# REMOVAL REPORT
# For
# DIAZ INTERMEDIATES CORP.

## 301 WYANOKE ROAD
## WEST MEMPHIS, CRITTENDEN COUNTY, ARKANSAS 72301

**Prepared for**

U.S. Environmental Protection Agency Region 6
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**Date Prepared:**

March 8, 2012

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# For
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## 301 WYANOKE ROAD
## WEST MEMPHIS, CRITTENDEN COUNTY, ARKANSAS 72031

**Date Prepared:**

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| Reference Numbers | |
|---|---|
| Contract No.: | EP-W-06-077 |
| TDD No.: | TO-0001-11-06-03 |
| CERCLIS No.: | ARR000005843 |
| SSID: | A6C4 |
| EPA OSC: | Adam Adams |
| START PjM: | Steve Cowan |

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☒ The EPA Task Monitor provided final approval of this report

☐ The EPA Task Monitor did not provide final approval of this report prior to the completion date of the Technical Direction Document.

## EXECUTIVE SUMMARY

Dynamac Corporation (Dynamac), the Superfund Technical Assessment and Response Team (START-3) contractor was tasked by the U.S. Environmental Protection Agency (EPA) Region 6 Prevention and Response Branch (PRB), under Contract Number EP-W-06-077, Technical Direction Document (TDD) Number TO-0001-11-06-03 (Appendix A), to perform removal documentation and to provide technical assistance during the removal action at the abandoned Diaz Intermediates Corp. (Diaz) Site, located at 301 Wyanoke Road, West Memphis, Crittenden County, Arkansas 72301. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Number assigned to the Site is ARR000005843. In a teaming effort with the Arkansas Department of Environmental Quality (ADEQ) Hazardous Waste Division, EPA conducted this removal action from July 14, 2011 to September 30, 2011 to remove the hazardous substances, pollutants, or contaminants that pose a threat to human health and the environment. The removal action was conducted by the EPA Emergency and Rapid Response Services (ERRS) contractor, Environmental Quality Management (EQM). Dynamac START-3 conducted on-site removal activities documentation. During the removal, hazardous wastes consisting of corrosives, flammables, and halogenated chemicals with varying quantities of solids and liquids were loaded into either box trucks or tanker trucks and transported to various permitted, off-site disposal and recycling facilities. The approximate quantities of hazardous and non-hazardous materials transported to the disposal and recycling facilities are:

- Approximately 24,815 lbs or 20,990 gallons of materials were recycled.
- Approximately 617,202 lbs or 84,074 gallons of waste were disposed.
- Approximately nine (9) 30 cubic yard roll-off containers filled with “RCRA empty” containers were disposed.

Refer to Table 1 for totals broken down by material and disposal or recycling facility.

On September 30, 2011, a final Site walk was conducted by the EPA Federal On-Scene Coordinator (FOSC) and ADEQ. An additional Site walk was conducted with the EPA FOSC and the local West Memphis Fire Department Hazmat., and the mayor was notified of the project completion. The Site was secured and transferred back to ADEQ.

# TABLE OF CONTENTS

Page

Signature Page…… i

Executive Summary……..... ii

Table of Contents……... iii-iv

List of Appendices, Tables, and Figures…… iv

1 INTRODUCTION.....1

2 SITE BACKGROUND .....3

2.1 Site Location.....3
2.2 Site Description .....3
2.3 Summary of Regulation History and Previous Investigations.....3

3 REMOVAL ACTIVITIES .....5

3.1 Introduction.....5
3.2 Hazardous Categorization.....6
3.3 Waste Profiling .....6
3.4 Bulking and Consolidating.....6
3.4.1 Drums and Totes .....6
3.5 Recycling.....7
3.5.1 Aboveground Storage Tanks.....7
3.5.2 Drums, Totes, and Bags.....8
3.6 Disposal.....8
3.6.1 Drums, Totes and Bulk Disposal .....8
3.6.2 Disposal of Empty Containers .....9
3.7 Storm Water .....9
3.7.1 Sampling .....10
3.7.2 Results .....10
3.7.3 Parameters, Process and Discharge.....10
3.8 Miscellaneous Tanks and Rail Cars .....11
3.8.1 Process Tanks.....11
3.8.2 Rail Road Tank Cars (RRTC).....11
3.9 Air Monitoring .....11

4 SUMMARY OF REMOVAL ACTION.....13

## LIST OF APPENDICES

Appendix A Copy of TDD and Amendments A to E
Appendix B Copy of START-3 Logbooks
Appendix C Photo Documentation
Appendix D Daily Progress Reports
Appendix E Discharge Storm Water Parameters and Analytical Data Package
Appendix F Pollution Reports
Appendix G Waste Documents and Manifests
Appendix H Materials Recycled and Bill of Lading
Appendix I *Compatibility Testing* EQM Standard Operating Procedures Document No. HM-1 – December 2006
Appendix J Quality Assurance Sampling Plan

## LIST OF FIGURES

Figure 1 Vicinity Map
Figure 2 Aerial and Site Map
Figure 3 Site Map

## LIST OF TABLES

Table 1 A and B Summary of Materials Recycled
Table 2 A and B Summary of Materials Disposed
Table 3 Initial Container Inventory
Table 4 Storm Water Analytical Results Summary
Table 5 April 2011 Removal Log – Non-EPA Lead Removal

# 1 INTRODUCTION

Dynamac Corporation (Dynamac), the Superfund Technical Assessment and Response Team (START-3) contractor was tasked by the U.S. Environmental Protection Agency (EPA) Region 6 Prevention and Response Branch (PRB), under Contract Number EP-W-06-077, Technical Direction Document (TDD) Number TO-0001-11-06-03 (Appendix A), to perform removal documentation and to provide technical assistance during the removal action at the abandoned Diaz Intermediates Corp. (Diaz) Site, located at 301 Wyanoke Road, West Memphis, Crittenden County, Arkansas 72301. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) number assigned to the Site is ARR000005843. EPA, in conjunction with the Arkansas Department of Environmental Quality (ADEQ) Hazardous Waste Division, performed a removal action from July 14, 2011 to September 30, 2011. START-3 provided technical assistance at the Diaz Site during removal activities conducted by EPA Emergency and Rapid Response Services (ERRS) contractor, Environmental Quality Management (EQM).

START-3 prepared this technical deliverable to describe removal activities conducted at the Diaz Site. All activities conducted at the Diaz Site prior to July 14, 2011 are available in the following reports previously submitted to EPA:

- Removal Assessment Report, dated February 22, 2008;
- Removal Report, dated October 27, 2008; and
- Removal Report, dated October 19, 2010.

The purpose of the removal at the Diaz Site is to remove and dispose of all remaining hazardous substances, pollutants, or contaminants that pose a threat to human health or the environment.

The START-3 scope of work includes documentation and technical assistance (Appendix A). Dynamac START-3 was tasked to (1) coordinate with the Federal On-scene Coordinator (FOSC) during the removal activities; (2) photo document and log the conditions at the Diaz Site during the removal activities (Appendices B and C); (3) maintain Site files; (4) submit Daily Progress Reports (DPR) electronically to the FOSC (Appendix D), prepare draft Pollution Reports (PolReps) (Appendix F), and a final removal report; (5) develop and implement a Quality Assurance Sampling Plan (QASP) (Appendix J); (6) maintain waste documents including disposal log, manifests, and waste profiles (Appendices G and H); (5) conduct air



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monitoring (Appendices B); (6) assist in the epaosc.net webpage dedicated to this Site; (7) prepare RCMS 1900-55s for cost tracking purposes and provide to the FOSC; and (8) develop a site-specific health and safety plan (HASP).

The EPA FOSC for the Site is Adam Adams, the ADEQ Field Team Lead is Michael Gates, the Dynamac START-3 Field Team Leader is Noel Biscocho, and the EQM ERRS Removal Manager is Don Edgington.



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# 2 SITE BACKGROUND

This section provides information about the site location and description, regulatory history, and summary of previous investigations related to the Diaz Site.

