	2:40	MR	IND	TWM JOB #: 89306 Profile #: 1456	pH= 7 TOC= 1130 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.? Ni .002 Zn .008	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3000 Out Job No. _____ (C)	✓
7-27	3:35	SB	LT 688	Enviro JOB #: 89300 Profile #: 3374	pH= 6 TOC= 16790 Phenol= 0 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5705 Out Job No. _____ Put TRL 406 (B)	✓
7-27	3:35	SB	252	Black Warrior JOB #: 89283 Profile #: 2092	pH= 7 TOC= 2823 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____	✓
7-27	3:45	SB	241	LaBarge JOB #: 89279 Profile #: 2557	pH=2.7 TOC= 1199 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 3 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5158 Out Job No. _____ (A)	✓
7-27	4:30	SB	238	Paces JOB #: 89290 Profile #: 3005	pH=2.57 TOC= 4515 Phenol= 75 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.? NO C.O.A (EMAILED BY DENETTE)	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (C)	✓

EPAHO114000790

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	LEAD OPER. CALLED CHECK
DATE	TIME	Initials	Trailer Number	Hexion	pH= 6 TOC= 48195 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Ni-0.000 Zn-0.272	Inbound (YES) Outbound YES PFI Reviewed YES (NO) Problems ? TOTAL GAL= 5965 Out Job No. _____ 254 (C)	✓
7-24	11:45	SB		JOB #: 89225 Profile #: 3083			
DATE	TIME	Initials	Trailer Number	Goodman	pH= 11 TOC= 9819 Phenol=0 METALS= EMULSION: (YES) NO : % Solids= 12% Other TREAT or Test Info.? Ni- 0.000 Zn- 0.556	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (A)	✓
7-24	1:25	SB	270	JOB #: 88313 Profile #: 1902			
DATE	TIME	Initials	Trailer Number	FARouk	pH= 12 TOC= 17,850 Phenol= 15 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5793 Out Job No. _____ (C)	✓
7-24	3:00	SB	241	JOB #: 89001 Profile #: 1498			
DATE	TIME	Initials	Trailer Number	Goodman	pH= 11 TOC= 3553 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 12 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 Out Job No. _____ (A)	✓
7-24	5:00	SB	243	JOB #: 88314 Profile #: 1902			
DATE	TIME	Initials	Trailer Number	Paces	pH= 2.5 TOC= 5422 Phenol= 20 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ C	✓
7-24	5:05	SB	225	JOB #: 89244 Profile #: 3085			
DATE	TIME	Initials	Trailer Number	TT Barge	pH= 6 TOC= 755 Phenol= 0 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5005 Out Job No. _____ 110° Flash (B)	✓
7-24	6:30	SB	271	JOB #: 89252 Profile #: 3433			
DATE	TIME	Initials	Trailer Number	TWM	pH= 6 TOC= 630 Phenol= 5 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 1495 Out Job No. _____ (B)	✓
7-27	11:30	SB	Int	JOB #: 89273 Profile #: 1456			

EPAHO114000791

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7-24	8:20	SB	256	TT Barge JOB #: 89165 Profile #: 3433	pH= 6 TOC= 6064 Phenol= 3 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.? heat	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4800 Out Job No. _____ 90° Flash (B)	✓
7-24	8:10	SB	243	Baker JOB #: 89202 Profile #: 1443	pH= 8 TOC= 8839 Phenol= 5 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.? 5% oil layer heat	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5500 Out Job No. _____ (B)	✓
7-24	8:20	SB	2956	Hexion JOB #: 89185 Profile #: 2657	pH= 5 TOC= Phenol= 300 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process + system 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5210 Out Job No. _____ IN TAL 414 25% (C)	✓
7.24	8:30	SB	38	Pace JOB #: 89181 Profile #: 3005	pH= 9 TOC= 5230 Phenol= 100 METALS= EMULSION: (YES) NO : % Solids= 2 Other TREAT or Test Info.? 75 gallon flush	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5500 Out Job No. _____ (C)	✓
7-24	9:50	SB		Hexion JOB #: 89153 Profile #: 3083	pH= 5 TOC= 49590 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Ni- 0.003 Zn- 0.015	Inbound (YES) Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5522 Out Job No. _____ 25% (C)	✓
7-24	11:00	SB	252	KMCO JOB #: 89187 Profile #: 1494	pH= 6 TOC= 44070 Phenol= 0 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4984 Out Job No. _____ Flash 85° (B)	✓
7.24	11:0	SB	241	KMCO JOB #: 89002 Profile #: 1997	pH= 6 TOC= 2224 Phenol= 0 METALS= EMULSION: (YES) NO : % Solids= 50% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5225 Out Job No. _____ (C)	✓

EPAHO114000792

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7-23	10:30	SB	241	DANA JOB #: 89179 Profile #: 1289	pH= 7 TOC= 298 Phenol= 10 METALS= Ni- 0.368 Zn- 2.234 EMULSION: YES (NO) % Solids= ____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 6000 Out Job No. ____ (B)	✓
7-23	11:25	SB	243	Southern JOB #: 89205 Profile #: 2753	pH= 4 TOC= 1031 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 3 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5500 Out Job No. ____ (A)	✓
7-23	1:55	MR	205	KMCO JOB #: 89208 Profile #: 1494	pH= 7 TOC= ~~3785~~ 60,220 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.? heat	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4849 Out Job No. ____ (B)	✓
7-23	1:55	MR	241	DANA JOB #: 89178 Profile #: 1289	pH= 7 TOC= 3785 Phenol= 10 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? Ni- 0.135 Zn .008	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 6000 Out Job No. ____ (B)	✓
7-23	2:40	MR	252	DANA JOB #: 8916 Profile #: 1289	pH= 6 TOC= 2495 Phenol= 10 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? Ni- 0.125 Zn 0.009	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 Out Job No. ____ (B)	✓
7-23	3:10	SB	279	Hexion JOB #: 89192 Profile #: 1823	pH= 10 TOC= 25180 Phenol= 125 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5488 Out Job No. ____ 25% (C)	✓
7-23	4:50	SB	252	DANA JOB #: 89180 Profile #: 1289	pH= 7 TOC= 4421 Phenol= 50 METALS= EMULSION: (YES) NO: % Solids= 20% Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. ____ (B)	✓