## 2.1 Site Location

The Diaz Site is situated on 10 acres of land located in a rural industrial area, at 301 Wyanoke Road in West Memphis, Crittenden County, AR 72301. The geographic coordinates are Latitude 35.107083º North and Longitude 90.193000º West, as scaled from an ESRI ArcMap Geographic Information System application, Version 10, base map aerial imagery (Figure 1). This facility was constructed in 1998 and consists of a process area, two tank farms, several staging pads, a boiler room, equipment shop, warehouse, loading dock, a laboratory, railroad spur, and offices (Figures 2 and 3). This facility is located in south West Memphis, Arkansas and bordered to the north and west by agricultural land, to the south by Wyanoke Road, and to the east by a TETRA Technologies plant. Access to the property is restricted with fencing and locked gates.

## 2.2 Site Description

Diaz manufactured specialty intermediate, high purity, halogenated, fine organics for the chemical industry, using bromine as the primary raw material, and ceased operations in July 2007. When the Site was abandoned, approximately 2,200 containers, eight aboveground storage tanks (ASTs), and seven railroad tank cars (RRTCs) of raw materials, off-specification/intermediate products, and finished products remained on Site. During the Site walk in July 2011, the Site contained approximately 2,000 containers, drums, and totes; eight above ground storage tanks (ASTs); and two railcars (Figures 2 and 3). In addition, equipment and reactor vessels used during manufacturing were empty.

## 2.3 Summary of Regulation History and Previous Investigations

Diaz shut down and abandoned the plant in July 2007. On August 15, 2007, Diaz filed for Chapter 7 Bankruptcy in U. S. District Court in Jonesboro, AR. Subsequently, the court



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appointed a trustee to manage the Diaz assets. On August 28, 2007, ADEQ conducted a container inventory at the Diaz Site in West Memphis, AR.

On September 11, 2007, the trustee filed a Notice of Intent to abandon the Diaz property.

On October 23, 2007, a judge signed the Order of Abandonment for the Diaz Site.

On September 12, 2007, ADEQ requested an initiation of response action by EPA at the Diaz Site for the purpose of initiating a removal action to protect public health and the environment.

EPA conducted several stabilization efforts at the abandoned Site between October 2007 and March 2011. The Site was monitored monthly by ADEQ, who contacted EPA in the event conditions at the Site warranted response stabilization efforts.

In April of 2011, the security holding bank sold on-site materials to a vendor. The vendor hired contractors and removed approximately 40,070 gallons of chemicals during the last week before their bank deadline on April 15, 2011. The chemicals listed and the volumes are estimates from the vendor (Table 5). The EPA FOSC and ADEQ Representative mobilized to the Site to monitor this action and ensure there was no release of hazardous substances. This action was separate and apart from the EPA Lead Removal Action.

During the EPA Lead Removal Action, conducted between July and September 2011, the remaining containers, drums and totes were removed and either disposed or recycled off-site. Contents of the ASTs were also disposed or recycled (Tables 1 and 2).



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# 3 REMOVAL ACTIVITIES

The following sections provide a summary of removal activities conducted at the Diaz Site from July 14, 2011 to September 30, 2011.

## 3.1 Introduction

In a teaming effort with ADEQ Hazardous Waste Division, EPA conducted this removal action to remove the hazardous substances, pollutants, or contaminants that pose a threat to human health and the environment. EPA, under the direction of FOSC Adam Adams, conducted this removal action from July 14, 2011 to September 30, 2011 which included waste sampling, hazardous characteristic field screening, sample analysis, disposal profiling, coordination with disposal and recycling vendors, and general maintenance while on Site. The EPA ERRS contractor was EQM under the supervision of Response Manager (RM) Don Edgington. Transportation and Disposal (T&D) was supervised by Mark Douglas with EQM. This team was responsible for conducting the removal activities at the Site.

EPA START-3 contractor was Dynamac under the Field Team Leader Noel Biscocho. START-3 responsibilities during the removal activities included: monitoring Site activities; maintaining Site documentation (written, photographic, and video documentation); air monitoring with the use of a MultiRAE Plus, with an 11.7 electron volt (eV) probe; and sampling analysis as needed. In preparation for removal activities, a site-specific Health and Safety Plan (HASP) was prepared and approved by Dynamac's Corporate Health and Safety Officer. A Quality Assurance Sampling Plan (QASP) was developed for the collection of storm water samples (Appendix J). All storm water sampling data was entered into the U.S. EPA's SCRIBE Enterprise software. During the removal activities, Dynamac START-3 personnel documented field activities using dedicated field logbooks and digital photographs (Appendices B and C).

The removal activities at the Site began on July 14, 2011, with the EPA FOSC, START-3, and ERRS mobilization. Site preparation activities included general housekeeping, cutting of grass and brush, and the establishment of the support zone, as well as the EPA, START-3 and ERRS command post which is located in the facility (Figures 2 and 3).



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The railcars, tanks, totes, drums, and smaller containers were inventoried and assessed, and it was determined that approximately 1,728 containers or approximately 135,388 gallons of liquids were abandoned, and remained (Table 3).

## 3.2 Hazardous Categorization

Between July 25-29, 2011, ERRS conducted Hazardous Characterization (HazCat®) field chemistry testing. All samples were assessed, in accordance with Compatibility Testing EQM Standard Operating Procedures (SOP) Document No. HM-1 – December 2006, for pH, flammability, halogens, water solubility and physical characteristics (Appendix I). Approximately 5% of the labeled known containers and 100% of the unknowns were field screened by HazCat® standard protocols to determine the characteristics of the materials. All HazCat® testing occurred in the on-site lab vent under a hood.

## 3.3 Waste Profiling

Throughout the removal activities, grab samples were collected for profiling, either for recycling or disposal purposes. As profiles were approved and arrangements were made, materials were shipped for recycling or disposal. Copies of the waste profiles are included in Appendix G.

## 3.4 Bulking and Consolidating

During the removal activities the contents of the drums and totes were consolidated or bulked into 55-gallon drums or 275-gallon totes and segregated and staged in appropriate areas according to compatibility and like substances. Containers not in shippable condition were consolidated, and repackaged into shippable containers. Additionally, if materials were to be shipped in bulk, they were first bulked into designated ASTs prior to shipment.

### 3.4.1 Drums and Totes

All of the containers at the Site were inspected for structural integrity. Any deteriorating or broken bungs were removed and replaced with new bungs. Contents of drums and totes with poor structural integrity were transferred into shippable drums or totes by type of materials, or into ASTs for a bulk shipment.



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The shippable containers were properly labeled, placed on new pallets, and shrink wrapped in accordance to Department of Transportation shipping standards.

Diaz has two tank farms, the Old Tank Farm and New Tank Farm, both located on the west side of the property, and each in a respective secondary containment (Figures 2 and 3). Each tank farm has four ASTs, each tank with an approximate 10,000-gallon capacity. AST #s 01 to 04 are located in the Old Tank Farm, while AST #s 05 to 08 are located in the New Tank Farm.

During the removal activities, contents of the drums and totes containing the following where bulked into the corresponding ASTs (Table 2).

- AST, Tank #01: mixed organics/flammables;
- AST, Tank #02: non-hazardous liquids;
- AST, Tank #03: flammables;
- AST, Tank #04: corrosives.

## 3.5 Recycling

EPA made every effort to get as much of the useable chemical materials recycled. For the Diaz Removal Action, the term "recycle", used in all documentation (logbook, daily reports and website, etc.), means getting the materials back on the market rather than sending for disposal. Approximately 20,990 gallons or 24,815 lbs of materials were recycled from ASTs (18,150 gallons) and drums and totes (2,840 gallons). Refer to Table 1 for totals by material shipped to the recycling facility.

The original copies of the Bill of Lading documents for the recycled materials detail the specified type, quantity, and approximate total weight of the material received by the carrier. Refer to Appendix H for the copies of the signed Bill of Lading documents.

### 3.5.1 Aboveground Storage Tanks

Approximately 18,150 gallons of liquid from the ASTs were sent to recycling facilities. The contents of the following ASTs were transferred and packaged into shippable drums, and shipped to a recycling facility (Table 1-B and Appendix H).

- AST#s 05, 06, and 08: 128, 55-gallon poly drums containing 48% hydrobromic acid (HBr).



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- AST# 07: 220, 55-gallon poly drums containing 98% HBr.

The ASTs were emptied and blind pipings (solid one-piece gasket) were connected to the valves, to prevent any flow through, prior to the completion of the removal activities.