EPAHO114000793

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CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7-22	6:30	SB	205	KMCO JOB #: 89100 Profile #: 1494	pH= 5 TOC= 107000 Phenol= 4 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5210 Out Job No. (B)	✓
7-22	6:35	SB	239	Paces JOB #: 89171 Profile #: 3005	pH= TOC= Phenol= METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No.	
7-22	6:40	SB	258	Paces JOB #: 89197 Profile #: 3005	pH= 4.57 TOC= 4784 Phenol= 10 METALS= EMULSION: YES (NO) % Solids= <1% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	
7-23	6:30	SB	Ind	Hexion JOB #: 89186 Profile #: 2657	pH= 10 TOC= Phenol= 250 METALS= EMULSION: (YES) NO: % Solids= 8 Other TREAT or Test Info.? Process to system 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5941 Out Job No. 25d (C)	✓
7-23	8:00	SB	Ind	Hexion JOB #: 89152 Profile #: 3005	pH= 5 TOC= 4623 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5965 Out Job No. 25d (C)	✓
7-23	8:15	SB	Ind	Affordable JOB #: 89151 Profile #: 1779	pH= 6 TOC= 3785 Phenol= 10 METALS= EMULSION: (YES) NO: % Solids= 4 Other TREAT or Test Info.? 5% OI 5% RAG	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 Out Job No. (B)	✓
7-23	9:55	SB	252	DANA JOB #: 89177 Profile #: 1289	pH= 9 TOC= 4554 Phenol= 10 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓

EPAHO114000794

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7-22	8:45	SB	271	TT Barge JOB #: 89095 Profile #: 3366	pH= 5 TOC= 5785 Phenol= 3 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	✓
7-22	9:00	SB	254	TT Barge JOB #: 89094 Profile #: 3366	pH= TOC= Phenol= METALS= EMULSION: YES NO : % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No.	
7-22	9:30	MR	252	SOCOTHERM JOB #: 89078 Profile #:	pH= 2.7 TOC= 1086 Phenol= 0 METALS= Ni .000 Zn .005 EMULSION: YES (NO) : % Solids= 6 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	✓
7-22	11:30	MR	205	KMCO JOB #: 89101 Profile #: 1494	pH= 6 TOC= 98,190 Phenol= 4 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.? Ni .08 Zn .128	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4935 Out Job No.	
7-22		SB	IND	TWM JOB #: 89183 Profile #: 1456	pH= 6 TOC= 2878 Phenol= 0 METALS= EMULSION: (YES NO) : % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2650 Out Job No.	
7-22	10:50	MR	VB	ROLLED ALLOYS JOB #: 89167 Profile #: 2932	pH= 6 TOC= 1409 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= Other TREAT or Test Info.? Ni- 0.000 Zn- 0.003	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= Out Job No.	
7-22	4:30	SB	254	TT Barge JOB #: 89094 Profile #: 3366	pH= 5 TOC= 3166 Phenol= 4 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	

EPAHO114000795

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	LEAD OPER. CALLED CHECK
7/21	950	AL	241	Champion JOB #: 88006 Profile #: 2566	pH= 7 TOC= 849 Phenol= 0 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4904 Out Job No. (C)	✓
7/21	1010	AL	205	Southern JOB #: 89077 Profile #: 2753	pH=2.03 TOC= 829 Phenol= 6 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (A)	✓
7/21	11:45	JP	243	Farouk JOB #: 89000 Profile #: 1498	pH= 8 TOC= 17480 Phenol= 5 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓
7/21	12:10	JP	241	Champion JOB #: 89006 Profile #: 2664	pH= 6 TOC= 1319 Phenol= 0 METALS= EMULSION: YES (NO): % Solids= 0.5 Other TREAT or Test Info.? (89133)	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3156 Out Job No. (C)	✓
7/21	13:00	JP	205	H&W Petroleum JOB #: 89075 Profile #: 3301	pH= 7 TOC= 797 Phenol= 4 METALS= EMULSION: YES (NO): % Solids= 3% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 2500 Out Job No. (B)	✓
7/21	16:00	JP	105	T3 Energy JOB #: 89093 Profile #: 1371	pH= 6 TOC= 3247 Phenol= 2 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 Out Job No. (B)	✓
7-21	5:40	SB	IN	Sun Coast JOB #: 89154 Profile #: 2803	pH= 6 TOC= 4739 Phenol= 4 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 2800 Out Job No. (B)	✓