### 3.5.2 Drums, Totes, and Bags

Approximately 2,840 gallons of liquids in drums and totes containing hydraulic oil, gear lubricants, caustic soda solution, and approximately 7,000 lbs of solids such as bags of diatomite, activated carbon, and sodium thiosulfate were shipped to recycling facilities. A list of materials and recycling facilities is in Table 1 and Appendix H.

## 3.6 Disposal

The drums and totes not designated for recycling were packaged into shippable containers and sent to disposal facilities. Approximately 617,202 lbs or 84,074 gallons of waste were disposed: from the drums and totes (307,882 lbs or 51,890 gallons), and bulk disposal (309,320 lbs or 32,184 gallons). Refer to Table 2 for waste totals by material and disposal facilities.

The original copies of the waste manifests detail the specified type, quantity, and approximate total weight of the material received by the carrier. Refer to Appendix G for the copies of the signed waste manifest documents.

### 3.6.1 Drums, Totes and Bulk Disposal

<u>Drums and Totes</u>

The contents of drums and totes of the same type were bulked, packaged into shippable containers, properly labeled, placed on new pallets, and shrink wrapped in accordance to Department of Transportation shipping standards. Approximately 307,882 lbs or 51,890 gallons of waste were disposed in containers. The list of materials shipped is in Table 2.



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Bulk Disposal

A total of 309,320 lbs or 32,184 gallons of waste was disposed in bulk. During the course of the Removal Action, contents of the drums and totes containing the following wastes where bulked into the ASTs. The contents of the ASTs were then shipped in bulk to a disposal facility (Table 2-B and Appendix G).

- AST, Tank #01: 3,959 gallons of non-hazardous liquids/bromine layer;
- AST, Tank #02: 8,787 gallons of non-hazardous liquids/bromine;
- AST, Tank #03 and top layer on Tank #01: 13,583 gallons of flammables (methanol/toluene liquids); and
- AST, Tank #04: 5,855 gallons of corrosive hydrochloric/hydrobromic acid liquids.

The ASTs were emptied and blind piping (solid one-piece gasket) was connected to the valves, to prevent any flow through, prior to the completion of the removal activities.

### 3.6.2 Disposal of Empty Containers

A total of 1,804 drums and totes emptied of hazardous substances were decontaminated to “RCRA empty” condition, resized into smaller pieces, and disposed off-site. The number and type of containers disposed is:

- 1,381 - 55-gallon poly drums poly;
- 405 - 55-gallon steel drums; and
- 18 - 275-gallon totes.

Nine (9) 30 cubic yard roll-off boxes were filled with the resized containers and transported to a disposal facility. Copies of the waste manifests are in Appendix G.

## 3.7 Storm Water

Samples were collected and analyzed to determine if pooled storm water from the various containment systems located on the Site could be discharged into the West Memphis sanitary sewer system for further treatment as done historically and approved by the City of West Memphis.



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### 3.7.1 Sampling

Storm water grab samples were collected from three sample locations: (1) the secondary containment of the Old Tank Farm (*sample DIC-SW06*), (2) the secondary containment of the New Tank Farm (*sample DIC-SW07*), and (3) Process Area (*sample DIC-SW08*), (Figures 2 and 3). Three storm water samples and related quality assurance samples were sent to the START-3 procured laboratory, Test America in Houston, TX. See Appendix E for chain-of-custody forms and laboratory analytical report. The water samples were analyzed for the ADEQ Effluent Limits including RCRA *Target Analyte List metals including mercury* by EPA SW-846, Method 6010B/7470A; *volatile organic compounds* by EPA SW-846, Methods 8260B; *total suspended solids* by Standard Method (SM) 2540D; *pH* by SM4500-H+B; *biological oxygen demand* (BOD) by SM5210B; *oil and grease* by EPA Method 1664; and *cyanide* by EPA Method 9012A.

### 3.7.2 Results

Storm water analytical results are in Table 4. Two of the three sample locations met the limits of the *West Memphis Ordinance No. 1714, Industrial Wastewater Discharge Permit No. 27 for Diaz Intermediates*, and *ADEQ Regulation 2: Regulation Establishing Surface Water Quality for Surface Waters of the State of Arkansas* (Appendix E). The storm water in the New Tank Farm secondary containment area (*sample DIC-SW07*) had a pH value of 4.17, which is outside the city's storm water discharge parameters of pH 5.5-10.0.

### 3.7.3 Parameters, Process and Discharge

Storm Water in the secondary containment area of the New Tank Farm (with a pH 4.17) was neutralized by circulating 60 lbs. of sodium hydroxide beads (caustic soda) into the water. When the circulation of the caustic soda was completed, the water had a pH 6.0. After two days, the water in the secondary containment area of the New Tank Farm had a pH 6.6; thereby meeting the city standards (pH 5.5-10.0) to discharge the water into the sanitary sewer (Appendix E). EPA FOSC met with the City of West Memphis Utility Department, Denise Bosnick, Industrial Pretreatment Coordinator and Director of Environmental Quality, and informed the



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City that the water in the three locations at Diaz met the city parameters to discharge in the sanitary sewer.

On August 22, 2011, the storm water was discharged, via a 50 micron bag filter, into the sanitary sewer system for further treatment by the City of West Memphis. The 50 micron bag filter was utilized to eliminate the total suspended solids.

The secondary containments of the Old and New Tank Farms were decontaminated of any precipitates prior to the completion of the removal activities. Refer to photo documentation in Appendix C.

## 3.8 Miscellaneous Tanks and Rail Cars

### 3.8.1 Process Tanks

Several process tanks located in the Process Area building, Boiler Room, and the New Tank Farm were identified on the Site. During the course of the removal activities, all process tanks were verified by ERRS to be empty.

### 3.8.2 Rail Road Tank Cars (RRTC)

Two (2) rail road tank cars (RRTC) are located on the northwest side of the property (Figure 2 and 3). Each RRTC has a 23,747 gallon capacity. During the removal activities, the contents of the two rail cars were gauged:

- Rail Car AARX28446 = Empty; and
- Rail Car AARX49181 = approximately two of sludge/residual (estimated to be 427 gallons).

No further actions occurred on the RRTC.

## 3.9 Air Monitoring

Ambient air monitoring surveys were conducted during the initial entries at the Site, and throughout the duration of the removal activities. START-3 conducted the air monitoring surveys using a field calibrated MultiRAE Plus, with an 11.7 electron volt (eV) probe, for monitoring percent oxygen levels, explosive atmospheres, and toxic and or organic vapors. An 11.7 eV probe was used to account for the differing ionization potentials associated with the on-Site chemicals. No oxygen deficient or enriched or otherwise



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harmful or explosive atmospheric gases or vapors were detected in the ambient air throughout the duration of the removal activities.



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# 4 SUMMARY OF REMOVAL ACTION

Diaz Intermediates Corp. removal activities commenced on July 14, 2011 and concluded on September 30, 2011. In summary, removal actions at the Diaz Site consisted of hazardous characterization of materials, waste profiling, bulking and consolidating of like materials, recycling of materials, waste disposal, storm water sampling and discharge, air monitoring, and general maintenance. The approximate quantity of hazardous and non-hazardous materials transported to disposal and recycling facilities is:

- Approximately 24,815 lbs or 20,990 gallons of materials were recycled.
- Approximately 617,202 lbs or 84,074 gallons of waste shipped for disposal.
- Approximately nine (9) 30 cubic yard roll-off boxes were filled with “RCRA empty” condition containers and transported for disposal.

Refer to Tables 1 and 2 for totals broken down by material and disposal or recycling facility.

On September 30, 2011, a final Site walk was conducted by the EPA FOSC and ADEQ. An additional Site walk was also conducted with the EPA FOSC and the local West Memphis Fire Department Hazmat and the mayor was notified of the project completion. The Site was secured and transferred back to ADEQ.

This removal action has addressed and removed the threats to human health and the environment as delineated in the National Oil and Hazardous Substance Pollution Contingency Plan at 40 CFR 300.415(b)(2).