EPAHO114000796

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 7/20	TIME 15:00	Initials J	Trailer Number 256	H&W Petroleum JOB #: 89069 Profile #: 3301	pH= 6 TOC= 911 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7/20	TIME 1537	Initials AL	Trailer Number 205	Southern JOB #: 89068 Profile #: 2753	pH= 6 TOC= 1008 Phenol= 0 METALS= EMULSION: YES NO % Solids= 12 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. A	
DATE 7/20	TIME 17:40	Initials J	Trailer Number 256	H&W Petroleum JOB #: 89073 Profile #: 3301	pH= 6 TOC= 1005 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7/20	TIME 18:10	Initials J	Trailer Number 205	H&W Petroleum JOB #: 89072 Profile #: 3301	pH= 6 TOC= 668 Phenol= 1 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7/20	TIME 19:20	Initials J	Trailer Number 210	GATX Hearne JOB #: 89057 Profile #: 1383	pH= 9 TOC= 1216 Phenol= 10 METALS= EMULSION: YES NO % Solids= 9% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5200 Out Job No. C	✓
DATE 7/20	TIME 19:40	Initials J	Trailer Number 256	H&W Petroleum JOB #: 89074 Profile #: 3301	pH= 6 TOC= 709 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7/21	TIME 915	Initials AL	Trailer Number IND	Sun Coast JOB #: 89110 Profile #: 2803	pH= TOC= 2204 Phenol= 0 METALS= EMULSION: YES NO % Solids= 4 Other TREAT or Test Info.? 50% water 46% oil	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2000 FP Out Job No. B	✓

WW Incoming Tank Truck Testing, Data Log Sheet, 10-22-2008 Active

EPAHO114000797

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/20	1025	AL	243	H&W JOB #: 89020 Profile #: 3301	pH= 5 TOC= 751 Phenol= 0 METALS= EMULSION: YES (NO): % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (D)	✓
7/20	1050	AL	205	Southern JOB #: 89067 Profile #: 2753	pH= 2.5 TOC= 962 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (A)	✓
7/20	1143	AL	420	PACES JOB #: 89065 Profile #: 3005	pH= 6 TOC= 6541 Phenol= 25 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (E)	✓
7/20	1200	P	256	H&W Petroleum JOB #: 89030 Profile #: 3301	pH= 6 TOC= 891 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (B)	✓
7/20	1230	P	270	GATX Hearne JOB #: 89057 Profile #: 1383	pH= TOC= Phenol= METALS= EMULSION: YES (NO): % Solids= _____ Other TREAT or Test Info.? Rejected pH 1.45!!	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5200 Out Job No. (C)	✓
7/20	1445	AL	238	PACES JOB #: 89066 Profile #: 3005	pH= 6 TOC= 5268 Phenol= 25 METALS= EMULSION: YES NO: % Solids= 1 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (E)	✓
7/20	1455	AL	258	PACES JOB #: 89083 Profile #: 3005	pH= 6 TOC= 6246 Phenol= 25 METALS= EMULSION: YES NO: % Solids= 1 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. C	✓

EPAHO114000798

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7/17	1830	JP	258	PACES JOB #: Reg. Profile #:	pH= 7 TOC= 4582 Phenol= 15 METALS= EMULSION: YES (NO) % Solids= 4 Other TREAT or Test Info.? Ni= 0.49 Zn= 0.14	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= _____ Out Job No. _____ Bad Odor	
7/17	1905	JP	270	Cleaneering JOB #: 88977 Profile #: 1739	pH= 9 TOC= 5410 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 1570 Out Job No. _____ (B)	✓
7/17	1950	JP	241	Socotherm JOB #: 89032 Profile #: 2753	pH= 5 TOC= 2762 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 6 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems? TOTAL GAL= ??? Out Job No. _____ (A)	✓
7/17	1950	JP	104	Semasys JOB #: 89044 Profile #: 33160	pH= 6 TOC= 2717 Phenol= 1 METALS= EMULSION: YES NO: % Solids= 2% Other TREAT or Test Info.? Treats Well	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems? TOTAL GAL= 2000 Out Job No. _____ (A)	✓
7/20	6:58	SB	IND	Hexion JOB #: 89042 Profile #: 2657	pH= 9 TOC= 20-70 Phenol= 400 METALS= ____ EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process to System 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems? TOTAL GAL= 5948 Out Job No. _____ (C)	✓
7/20	945	AL	IND	TWM JOB #: 89029 Profile #: 14556	pH= 5 TOC= 1842 Phenol= 0 METALS= ____ EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? 1% lic FP 155	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems? TOTAL GAL= 4500 Out Job No. _____ (B) FP = 155	✓
7/20	1020	AL	241	Haw JOB #: 89071 Profile #: 3301	pH= 5 TOC= 724 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems? TOTAL GAL= 5000 Out Job No. _____ (B)	✓

EPAHO114000799

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/17	13:15	P	104	Oceaneering JOB #: 88988 Profile #: 2496	pH= 5 TOC= 6274 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 1% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 7600 Out Job No. (B)	✓
7/17	1925	AL	IND	TWM JOB #: 88541 Profile #: 1456	pH= TOC= 1302 Phenol= 6 METALS= EMULSION: YES NO: % Solids= 1% Other TREAT or Test Info.? 38% Water 100% Rag	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 2325 Out Job No. (B) 51% oil	✓
7/17	1435	P	243	HOW petroleum JOB #: 89029 Profile #: 3301	pH= 5 TOC= 902 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 (B)	✓
7/17	1520	AL	241	Champion JOB #: 88891 Profile #: 2584	pH= 5 TOC= 1013 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4835 (C)	✓
7/17	1610	P	105	Shawcor JOB #: 89018 Profile #: 1711	pH= 6 TOC= 2059 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 (B)	✓
7/17	1630	P	233	KMCO JOB #: 88741 Profile #: 1997	pH= 7 TOC= 1124 Phenol= 2 METALS= EMULSION: YES (NO) % Solids= 44% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4842 (C)	✓
7/17	1815	P	243	How Petroleum JOB #: 89028 Profile #: 3301	pH= 6 TOC= 1404 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 (B)	✓

EPAHO114000800

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 7/17	TIME 850	Initials AL	Trailer Number 2113	Champion JOB #: 88750 Profile #: 1791	pH= 4 TOC= 3802 Phenol= 0 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3592 Out Job No. C	✓
DATE 7/17	TIME 909	Initials AL	Trailer Number 270	Champion JOB #: 88752 Profile #: 2724	pH= 10 TOC= 6621 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? FP 115°F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4764 Out Job No. C	✓
DATE 7.17	TIME 9:30	Initials AL	Trailer Number 241	Champion JOB #: 88992 Profile #: 2664	pH= 5 TOC= 1496 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4674 Out Job No. C	✓
DATE 7-17	TIME 1110 ~~9:40~~	Initials P	Trailer Number 205	Socotherm JOB #: 89031 Profile #: 2753	pH= 4 TOC= 819 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. A	✓
DATE 7-17	TIME 9:50	Initials	Trailer Number 233	KMCO JOB #: 88741 Profile #: 1997	pH= TOC= Phenol= METALS= EMULSION: YES NO: % Solids= 40% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4842 Out Job No. C	
DATE 7-17	TIME 10:00	Initials AL	Trailer Number 271	H+W JOB #: 89027 Profile #: 3301	pH= 5 TOC= 954 Phenol= 0 METALS= Ni 0.92N .113 EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3500 Out Job No. B	✓
DATE 7/17	TIME 13:10	Initials P	Trailer Number 1722	Hexion Dibol JOB #: 88931 Profile #: 3083	pH= 5 TOC= 50290 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5482 Out Job No. C	✓

EPAHO114000801

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/16	1340	JP	1254	Hexion Dibol JOB #: 88930 Profile #: 3083	pH= 5 TOC= 47800 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5626 Out Job No.	✓
7/16	1405	JP	243	Champion JOB #: 88961 Profile #: 2664	pH= 6 TOC= 1524 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 22 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5029 Out Job No.	✓
7/16	1730	JP	210	Champion JOB #: 88995 Profile #: 2664	pH= 6 TOC= 1263 Phenol= 2 METALS= EMULSION: YES (NO) % Solids= 0.5 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5108 Out Job No.	✓
7/16	1740	JP	271	Hexion Dibol JOB #: 88929 Profile #: 3083	pH= 6 TOC= 45070 Phenol= 4 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5465 Out Job No.	✓
7/16	1800	JP	241	TT Barge JOB #: 88955 Profile #: 3366	pH= 5 TOC= 7320 Phenol= 5 METALS= EMULSION: YES (NO) % Solids= 4 Other TREAT or Test Info.? FP > 140°F	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	✓
7/16	1840	JP	233	TT Barge JOB #: 88954 Profile #: 3366	pH= 5 TOC= 6853 Phenol= 5 METALS= EMULSION: YES (NO) % Solids= 1 Other TREAT or Test Info.? FP > 140°F	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No.	✓
7/17	730	AL	IND	Hexion Hope JOB #: 88956 Profile #: 2658	pH= 10 TOC= 2380 Phenol= 75 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5081 Out Job No.	✓

EPAHO114000802

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 7/15	TIME 13:00	Initials P	Trailer Number 243	Socotherm JOB #: 88949 Profile #: 2753	pH= 8 TOC= 1384 Phenol= 1 METALS= EMULSION: YES NO: % Solids= 1% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. A	✓
DATE 7/15	TIME 1426	Initials AL	Trailer Number 233	Hexion Vibel JOB #: 88928 Profile #: 3083	pH= 5 TOC= 40030 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5343 Out Job No. C	✓
DATE 7/15	TIME 15:00	Initials P	Trailer Number 241	LaBarge JOB #: 88933 Profile #: 2557	pH= 2.2 TOC= 1555 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 4% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4500 Out Job No. A	✓
DATE 7/15	TIME 17:20	Initials P	Trailer Number 243	Socotherm JOB #: 88950 Profile #: 2753	pH= 4 TOC= Phenol= 0 METALS= EMULSION: YES NO: % Solids= 4% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4000 Out Job No. A	✓
DATE 7/16	TIME 8:00	Initials SB	Trailer Number 8082	Hexion JOB #: 88943 Profile #: 2657	pH= 10 TOC= Phenol= 400 ppm METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Process to system 1	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5479 Out Job No. 25¢ C	✓
DATE 7/16	TIME 1300 ~~10:00~~	Initials P	Trailer Number VT-1	Bioselect JOB #: 88987 Profile #: 2900	pH= 7 TOC= 36180 Phenol= 2 METALS= EMULSION: YES NO: % Solids= 2% Other TREAT or Test Info.? 5% Oil FP>140F	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2000 Out Job No. 25¢ B	✓
DATE 7/16	TIME 1020	Initials AL	Trailer Number 243	Champion JOB #: 88960 Profile #: 2664	pH= 6.7 TOC= 1063 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4722 Out Job No. C	✓