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# Table 1 - Summary of Materials Recycled

| A. List of All Materials Recycled | | | | | | |
|---|---|---|---|---|---|---|
| Material / Content | Ship Date | Container Type | Qty | Vol Est. (lbs) | Vol Est. (gal) | Facility / Vendor |
| Hydrochloric acid (all grades) | 08/03/11 | 55-gal Poly | 33 | 15,640 | 1,815 | Stateside Steel |
| White Oil (Hi-Quintex) SAE20 | 08/03/11 | 55-gal Steel | 2 | 870 | 110 | Stateside Steel |
| Hydraulic oil (Monolec) SAE 20 | 08/03/11 | 55-gal Steel | 1 | 435 | 55 | Stateside Steel |
| Gear Lubricant (Almasol Vari-Purpose) | 08/03/11 | 55-gal Steel | 1 | 435 | 55 | Stateside Steel |
| Mobile Cylinder Oil, Mineral | 08/03/11 | 55-gal Steel | 1 | 435 | 55 | Stateside Steel |
| Hydrobromic acid (AST # 07) | 09/26/11 | 55-gal Poly | 220 | - | 11,110 | Altiras |
| Hydrobromic acid (AST # 05) | 09/27/11 | 55-gal Poly | 128 | - | 7,040 | Altiras |
| 50% Caustic soda / 50% water solution | 09/30/11 | 300-gal tote | 3 | - | 750 | Stateside Steel |
| Diatomite (solid) | 08/03/11 | Bags | 20 | 1,000 | - | Stateside Steel |
| Activated Carbon (solid) | 09/30/11 | Bags | 40 | 2,000 | - | Stateside Steel |
| Sodium thiosulfate (solid) | 09/30/11 | Bags | 80 | 4,000 | - | Stateside Steel |
| **Total Materials Recycled** | | | **529** | **24,815** | **20,990** | |

= Aboveground Storage Tank (AST)

| B. List of Materials Recycled from the Above Ground Storage Tanks<u>ONLY</u> | | | | | | |
|---|---|---|---|---|---|---|
| Material / Content | Ship Date | Container Type | Qty | Vol Est. (lbs) | Vol Est. (gal) | Facility / Vendor |
| Hydrobromic acid (AST # 07) | 09/26/11 | 55-gal Poly | 220 | - | 11,110 | Altiras |
| Hydrobromic acid (AST # 05) | 09/27/11 | 55-gal Poly | 128 | - | 7,040 | Altiras |
| **Total Materials Recycled from the ASTs Only** | | | **348** | | **18,150** | |

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## Table 2 - Summary of Materials Disposed

| A. List of All Materials Disposed | | | | | | |
|---|---|---|---|---|---|---|
| Material / Content | Ship Date | Container Type | Qty | Vol Est. (lbs) | Vol Est. (gal) | Facility / Vendor |
| Silica, Oil (Non-RCRA, Non-DOT Regulated Material) | 08/16/11 | 55-gal Steel | 1 | 200 | 55 | Tradebe |
| Acidic inorganics (corrosive liquid) (Lab-pack) | 08/16/11 | 55-gal Steel | 1 | 39 | 55 | Tradebe |
| Basic inorganics (corrosive liquid) (Lab-pack) | 08/16/11 | 55-gal Steel | 1 | 21 | 55 | Tradebe |
| Carbon disulfide | 08/16/11 | 5-gal poly | 1 | 7 | 5 | Tradebe |
| Nitric acid | 08/16/11 | 5-gal poly | 1 | 11 | 5 | Tradebe |
| Potassium permanganate | 08/16/11 | 5-gal poly | 1 | 3 | 5 | Tradebe |
| Flammable liquid toxic (Lab pack) | 08/16/11 | 30-gal poly | 1 | 180 | 30 | Tradebe |
| Mercury | 08/16/11 | 5-gal poly | 1 | 4 | 5 | Tradebe |
| Sodium dithionite | 08/16/11 | 5-gal poly | 1 | 2 | 5 | Tradebe |
| Oxidizing liquid | 08/16/11 | 5-gal poly | 1 | 15 | 5 | Tradebe |
| Flammable liquid [acetone, methanol] | 08/16/11 | 55-gal poly | 2 | 650 | 110 | Tradebe |
| Flammable liquid [acetone, methanol] | 08/16/11 | 55-gal poly | 2 | 500 | 110 | Tradebe |
| Ferric chloride anhydrous | 08/16/11 | 55-gal poly | 2 | 560 | 110 | Tradebe |
| Aluminum chloride anhydrous | 08/16/11 | 55-gal poly | 13 | 2600 | 715 | Tradebe |
| Phosphorous amorphous | 08/16/11 | 55-gal poly | 1 | 120 | 55 | Tradebe |
| Non-RCRA, Non-DOT regulated material (Silica, Oil) | 08/16/11 | 55-gal poly | 1 | 200 | 55 | Tradebe |
| Corrosive liquid, D002 (acidic mixture) (AST # 04) | 09/08/11 | 5,000 gal tanker | 1 | 41,020 | 4,000 | Vickery Environmental |
| x-bromotoluene | 09/14/11 | 55-gal Poly | 72 | 40,860 | 3960 | PSC |
| Corrosive liquid, D002 (acidic mixture) (AST # 04) | 09/15/11 | 5,000 gal tanker | 1 | 19,040 | 1,855 | Vickery Environmental |
| Dibromofluorobenzene/dibromotoluene | 09/20/11 | 55-gal Poly | 134 | 84,720 | 7,370 | PSC |
| x-bromotoluene | 09/20/11 | 55-gal Poly | 29 | 37,860 | 1,595 | PSC |
| m-bromoanisole | 09/20/11 | 55-gal Poly | 113 | 41,640 | 6,215 | PSC |
| Methanol | 09/22/11 | 55-gal Poly | 109 | - | 5,995 | Tradebe |
| Toluene; and toluenes with bromine | 09/22/11 | 55-gal Poly | 51 | - | 2,805 | Tradebe |
| m-bromofluorobenzene (MBFB) | 09/22/11 | 55-gal Poly | 63 | - | 3,465 | PSC |
| m-bromofluorobenzene (MBFB) | 09/22/11 | 275-gal tote | 10 | - | 2,750 | PSC |
| Fluoroanisole | 09/22/11 | 55-gal Poly | 1 | - | 55 | PSC |
| Bromobenzene | 09/22/11 | 55-gal Poly | 30 | - | 1,650 | PSC |
| n-propylbromide | 09/22/11 | 55-gal Poly | 40 | - | 2,200 | PSC |
| Dibromofluorobenzene/dibromotoluene | 09/22/11 | 275-gal tote | 14 | - | 3,850 | PSC |
| Liquids, bromine (AST # 01) | 09/27/11 | 5,000 gal tanker | 1 | 34,960 | 3,959 | Tradebe |
| Diazene (non-DOT/non RCRA regulated) | 09/27/11 | 55-gal Poly | 2 | 600 | 110 | PSC |
| Anisole | 09/27/11 | 55-gal Steel | 6 | 2,500 | 330 | PSC |
| Paint containers | 09/27/11 | 55-gal Poly | 9 | 3,600 | 495 | PSC |
| Bromopyridine | 09/27/11 | 55-gal Poly | 1 | 350 | 55 | PSC |
| Fluorobenzaldehyde | 09/27/11 | 55-gal Steel | 1 | 350 | 55 | PSC |
| Benzene | 09/27/11 | 55-gal Poly | 4 | 2,000 | 220 | PSC |
| Mercury | 09/27/11 | 55-gal Poly | 1 | 1,000 | 55 | PSC |
| Bromophenol | 09/27/11 | 55-gal Poly | 1 | 350 | 55 | PSC |