EPAHO114000803

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	LEAD OPER. CALLED / CHECK
7/14	1055	AL	228	KMCO JOB #: 88864 Profile #: 1454	pH= 6 TOC= 25965 Phenol= 40 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? FP 97°F	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= _____ Out Job No. _____ redirect 4604 to System 1 (D)	
7/14	11:00	J	206	Champion JOB #: 88754 Profile #: 2664	pH= 6 TOC= 1073 Phenol= 3 METALS= EMULSION: YES (NO): % Solids= 12 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4674 Out Job No. _____ (C)	✓
7/14	16:00	J	206	Ameriforge JOB #: 88879 Profile #: 1003	pH= 7 TOC= 2713 Phenol= 1 METALS= EMULSION: YES (NO): % Solids= 0.5 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5300 Out Job No. _____ (B)	✓
7/14	16:15 4:29	J	243	FAROUK JOB #: 88742 Profile #: 1498	pH= 8.5 TOC= 32740 Phenol= 3 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (C)	✓
7/14	18:30	J	213	NP Reject JOB #: 88889 Profile #:	pH= TOC= Phenol= METALS= EMULSION: YES (NO): % Solids= 0.5 Other TREAT or Test Info.? SG=0.864 H_2O=300ppm	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5500 Out Job No. _____	
7/15	1000	AL	220	Champion JOB #: 88751 Profile #: 2729	pH= 6 TOC= 9831 Phenol= 10 METALS= EMULSION: (YES) NO: % Solids= _____ Other TREAT or Test Info.? FP 100	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5625 Out Job No. _____ (C)	✓
7/15	12:00	J	228	KMCO JOB #: 88865 Profile #: 1494	pH= 6 TOC= 19110 Phenol= 10 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.? FP ~~99~~°F Redirect → Sys 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4400 Out Job No. _____ (B)	✓

EPAHO114000804

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	LEAD OPER. CALLED CHECK
7/13	1000	AL	IND	Heston Hope JOB #: 88720 Profile #: 2657	pH=9 TOC= 15320 Phenol= 125 METALS= EMULSION: YES NO: % Solids= _____ Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5855 Out Job No. _____ (C)	
7/13	1210	P	1543	Houston Cement JOB #: 88875 Profile #: 2459	pH=10 TOC= 1797 Phenol= 0 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3200 Out Job No. _____ (C)	✓
7/13	1255	BB	243	Oceanside JOB #: 88753 Profile #: 1739	pH=7 TOC= 33230 Phenol= 3 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 150 Out Job No. _____ (B)	
7/13	1300	P	Ind	SunCoast JOB #: 88877 Profile #: 2803	pH=8 TOC= 13920 Phenol= 10 METALS= EMULSION: (YES) NO: % Solids= 3% Other TREAT or Test Info.? 0.135% Rag 3% H2O 60%	(Inbound YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 2800 Out Job No. _____ (B)	✓
7/13	1715	P	228	Socotherm JOB #: 88862 Profile #: 2753	pH=4 TOC= 2118 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 5% Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (A)	✓
7/13	1815	P	211	H&H Oil JOB #: 88850 Profile #: 2836	pH=5.5 TOC= 8710 Phenol= 10 METALS= EMULSION: YES NO: % Solids= 5% Other TREAT or Test Info.? 10% Org 85% H2O	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (B)	✓
7/14	945	AL	241	Chemron JOB #: 88249 Profile #: 1791	pH=6 TOC= 33676 Phenol= 0 METALS= 1.3 EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5499 Out Job No. _____ (C)	

EPAHO114000805

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/10	12:50	JP	241	KMCO JOB #: 88565 Profile #: 1997	pH= 7 TOC= 1276 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 25% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5072 Out Job No.	✓
7/10	13:30	JP	1722	Hexion Dibol JOB #: 88618 Profile #: 3083	pH= 5.5 TOC= 36160 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 2% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5552 Out Job No.	✓
7/10	3:45	SB	233	GATX JOB #: 88799 Profile #: 1383	pH= 11 TOC= 3025 Phenol= 3 METALS= EMULSION: YES NO % Solids= 8 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5000 Out Job No.	
7/10	3:50	SB	270	Champion JOB #: 88564 Profile #: 2724	pH= 6 TOC= 6113 Phenol= 0 METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 4995 Out Job No. FP on H2O = 130°F	
7/10	3:55	JP	276	Champion JOB #: 88563 Profile #: 2724	pH= 2.2 TOC= 12480 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 0.5 Other TREAT or Test Info.? 5% Org	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5350 Out Job No. FP neat = 125°F	✓
7/10	18:45	JP	271	Farouk JOB #: 88554 Profile #: 1498	pH= 9 TOC= 39340 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 0.5 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5000 Out Job No.	✓
7/13	8:50	AL	IND	Hexion Utpc JOB #: 88726 Profile #: 2657	pH= 9 TOC= 14090 Phenol= 125 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems? TOTAL GAL= 5329 Out Job No.	

EPAHO11400806

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/9	16:10	JP	234	Hexion JOB #: 88715 Profile #: 1823	pH= 9 TOC= 15400 Phenol= 125 METALS= EMULSION: YES NO: % Solids= 1% Other TREAT or Test Info.? Redirect → Sys 1	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5578 Out Job No. (C)	✓
7/9	17:10	JP	228	Hexion JOB #: 88714 Profile #: 1823	pH= 9 TOC= 15010 Phenol= 125 METALS= EMULSION: YES (NO): % Solids= 1% Other TREAT or Test Info.? Redirect → Sys 1	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5811 Out Job No. (C)	✓
7/9	1800	JP	210	H:H 0:1 JOB #: 88721 Profile #: 2836	pH= 7 TOC= 23310 Phenol= 20 METALS= EMULSION: (YES) NO: % Solids= 10% Other TREAT or Test Info.? 10% Oil 10% Rag 70% H2O FP > 140	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (B)	✓
7/10	0744	AL	205	Champion JOB #: 88562 Profile #: 2724	pH= 12.05 TOC= 8706 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= Other TREAT or Test Info.? FP 130	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5051 Out Job No. (C)	✓
7/10 ★	745	AL	IND	Hexion JOB #: 88686 Profile #: 2657	pH= 9.8 TOC= 13730 Phenol= 200 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? Process to Sys 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5410 Out Job No. (C)	✓
7/10 ★	9:09	AL	537	Hexion JOB #: 88685 Profile #: 2657	pH= 9.05 TOC= 13610 Phenol= 100 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process to Sys 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5364 Out Job No. (C)	✓
7/10	10:30	JP	243	Timken Boring JOB #: 88736 Profile #: 1635	pH= 6 TOC= 313 Phenol= 5 METALS= EMULSION: YES (NO): % Solids= 0.5 Other TREAT or Test Info.? 2% Oil	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (B)	✓

EPAHO114000807

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7-9	7:19		252	Dixie JOB #: 88464 Profile #: 1824	pH= 5 TOC= 25070 Phenol= 0 METALS= EMULSION: (YES) NO : % Solids= 10% Other TREAT or Test Info.? Flash 87-90	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5335 Out Job No. _____ SPG .850 PPG 7.09 API 34.9	
7/9	10:20	JP	241	Champion JOB #: 88662 Profile #: 1791	pH= 6 TOC= 10600 Phenol= 5 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4986 Out Job No. _____ (C)	✓
7/9	1020	AL	IND	Herrin 10:00 JOB #: 88620 Profile #: 3083	pH= 5 TOC= 32900 Phenol= 6 METALS= EMULSION: YES (NO) % Solids= 6 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5720 Out Job No. _____ (C)	✓
7/9	1400	JP	205	Proler SW JOB #: 88718 Profile #: 1443	pH= 8 TOC= 41030 Phenol= 10 METALS= EMULSION: (YES) NO : % Solids= 0 Other TREAT or Test Info.? ~1% Oil layer	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____ (B)	✓
7/9	1400	AL	IND	Herrin Hood JOB #: 88646 Profile #: 2657	pH= 8 TOC= 22180 Phenol= 100 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process to Sys 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5341 Out Job No. _____	✓
7/9	1420	AL	IND	Herrin Hood JOB #: 88647 Profile #: 2657	pH= 8 TOC= 12900 Phenol= 100 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.? Process to Sys 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5295 Out Job No. _____	✓
7/9	1450	AL	233	GATX Hoover JOB #: 88720 Profile #: 1383	pH= 1,4 TOC= Phenol= METALS= EMULSION: YES (NO) % Solids= Other TREAT or Test Info.? REJECTED LOAD	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. _____	—

EPAHO114000808

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	CHECK
7/8	12:35	P	233	H&W Petroleum JOB #: 88683 Profile #: 3301	pH= 5.5 TOC= 1594 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5800 Out Job No. B	✓
7/8	15:25	P	241	H&W Petroleum JOB #: 88679 Profile #: 3301	pH= 5.5 TOC= 1443 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
7/8	15:40	P	233	H&W Petroleum JOB #: 88682 Profile #: 3301	pH= 5.5 TOC= 862 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5800 Out Job No. B	✓
7/8	16:40	P	Ind	Hexion Dibol JOB #: 88619 Profile #: 3083	pH= 7 TOC= 41600 Phenol= 4 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5727 Out Job No. C	✓
7/8	17:25	P	241	H&W Petroleum JOB #: 88681 Profile #: 3301	pH= 6 TOC= 1503 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
7/8	18:15	P	233	H&W Petroleum JOB #: 88680 Profile #: 3301	pH= 6 TOC= 881 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4800 Out Job No. B	✓
7/8	18:30	P	Ind	SunCoast JOB #: 88725 Profile #: 2803	pH= 8 TOC= 90340 Phenol= 40 METALS= EMULSION: YES NO: % Solids= 3% Other TREAT or Test Info.? 73% H2O 25% Org	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2800 Out Job No. FP on H2O = 135°F B	!

Unable to take load / Return Thurs !!

EPAHO114000809

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/7	1515	JP	210	H&W Petroleum JOB #: 88658 Profile #: 3301	pH= 5 TOC= 1037 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 6000 Out Job No. (B)	✓
7/7	1600	JP	205	Farouk JOB #: 88553 Profile #: 1498	pH= 7 TOC= 19130 Phenol= 10 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3500 Out Job No. (C)	✓
7/8	715	AL	IND	Heavy Impc JOB #: 88690 Profile #: 2657	pH= 8 TOC= 2750 Phenol= 75 METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.? redirect to System 1	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5204 Out Job No. (C)	✓ X
7/8	815	AL	IND	ETHYL JOB #: 88202 Profile #: 1740	pH= 12.21 TOC= 62460 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.? S.G. 1.008	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 6175 Out Job No. (B)	✓
7/8	930	AL	241	Proler JOB #: 88688 Profile #: 1443	pH= 8 TOC= 4430 Phenol= 0 METALS= EMULSION: YES (NO): % Solids= 0 Other TREAT or Test Info.? FP > 150	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 15% oil 85% water Out Job No. (D)	✓
7/8	1000	JP	233	H&W Petroleum JOB #: 88684 Profile #: 3301	pH= 8 TOC= 1751 Phenol= 0 METALS= EMULSION: YES (NO) % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5800 Out Job No. (B)	✓
7/8	1140	JP	210	Farouk JOB #: 88695 Profile #: 1498	pH= 8 TOC= 14810 Phenol= 05 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓