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## Table 2 - Summary of Materials Disposed

| A. List of All Materials Disposed (Continued) | | | | | | |
|---|---|---|---|---|---|---|
| Material / Content | Ship Date | Container Type | Qty | Vol Est. (lbs) | Vol Est. (gal) | Facility / Vendor |
| Bromochlorobenzene | 09/27/11 | 55-gal Poly | 1 | 350 | 55 | PSC |
| DBFB (non-DOT/non RCRA regulated) | 09/27/11 | 55-gal Poly | 1 | 350 | 55 | PSC |
| Oakite (hydrogen chloride) liquid | 09/27/11 | 20-gal Poly | 1 | 220 | 20 | PSC |
| Oakite (hydrogen chloride) solids | 09/27/11 | 55-gal Poly | 3 | 1,500 | 165 | PSC |
| Dibromobenzene (non-DOT/non RCRA regulated) | 09/27/11 | 55-gal Poly | 3 | 900 | 165 | PSC |
| 2-bromoethylbenzene | 09/27/11 | 55-gal Poly | 1 | 300 | 55 | PSC |
| Tribromobenzene (non-DOT/non RCRA regulated) | 09/27/11 | 55-gal Poly | 1 | 300 | 55 | PSC |
| Gear oil (non-DOT/non RCRA regulated) | 09/27/11 | 55-gal Steel | 4 | 2,000 | 220 | PSC |
| Sulfanic acid | 09/27/11 | 55-gal Poly | 2 | 800 | 110 | PSC |
| Flammable liquids [methanol, toluene] (AST #03 and #01) | 09/28/11 | 5,000 gal tanker | 2 | 86,420 | 8,483 | Tredebe |
| Liquids, bromine (AST #02) | 09/28/11 | 5,000 gal tanker | 1 | 39,380 | 4,553 | Tredebe |
| Liquids, bromine (AST #02) | 09/29/11 | 5,000 gal tanker | 1 | 37,300 | 4,234 | Tredebe |
| Flammable liquids [methanol, toluene] (AST #03) | 09/29/11 | 5,000 gal tanker | 1 | 51,200 | 5,100 | Tredebe |
| Dibromofluorobenzene/dibromotoluene (sludge) | 09/30/11 | 275-gal tote | 11 | 39,600 | 3,025 | PSC |
| Bromotoluene (sludge) | 09/30/11 | 275-gal tote | 5 | 13,600 | 1,375 | PSC |
| Bromobenzene (sludge) | 09/30/11 | 275-gal tote | 1 | 3,520 | 275 | PSC |
| Dibromofluorobenzene/dibromotoluene (solids) | 09/30/11 | 55-gal Poly | 30 | 23,500 | 1,650 | PSC |
| **Total Materials Disposed** | | | **794** | **617,202** | **84,074** | |

= Aboveground Storage Tank (AST)

| B. List of Materials Disposed from the Above Ground Storage Tanks ONLY | | | | | | |
|---|---|---|---|---|---|---|
| Material / Content | Ship Date | Container Type | Qty | Vol Est. (lbs) | Vol Est. (gal) | Facility / Vendor |
| Corrosive liquid, D002 (acidic mixture) (AST # 04) | 09/08/11 | 5,000 gal tanker | 1 | 41,020 | 4,000 | Vickery Environmental |
| Corrosive liquid, D002 (acidic mixture) (AST # 04) | 09/15/11 | 5,000 gal tanker | 1 | 19,040 | 1,855 | Vickery Environmental |
| Liquids, bromine (AST # 01) | 09/27/11 | 5,000 gal tanker | 1 | 34,960 | 3,959 | Tradebe |
| Flammable liquids [methanol, toluene] (AST # 03 and #01) | 09/28/11 | 5,000 gal tanker | 2 | 86,420 | 8,483 | Tredebe |
| Liquids, bromine (AST # 02) | 09/28/11 | 5,000 gal tanker | 1 | 39,380 | 4,553 | Tredebe |
| Liquids, bromine (AST # 02) | 09/29/11 | 5,000 gal tanker | 1 | 37,300 | 4,234 | Tredebe |
| Flammable liquids [methanol, toluene] (AST # 03) | 09/29/11 | 5,000 gal tanker | 1 | 51,200 | 5,100 | Tredebe |
| **Total Materials Disposed from the ASTs Only** | | | **8** | **309,320** | **32,184** | |

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## Table 3 - Initial Container Inventory

A. Drums, Totes, and Misc. Containers
B. Aboveground Storage Tanks (ASTs)
C. Laboratory Containers
D. Warehouse Cabinet

***The volumes are estimates.***
***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| A. Drums, Totes, and Misc. Containers | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity (gal)** | **Initial Vol Est. (gal)*** |
| 1,2,4-TRIBROMOBENZENE | 2 | 5 | 10 |
| 142 Solvent | 1 | 55 | 55 |
| 2,3-DIBROMOBUTANE (pure) | 2 | 55 | 110 |
| 2-BROMOETHYLBENZENE (pure) | 1 | 5 | 5 |
| 2-BROMOETHYLBENZENE (pure) | 1 | 55 | 55 |
| 2-BROMOPYRIDINE (pure) | 1 | 5 | 5 |
| 2-BROMOPYRIDINE (pure) | 3 | 55 | 165 |
| 2-BROMOPYRIDINE (wet/pure) | 28 | 55 | 1540 |
| 3, 5 DIBROMOFLUOROBENZENE | 3 | 5 | 15 |
| 3, 5 DIBROMOFLUOROBENZENE | 11 | 55 | 605 |
| 3, 5 DIBROMOFLUOROBENZENE (wet/pure) | 1 | 55 | 55 |
| 3, 5-DIBROMOSULFATE (wet/pure) | 14 | 5 | 70 |
| 3,5-DIBROMOANISOLE (wet/pure) | 1 | 55 | 55 |
| 4-BROMOETHYLBENZENE (pure) | 4 | 5 | 20 |
| A-505 Cold Trap | 1 | 55 | 55 |
| Aluminum Chloride Anhydrous | 17 | 55 | 935 |
| BROMOBENZENE | 9 | 55 | 495 |
| BROMOBENZENE (high purity) | 3 | 55 | 165 |
| BROMOBENZENE (pure) | 1 | 55 | 55 |
| BROMOBENZENE (recycle) | 17 | 55 | 935 |
| BROMOBENZENE (technical) | 2 | 55 | 110 |
| BROMOBENZENE (wet/pure) | 3 | 55 | 165 |
| BROMOBENZENE-Z | 14 | 55 | 770 |
| BROMOETHYLBENZENE (wet/pure) | 1 | 55 | 55 |
| BROMOFLUOROBENZENE 99% | 2 | 55 | 110 |
| BROMOTOLUENE | 1 | 275 | 275 |
| CALCIUM CHLORIDE | 2 | 55 | 110 |
| Caustic Soda 50% | 3 | 275 | 825 |
| Caustic Soda Beads | 1 | 55 | 55 |
| concrete sealant | 1 | 4 | 4 |
| cylinder oil (mineral) | 1 | 55 | 55 |
| DBB (recycle) | 3 | 275 | 825 |
| DBB (recycle) | 18 | 55 | 990 |
| deck wash | 2 | 2 | 4 |
| DIBENZOTHIOPHENE | 2 | 275 | 550 |
| DIBENZOTHIOPHENE (crude) | 3 | 275 | 825 |
| DIBENZOTHIOPHENE (crude) | 188 | 55 | 10340 |
| DIBENZOTHIOPHENE (high purity) | 6 | 275 | 1650 |
| DIBENZOTHIOPHENE (high purity) | 11 | 55 | 605 |
| DIBENZOTHIOPHENE (T) | 4 | 275 | 1100 |
| DIBENZOTHIOPHENE (T) | 55 | 55 | 3025 |
| DIBROMOBENZENE | 3 | 55 | 165 |
| DIBROMOETHYLBENZENE (pure) | 1 | 55 | 55 |
| DIBROMOETHYLBENZENE (wet/pure) | 2 | 55 | 110 |
| DIBROMOSULFATE (crude) | 15 | 55 | 825 |
| FERRIC CHLORIDE, ANHYDROUS | 3 | 10 | 30 |
| fluorescent tubes | 1 | 55 | 55 |
| FLUOROBENZENE (crude) acidic | 3 | 55 | 165 |
| FLUOROBENZENE (recycle) | 1 | 55 | 55 |