EPAHO114000810

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/7	950	AL	255	Champion JOB #: 88617 Profile #: 2729	pH= 12 TOC= 6310 Phenol= 0 METALS= — EMULSION: YES NO : % Solids= 0 Other TREAT or Test Info.? FP88F	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4530 Out Job No. C	
7/7	1010	J	270	Champion JOB #: 88551 Profile #: 2664	pH= 6 TOC= 1665 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4887 Out Job No. C	✓
7/7	1040	J	271	Champion JOB #: 88552 Profile #: 2664	pH= 6 TOC= 2363 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 1 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5624 Out Job No. C	✓
7/7	1150	J	243	LaBarge JOB #: 88644 Profile #: 2557	pH= 3 TOC= 1990 Phenol= 0 METALS= EMULSION: YES (NO) : % Solids= 60 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5000 Out Job No. A	✓
7/7	1205	J	270	H&W Petroleum JOB #: 88657 Profile #: 3301	pH= 5 TOC= 1233 Phenol= 1 METALS= EMULSION: YES NO % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 6000 Out Job No. B	✓
7/7	1345	J	241	Champion JOB #: 88571 Profile #: 2664	pH= 6 TOC= 1214 Phenol= 2 METALS= EMULSION: YES (NO) : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 4532 Out Job No. C	✓
7/7	1447	AL	271	Champion JOB #: 88569 Profile #: 2664	pH= 6 TOC= 1320 Phenol= 0 METALS= EMULSION: YES NO : % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2383 Out Job No. C	✓

EPAHO114000811

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/6	1115	JP	Jwd	Enviro Soln JOB #: 88652 Profile #: 2084	pH= 5 TOC= 16590 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? SG=1.000 FP>140	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 3000 Out Job No. (B)	✓
7/6	1800	JP	241	TX Oil Tools JOB #: 88572 Profile #: 2059	pH= 7 TOC= 30760 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? 62010	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 1500 Out Job No. (B)	✓
7/6	1840	JP	205	DixieChem JOB #: 88466 Profile #: 1824	pH= 5 TOC= 11930 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 25% Other TREAT or Test Info.? SG 0.86 → Mix w/ SunCoast	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= ~~5565~~ 5565 Out Job No.	✓
7/6	1930	JP	270	TT Barge JOB #: 88575 Profile #: 3366	pH= 5 TOC= 7893 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Oil	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. (C)	✓
7/6	1945	JP	271	TT Barge JOB #: 88574 Profile #: 3366	pH= 5 TOC= 66390 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 16 Other TREAT or Test Info.? 16 Oil RR Heat 30,350	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5156 Out Job No. (C)	✓
7/7	800	MR		TRANSMOUNTAIN JOB #: Profile #:	pH= 10 TOC= 273,600 Phenol= - Low- METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.? Ni-2.0 Zn-1.1 FP<80	Inbound YES Outbound YES HEAT TREAT DOES NOTHING. PFI Reviewed YES NO Problems ? TOTAL GAL= Out Job No. SAMPLE FROM PACES TK RVI DOES NOT TREAT/REACT W/ LIME/POLY	—
7/7	938	AL	241	Champion JOB # 88559 Profile #: 1791	pH= 5 TOC= 6753 Phenol= 0 METALS= EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5662 Out Job No. (C)	✓

EPAHO114000812

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be Important	LEAD OPER. CALLED CHECK
7/6	10:45	J	241	Oceaneering JOB #: 88530 Profile #: 1739	pH= 4 TOC= 3769 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 12 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4000 Out Job No. B	✓
7/6	11:00	J	Jud	Ethyl JOB #: 88625 Profile #: 1740	pH= 12 TOC= 44970 Phenol= 1 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? SG. 0.998	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5880 Out Job No.	✓
7/6	11:30	J	101	Koch Knight JOB #: 88581 Profile #: 1649	pH= 6 TOC= 1691 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 89 Other TREAT or Test Info.? 6	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 650 Out Job No. C	✓
7/6	12:10	J	104	Lubrizol JOB #: 88507 Profile #: 1435	pH= 4.5 TOC= 2776 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0.5 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 1024 Out Job No. C	✓
7/6	1440	AL	203	Champion JOB #: 88568 Profile #: 2664	pH= 6 TOC= 1622 Phenol= 2 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4842 Out Job No. C	✓
7/6	1530	J	104	Lubrizol JOB #: 88512 Profile #: 1435	pH= 7 TOC= 1766 Phenol= 1 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 2753 Out Job No. C	✓
7/6	16:45	J	Jud	SunCoast JOB #: 88650 Profile #: 2803	pH= 7 TOC= Phenol= METALS= EMULSION: YES NO % Solids= 22 Other TREAT or Test Info.? H2O 32	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 28002 Out Job No. B	✓