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***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| A. Drums, Totes, and Misc. Containers | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity (gal)** | **Initial Vol Est. (gal)*** |
| Haz. Waste BENZENE Solids | 1 | 55 | 55 |
| HX (recycle) HYDROCHLORIC/HYRDROBROMIC MIX | 33 | 55 | 1815 |
| hydraulic oil | 5 | 55 | 275 |
| hydraulic oil | 3 | 5 | 15 |
| HYDROBROMIC ACID | 1 | 55 | 55 |
| HYDROBROMIC ACID (recycle) | 42 | 55 | 2310 |
| HYDROBROMIC ACID48 | 19 | 55 | 1045 |
| HYDROBROMIC ACID48 (bottoms) | 7 | 275 | 1925 |
| HYDROCHLORIC ACID 20 BE | 1 | 55 | 55 |
| HYDROCHLORIC ACID | 33 | 55 | 1815 |
| Iron Sludge Filter Cake | 75 | 55 | 4125 |
| lime | 2 | 55 | 110 |
| m-BROMOANISOLE | 112 | 55 | 6160 |
| m-BROMOANISOLE (high purity) | 2 | 275 | 550 |
| m-BROMOANISOLE (pure) | 1 | 5 | 5 |
| m-BROMOANISOLE (technical) | 2 | 55 | 110 |
| m-BROMOBUTOXYBENZENE | 1 | 55 | 55 |
| m-BROMOCHLOROBENZENE (pure) | 2 | 55 | 110 |
| m-BROMOFLUOROBENZENE | 11 | 55 | 605 |
| m-BROMOFLUOROBENZENE (high purity) | 10 | 275 | 2750 |
| m-BROMOFLUOROBENZENE (high purity) | 24 | 55 | 1320 |
| m-BROMOFLUOROBENZENE (pure) | 1 | 55 | 55 |
| m-BROMOFLUOROBENZENE (recycle) | 19 | 55 | 1045 |
| m-BROMOFLUOROBENZENE (technical) | 1 | 55 | 55 |
| m-BROMOFLUOROBENZENE65 (crude) | 8 | 275 | 2200 |
| m-BROMOFLUOROBENZENE65 (crude) | 4 | 55 | 220 |
| m-BROMOFLUOROBENZENE65 (recycle) | 1 | 55 | 55 |
| m-BROMOFLUOROBENZENE65 (wet/pure) | 14 | 55 | 770 |
| m-BROMOFLUOROBENZENE95 (crude) | 1 | 275 | 275 |
| m-BROMOFLUOROBENZENE95 (crude) | 1 | 55 | 55 |
| m-BROMOFLUOROBENZENE95 (wet/pure) | 1 | 275 | 275 |
| m-BROMOFLUOROBENZENE95 (wet/pure) | 1 | 55 | 55 |
| m-BROMOFLUOROBENZENE99 (crude) | 1 | 275 | 275 |
| m-BROMOFLUOROBENZENE99 (technical) | 11 | 55 | 605 |
| m-BROMOFLUOROBENZENE99 (wet/pure) | 2 | 275 | 550 |
| m-BROMOFLUOROBENZENE99 (wet/pure) | 16 | 55 | 880 |
| m-BROMOPHENOL | 1 | 5 | 5 |
| m-BROMOTOLUENE (pure) | 2 | 55 | 110 |
| m-DIBROMOBENZENE | 1 | 5 | 5 |
| m-DIBROMOBENZENE (high purity) | 1 | 55 | 55 |
| METHANOL | 11 | 55 | 605 |
| METHANOL (high purity) | 23 | 275 | 6325 |
| m-FLUOROANISOLE | 3 | 5 | 15 |
| m-FLUOROANISOLE (pure) | 1 | 55 | 55 |
| m-FLUOROBENZALDEHYDE | 1 | 55 | 55 |
| MO (high purity) (overhead water) | 17 | 55 | 935 |
| MO (recycle) (overhead water) | 8 | 55 | 440 |
| MO (Z) (overhead water) | 20 | 55 | 1100 |
| n-AMYL ALCOHOL (recycle) | 1 | 55 | 55 |
| n-AMYLBROMIDE | 3 | 55 | 165 |
| n-AMYLBROMIDE (pure) | 9 | 55 | 495 |
| n-BROMOALCOHOL (high purity) | 4 | 55 | 220 |

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## Table 3 - Initial Container Inventory

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D. Warehouse Cabinet

***The volumes are estimates.***
***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| A. Drums, Totes, and Misc. Containers | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity (gal)** | **Initial Vol Est. (gal)*** |
| n-BROMOBUTANE (pure) | 1 | 55 | 55 |
| n-BROMOBUTANE (recycle) | 3 | 55 | 165 |
| n-BROMOBUTANE (technical) | 3 | 55 | 165 |
| n-HEPTYLBROMIDE (wet/pure) | 2 | 55 | 110 |
| n-OCTYLBROMIDE (pure) | 1 | 55 | 55 |
| n-OCTYLBROMIDE (pure) | 1 | 5 | 5 |
| n-PROPYLBROMIDE (crude) | 10 | 55 | 550 |
| n-PROPYLBROMIDE (pure) | 2 | 55 | 110 |
| n-PROPYLBROMIDE (technical) | 28 | 55 | 1540 |
| o-BROMOANISOLE (pure) | 1 | 55 | 55 |
| o-BROMOFLUOROBENZENE (pure) | 2 | 55 | 110 |
| o-BROMOTOLUENE | 1 | 5 | 5 |
| o-BROMOTOLUENE (pure) | 1 | 55 | 55 |
| o-FLUOROANISOLE | 1 | 55 | 55 |
| o-FLUOROANISOLE (pure) | 1 | 55 | 55 |
| o-FLUOROPHENOL | 1 | 5 | 5 |
| oil | 1 | 55 | 55 |
| paint | 6 | 5 | 30 |
| paint | 87 | 1 | 87 |
| paint thinner | 4 | 1 | 4 |
| para-BROMOFLUOROBENZENE (high purity) | 2 | 55 | 110 |
| p-BROMOANISOLE | 33 | 55 | 1815 |
| p-BROMOANISOLE | 4 | 5 | 20 |
| p-BROMOPENTOXYBENZENE | 1 | 55 | 55 |
| p-BROMOPENTOXYBENZENE (wet/pure) | 1 | 55 | 55 |
| p-DIBROMOBENZENE (recycle) | 3 | 5 | 15 |
| p-DIBROMOBENZENE 99% | 34 | 5 | 170 |
| p-FLUOROANISOLE | 1 | 10 | 10 |
| p-FLUOROANISOLE | 1 | 55 | 55 |
| p-FLUOROANISOLE (pure) | 2 | 55 | 110 |
| p-FLUOROBENZALDEHYDE (pure) | 1 | 55 | 55 |
| PHOSPHORUS AMORPHOUS | 2 | 55 | 110 |
| Pit H20 (zinc) | 7 | 275 | 1925 |
| polyurethane | 1 | 0.25 | 0 |
| soda ash | 3 | 55 | 165 |
| spray paint | 6 | 0.25 | 2 |
| TOLUENE (FB) | 1 | 275 | 275 |
| TOLUENE (recycle spill) | 1 | 55 | 55 |
| TOLUENE (recycle) | 12 | 55 | 660 |
| TOLUENE (wet/pure) | 21 | 55 | 1155 |
| TOLUENE 50 (wet/pure) | 19 | 55 | 1045 |
| TRIBROMOBENZENE (recycle) | 9 | 5 | 45 |
| TRIBROMOBENZENE (technical) 90-95% | 14 | 5 | 70 |
| Unknown | 3 | 275 | 825 |
| Unknown | 159 | 55 | 8745 |
| Unknown | 50 | 5 | 250 |
| waste oil | 4 | 5 | 20 |
| waste oil | 2 | 55 | 110 |
| x-BROMOFLUOROBENZENE (wet/pure) | 4 | 55 | 220 |
| x-BROMOTOLUENE (bottoms) | 82 | 55 | 4510 |
| x-BROMOTOLUENE (crude) | 24 | 55 | 1320 |
| x-BROMOTOLUENE (technical) | 12 | 55 | 660 |
| x-BROMOTOLUENE (wet/pure) | 4 | 55 | 220 |
| **Totals:** | **1728** | | **100,715.75** |

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## Table 3 - Initial Container Inventory

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| B. Aboveground Storage Tanks (ASTs) | | | |
|---|---|---|---|
| **Aboveground Storage Tanks** | **Qty.** | **Container Capacity (gal)** | **Initial Vol Est. (gal)*** |
| AST 1 (pH 0) | 1 | 10,000 | 4,836 |
| AST 2 (pH 5-appears wastewater) | 1 | 10,000 | 4,836 |
| AST 3 (Organics) | 1 | 10,000 | 4,836 |
| AST 4 (Organics) | 1 | 10,000 | 6,169 |
| AST 5 (HBr 48%) | 1 | 10,000 | 441 |
| AST 6 (HBr 48%) | 1 | 10,000 | 4,847 |
| AST 7 (HBr 99%) | 1 | 10,000 | 8,053 |
| AST 8 (HBr 48%) | 1 | 10,000 | 636 |
| **Totals:** | **8** | | **34,654.00** |

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***The volumes are estimates.***
***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| C. Laboratory Containers | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity** | **Initial Vol Est. (gal)*** |
| 15% potassium thiocyanate sol. | 1 | 1 oz | 0.008 |
| 1-bromodecane | 1 | 1 oz | 0.008 |
| 1-bromohexadecane | 1 | 1 oz | 0.008 |
| 1-bromooctane | 1 | 1 oz | 0.008 |
| 1-butanol | 1 | 1 gal | 1.000 |
| 1-hexadecanol | 1 | 5500 g | - |
| 1-octanol | 1 | 1L | 0.264 |
| 2,3 dibromobutane | 1 | 84 oz | 0.656 |
| 2,4 dibromo-1-fluorobenzene | 1 | 6 oz | 0.047 |
| 2,4 dibromofluorobenzene (powder) | 1 | 20 mL | 0.005 |
| 2,5 dibromotoluene | 1 | 1 oz | 0.008 |
| 2-bromoethylbenzene | 1 | 4 oz | 0.031 |
| 2-bromopyradine | 1 | 28 oz | 0.219 |
| 2-chloropyridine | 1 | 32 oz | 0.250 |
| 4-bromoethylbenzene | 1 | 4 oz | 0.031 |
| 4-bromofluorobenzene | 1 | 188 oz | 1.469 |
| 4-Bromo-m-xylene | 1 | 1 oz | 0.008 |
| 4-bromo-o-xylene | 1 | 1 oz | 0.008 |
| 50% acetone, 50% mba | 1 | 8 oz | 0.063 |
| 5-bromo-m-xylene | 1 | 1 oz | 0.008 |
| acetone | 1 | 1 gal | 1.000 |
| aluminum chloride | 1 | 8oz | 0.063 |
| benzene | 1 | 5 gal | 5.000 |
| bleach | 1 | 2 gal | 2.000 |
| bromobenzene | 1 | 52 oz | 0.406 |
| bromotoluene | 1 | 4 oz | 0.031 |
| buffer sol. | 1 | 500 mL | 0.132 |
| calcium standard | 1 | 6 oz | 0.047 |
| carbon disulfate | 2 | 500 mL | 0.264 |
| decyl alcohol | 1 | 2 oz | 0.016 |
| diatomite | 1 | 2 oz | 0.016 |
| diazene | 1 | 12 oz | 0.094 |
| di-bromofluorobenzene | 1 | 4 oz | 0.031 |
| dibromoxylene | 1 | 8 oz | 0.063 |
| fluorobenzene | 1 | 1 L | 0.264 |
| fluorobenzene | 1 | 332 oz | 2.594 |
| formazin | 1 | 1 oz | 0.008 |
| hbr | 1 | 1 oz | 0.008 |
| hydranal coulomat | 1 | 48 oz | 0.375 |
| hydrobromic acid | 2 | 16 oz | 0.250 |
| hydrobromic acid | 1 | 48 oz | 0.375 |
| hydrochloric acid | 1 | 1200 mL | 0.317 |
| iron III chloride | 1 | 2 oz | 0.016 |
| iron plasma grade ref. | 1 | 4 oz | 0.031 |
| isopropyl alcohol | 1 | 32 oz | 288.056 |
| isotainer | 1 | 8 oz | 0.063 |
| m-dibromobenzene | 1 | 1 oz | 0.008 |
| m-bromofluorobenzene | 1 | 1 qt | 0.250 |
| m-bromofluorobenzene | 1 | 4 oz | 0.031 |
| mercury | 1 | 1 oz | 0.008 |
| methylene chloride | 1 | 4 oz | 0.031 |
| methylene chloride | 1 | 3 gal | 3.000 |
| metrohm | 1 | 100 gm | - |
| MGSO4 | 1 | 80 g | - |
| m-xylene | 1 | 0.5 gal | 0.500 |

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***The volumes are estimates.***
***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| C. Laboratory Containers | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity** | **Initial Vol Est. (gal)*** |
| n- propyl bromide | 1 | 2.75 gal | 2.750 |
| n-amyl alcohol | 1 | 2 oz | 0.016 |
| n-amyl bromide | 1 | 1 oz | 0.008 |
| navin fluorine | 1 | 44 oz | 0.343 |
| n-bromobutane | 1 | 1 qt | 0.250 |
| n-butyl alcohol | 1 | 1 oz | 0.008 |
| n-butyl alcohol | 1 | 4 oz | 0.031 |
| n-butyl bromide | 1 | 1 oz | 0.008 |
| n-butyl bromide | 1 | 1 gal | 1.000 |
| n-butyl bromide | 1 | 52 oz | 0.406 |
| nitric acid | 1 | 600 mL | 0.159 |
| n-oxylbromide | 1 | 8 oz | 0.250 |
| n-propanol | 1 | 2 oz | 0.016 |
| n-propanol | 1 | 1 oz | 0.008 |
| n-propyl alcohol | 1 | 12 oz | 0.094 |
| n-propyl alcohol | 1 | 20 oz | 0.156 |
| n-propyl bromide | 1 | 1 qt | 0.250 |
| o-bromofluorobenzene | 1 | 2 oz | 0.016 |
| octyl ether | 1 | 2 oz | 0.016 |
| o-xylene | 1 | 2L | 2.000 |
| paint thinner | 1 | 0.5 gal | 0.500 |
| para-bromofluorobenzene | 1 | 28 oz | 0.219 |
| para-fluorobenzene | 1 | 20 oz | 0.156 |
| p-bromofluorobenzene | 1 | 22 oz | 0.172 |
| p-bromofluorobenzene | 1 | 5 gal | 5.000 |
| p-dibromobenzene | 1 | 156 oz | 1.219 |
| p-dibromobenzene | 1 | 10 g | - |
| pH electrode storage sol. | 1 | 12 oz | 0.094 |
| phenol standard | 1 | 2 oz | 0.016 |
| pine-aire | 1 | 2 gal | 2.000 |
| potassium chloride | 1 | 1 lb | - |
| potassium hydroxide pellets | 1 | 100 g | - |
| potassium iodide | 1 | 20 oz | 0.156 |
| potassium permanganate | 1 | 500 gm | - |
| potassium permanganate | 1 | 1 L | 1.000 |
| potassium thiocynate | 1 | 1 oz | 0.008 |
| soda ash | 1 | 4 oz | 0.031 |
| sodium hydrosulfite | 1 | 100 g | - |
| sodium hydroxide | 1 | 1000 mL | 0.264 |
| sodium thio sulfate | 1 | 100 g | - |
| sodium thiosufate | 1 | 500 mL | 0.132 |
| sodium-m-bisulfite | 1 | 8 oz | 0.063 |
| standard | 1 | 1 oz | 0.008 |
| starch indicator | 1 | 500 mL | 0.132 |
| sulfuric acid | 1 | 500 mL | 0.132 |
| tetradecane | 1 | 500 mL | 0.132 |
| tetraethyiammonium bromide | 1 | 500 g | - |
| tetrahydrofuran | 1 | 100 mL | 0.781 |
| toluene | 2 | 1 oz | 0.016 |
| unknown acid-oxidizer | 2 | 6 oz | 0.094 |
| unknown base | 1 | 20g | - |
| unknown non-haz bottles | 1 | 1.5 gal | 1.500 |
| waste cyanide sol. | 1 | 10 oz | 0.078 |
| working STD | 1 | 2 oz | 0.016 |
| zinc standard sol. | 1 | 2 oz | 0.016 |
| **Totals:** | **30** | | **6.67** |

This document was prepared by Dynamac Corporation, expressly for EPA. It shall not be released or disclosed in whole or in part without the express, written permission of EPA.