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MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/2	1344	AL	252	Champion JOB #: 88487 Profile #: 1791	pH= 8 TOC= 3133 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5273 Out Job No. C	✓
★ 7/2	1416	AL	256	Hexion 10:1 JOB #: 88455 Profile #: 3083	pH= 8 TOC= 31250 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5331 Out Job No. C	✓
7/2	1530	JP	Ind	Ethyl JOB #: 88600 Profile #: 1740	pH= 12.4 TOC= 24770 Phenol= 1 METALS= EMULSION: YES NO Other TREAT or Test Info.? % Solids= 0	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5998 Out Job No. B	✓
7/2	1700	JP	210	Hexion Dibol JOB #: 88456 Profile #: 3083	pH= 6 TOC= 36060 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5288 Out Job No. C	✓
7/2	1720	JP	205	Champion JOB #: 88489 Profile #: 1791	pH= 6 TOC= 5057 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4990 Out Job No. C	✓
7/2	1740	JP	206	Hexion Brady JOB #: 88075 Profile #: 1730	pH= 4.5 TOC= 9473 Phenol= 3500 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.? Redirect → Sys 1	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4496 Out Job No. C	✓
7/2	1940	JP	252	Socotherm JOB #: 88429 Profile #: 2753	pH= 2.5 TOC= 1237 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 5% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6000 Out Job No. A	✓

EPAHO11400814

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
7/1	21:20	P	270	TTBargl JOB #: 88358 Profile #: 3366	pH= 5 TOC= 57630 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 16 Other TREAT or Test Info.? O&G 0.1	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5036 Out Job No. Ni=0.01 Zn=0.07 (C)	✓
7/2	8:20	AL	205	Champion JOB #: 88194 Profile #: 2724	pH= 5 TOC= 45550 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 9966 Out Job No. FP 101 (C)	✓
7-2	8:30	AL	Ind	Heldon JOB #: 88454 Profile #: 3083	pH= 5 TOC= 3352 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5542 Out Job No. (C)	✓
7-2	9:10	AL	252	champion JOB #: 88192 Profile #: 1291	pH= 8 TOC= 1513 Phenol= 0 METALS= Ni 0 Zn .42 EMULSION: YES NO: % Solids= Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5365 Out Job No. (C)	✓
7/2	11:30	P	211	KMCO JOB #: 88330 Profile #: 1997	pH= 6 TOC= 1367 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= 30% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5500 Out Job No. (C)	✓
7/2	11:50	P	105	SJCD JOB #: 88482 Profile #: 3406	pH= 8 TOC= 2077 Phenol= 0 METALS= EMULSION: (YES) NO: % Solids= 20% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 3000 Out Job No. (C)	✓
7/2	12:20	P	205	Champion JOB #: 88193 Profile #: 2724	pH= 9 TOC= 20470 Phenol= 10 METALS= EMULSION: (YES) NO: % Solids= 0 Other TREAT or Test Info.? FP= 120°F	Inbound (YES) Outbound YES PFI Reviewed (YES) NO Problems ? TOTAL GAL= 5058 Out Job No. (C)	✓

EPAHO11400815

MANDATORY: MUST FILL OUT EVERY DATA FIELD

CES Environmental Services, Inc.

WW INCOMING TANK TRUCK WATER TESTING DATA LOG SHEET

LEAD OPER. CALLED

DATE	TIME	Initials	Trailer Number	Customer Job Number	TESTING TYPE & RESULTS (must test pH & TOC on every sample)	WRITE in this COLUMN ALL INFO. that could be important	CHECK
DATE 7/1	TIME 10:10	Initials P	Trailer Number 252	H&W Petroleum JOB #: 88459 Profile #: 3301	pH= 6 TOC= 1102 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B	✓
DATE 7/1	TIME 1500	Initials AL	Trailer Number 241	H&H oil JOB #: 88444 Profile #: 2836	pH= 6 TOC= 33820 Phenol= 25 METALS= .03 .22 EMULSION: YES NO: % Solids= 1 Other TREAT or Test Info.? 85% H2O 15 Rag	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. B Trans oil	✓
DATE 7/1	TIME 1550	Initials AL	Trailer Number IND	Surcoast JOB #: 88540 Profile #: 2802	pH= TOC= Phenol= METALS= EMULSION: YES NO: % Solids= 1% Solids Other TREAT or Test Info.? FP=130°F 98% oil 1% H2O	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 6500 Out Job No. D	✓
DATE 7/1	TIME 15:55	Initials P	Trailer Number 252	Champion JOB #: 88461 Profile #: 2724	pH= 1.6 TOC= 19090 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 0 Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4302 Out Job No. C FP 125°F	✓
DATE 7/1	TIME 20:00	Initials P	Trailer Number 205	Dixie JOB #: 88463 Profile #: 1824	pH= 6 TOC= 5043 Phenol= 0 METALS= EMULSION: YES NO: % Solids= 6% Other TREAT or Test Info.? 30% Rag 64% H2O	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 4604 Out Job No. B	✓
DATE 7/1	TIME 20:40	Initials P	Trailer Number 252	Socotherm JOB #: 88428 Profile #: 2753	pH= 6 TOC= 937 Phenol= 1 METALS= EMULSION: YES NO: % Solids= 6% Other TREAT or Test Info.?	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= 5000 Out Job No. A	✓
DATE 7/1	TIME 20:58	Initials P	Trailer Number 256	TT Barge JOB #: 88359 Profile #: 3366	pH= 5 TOC= 49640 Phenol= 5 METALS= EMULSION: YES NO: % Solids= 0.5 Other TREAT or Test Info.? 0% Org 48900 Treated	Inbound YES Outbound YES PFI Reviewed YES NO Problems ? TOTAL GAL= Out Job No. C Ni=0.02 Zn=0.03	✓

FP=115°F

WW Incoming Tank Truck Testing, Data Log Sheet, 10-22-2008 Active

EPAHO114000816