## Table 3 - Initial Container Inventory

A. Drums, Totes, and Misc. Containers
B. Aboveground Storage Tanks (ASTs)
C. Laboratory Containers
D. Warehouse Cabinet

***The volumes are estimates.***
***Refer to Tables 1 and 2 for the actual volume disposed/recycled.***

| D. Warehouse Cabinet | | | |
|---|---|---|---|
| **Chemical Name** | **Qty.** | **Container Capacity** | **Initial Vol Est. (gal)*** |
| 1,2,4-tribromobenzene | 1 | 2 L | 0.528 |
| 2-bromo-4-fluoroanisole | 1 | 16 oz | 0.125 |
| 2-bromopyradine | 3 | 2 pt | 0.750 |
| 3-bromopyradine | 1 | 2 pt | 0.250 |
| 3-fluoro-4-methoxy autophen | 1 | 1 oz | 0.008 |
| 4-bromo-tert-butyl benzene | 1 | 16 oz | 0.125 |
| bromination study | 1 | 1 oz | 0.008 |
| dibromoanisole | 1 | 1L | 0.264 |
| dibromoanisole | 1 | 16 oz | 0.125 |
| fluorobenzene | 1 | 140 oz | 1.094 |
| m-bromobutylbenzene | 1 | 6 oz | 0.047 |
| m-bromochlorobenzene | 1 | 1 L | 0.264 |
| m-bromofluorobenzene | 1 | 1 L | 0.264 |
| m-bromophenol | 1 | 1L | 0.264 |
| m-bromotoluene | 1 | 1 L | 0.264 |
| n-amylbromide | 1 | 4 oz | 0.031 |
| n-amylbromide | 1 | 16 oz | 0.125 |
| n-heptyl bromide | 1 | 1.5 gal | 1.500 |
| n-propylbromide | 1 | 88 oz | 0.688 |
| o-bromofluorobenzene | 1 | 1 L | 0.264 |
| o-bromofluorobenzene | 1 | 16 oz | 0.125 |
| o-bromotoluene | 1 | 1 L | 0.264 |
| p-bromofluorobenzene | 1 | 212 oz | 1.656 |
| p-bromotoluene | 1 | 1 L | 0.264 |
| p-fluoroanisole | 3 | 1 L | 0.792 |
| p-fluoropenol | 1 | 4 oz | 0.031 |
| unknown non-haz (crystal) | 1 | 12 oz | 0.940 |
| unknown non-haz (liq.) | 1 | 1 L | 0.792 |
| **Totals:** | **32** | | **11.85** |

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# Table 4 - Storm Water Analytical Results Summary

| Effluent and ADEQ Regulation 2 Limits Versus Storm Water Sample Results | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | ADEQ Regulation 2 Criteria** | | Storm Water Sample ID | | | |
| **Parameter** | **EFFLUENT LIMITS (Daily Maximum) *** | **Acute Criteria** | **Chronic Criteria** | **DIC-SW06** (Old Tank Farm Secondary Containment Area) | **DIC-SW07** (New Tank Farm Secondary Containment Area) | **DIC-SW08** (Process Area) | **DIC-SW09** (Process Area - Duplicate) |
| | | | | DC: 7/25/11 | DC: 7/25/11 | DC: 7/25/11 | DC: 7/25/11 |
| **pH** | 5.5 - 10 | 6.0 - 9.0 | NA | 7.10 | 4.17 [X] | 8.00 | 8.02 |
| **Oil & Grease** | 100 mg/L | 10 mg/L | NA | 3.0 mg/L | 3.0 mg/L | 3.0 mg/L | 3.0 mg/L |
| **Total Suspended Solids** | NA | NA | NA | 10.0 mg/L | 36.0 mg/L | 10.0 mg/L | 13.0 mg/L |
| **Biochemical Oxygen Demand** | NA | NA | NA | 2.4 mg/L | 3.9 mg/L | 2.4 mg/L | 2.4 mg/L |
| **Temperature** | 104 ºF/40 ºC | NA | NA | NA | NA | NA | NA |
| **Metals (Method 6010)** | | (Assuming 25 mg/L Hardness) | (Assuming 25 mg/L Hardness) | | | | |
| Chromium | 2.77 mg/L | NA | NA | 0.010 mg/L | 0.0032 mg/L | 0.0026 mg/L | 0.0030 mg/L |
| Copper | 3.38 mg/L | 0.0046 mg/L | 0.0035 mg/L | 0.0021 mg/L | 0.0070 mg/L | 0.025 mg/L | 0.044 mg/L |
| Lead | 0.690 mg/L | 0.0139 mg/L | 0.000444 mg/L | 0.010 mg/L | 0.0036 mg/L | 0.01 mg/L | 0.0030 mg/L |
| Nickel | 3.98 mg/L | 0.438 mg/L | 0.0487 mg/L | 0.022 mg/L | 0.025 mg/L | 0.018 mg/L | 0.018 mg/L |
| Zinc | 2.61 mg/L | 0.0354 mg/L | 0.0323 mg/L | 2.3 mg/L | 2.5 mg/L | 0.70 mg/L | 0.86 mg/L |
| **Cyanides** | 1.20 mg/L | 0.0225 mg/L | 0.0052 mg/L | 0.01 mg/L | 0.01 mg/L | 0.01 mg/L | 0.01 mg/L |
| **Volatiles (Method 8260)** | | | | | | | |
| Acetone | NA | NA | NA | 5.0 ug/L | 5.0 ug/L | 5.0 ug/L | 5.0 ug/L |
| Benzene | NA | NA | NA | 3.2 ug/L | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L |
| Bromoform | NA | NA | NA | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L |
| Bromomethane | NA | NA | NA | 2.0 ug/L | 2.0 ug/L | 2.0 ug/L | 2.0 ug/L |
| Chlorobenzene | NA | NA | NA | 1.5 ug/L | 1.0 ug/L | 1.0 ug/L | 0.27 ug/L |
| Chloroethane | NA | NA | NA | 2.0 ug/L | 2.0 ug/L | 2.0 ug/L | 2.0 ug/L |
| Ethylbenzene | NA | NA | NA | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L |
| Toluene | NA | NA | NA | 1.4 ug/L | 1.0 ug/L | 0.86 ug/L | 0.78 ug/L |
| Trichloroethene | NA | NA | NA | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L | 1.0 ug/L |

**Sources**

*** =** *West Memphis Ordinance No. 1714, Industrial Wastewater Discharge Permit No. 27 for Diaz Intermediates. (Appendix E)*

**** =** *ADEQ Regulation 2: Regulation Establishing Surface Water Quality for Surface Waters of the State of Arkansas. (Appendix E)*

**Key**

ADEQ = Arkansas Department of Environmental Quality
DIC-SW = Diaz Intermediates Corp. Storm Water
DC = Date Collected
mg/L = milligrams per liter
ug/L = micrograms per liter
NA = Not Applicable
[X] = water was pretreated prior to discharge

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## Table 5 - April 2011 Removal Log (Non-EPA Lead Removal)

| List of Materials Recycled | | |
|---|---|---|
| Material / Content | Vol Est. (gal) | Facility / Vendor |
| Hydrobromic acid | 20,025 | Altiras |
| p-Dibromobenzene <.8% tetrabromobenzene | 3,305 | Altiras |
| p-Dibromobenzene .8%-12% tetrabromobenzene | 170 | Altiras |
| p-Dibromobenzene > 10% tetrabromobenzene | 40 | Altiras |
| p-Dibromobenzene (blue pails) no % listed | 60 | Altiras |
| p-Dibromobenzene (no labels) | 15 | Altiras |
| p-bromochlorobenzene | 70 | Altiras |
| p-Dibromobenzene (empty/cracked/bad) | 125 | Altiras |
| Methanol | 1,815 | Altiras |
| Aluminum Chloride | 880 | Altiras |
| Ferric Chloride | 90 | Altiras |
| n-propanol | 2,365 | Altiras |
| fluorobenzene | 440 | Altiras |
| 2-bromopyradine | 1,540 | Altiras |
| p-Fluoroanisole | 330 | Altiras |
| n-propylbromide | 825 | Altiras |
| fluorobenzene | 7,975 | Altiras |
| empty tote | 0 | Altiras |
| **Total Materials Recycled** | **40,070** | |

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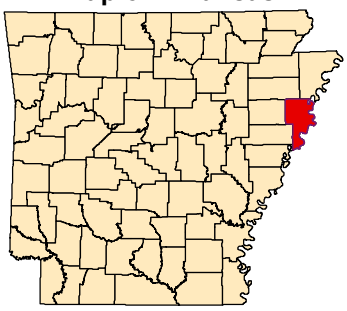
**Map of Arkansas**



**Legend**

★ Diaz Intermediates Corp.

1:20,000

0 625 1,250 2,500 Feet

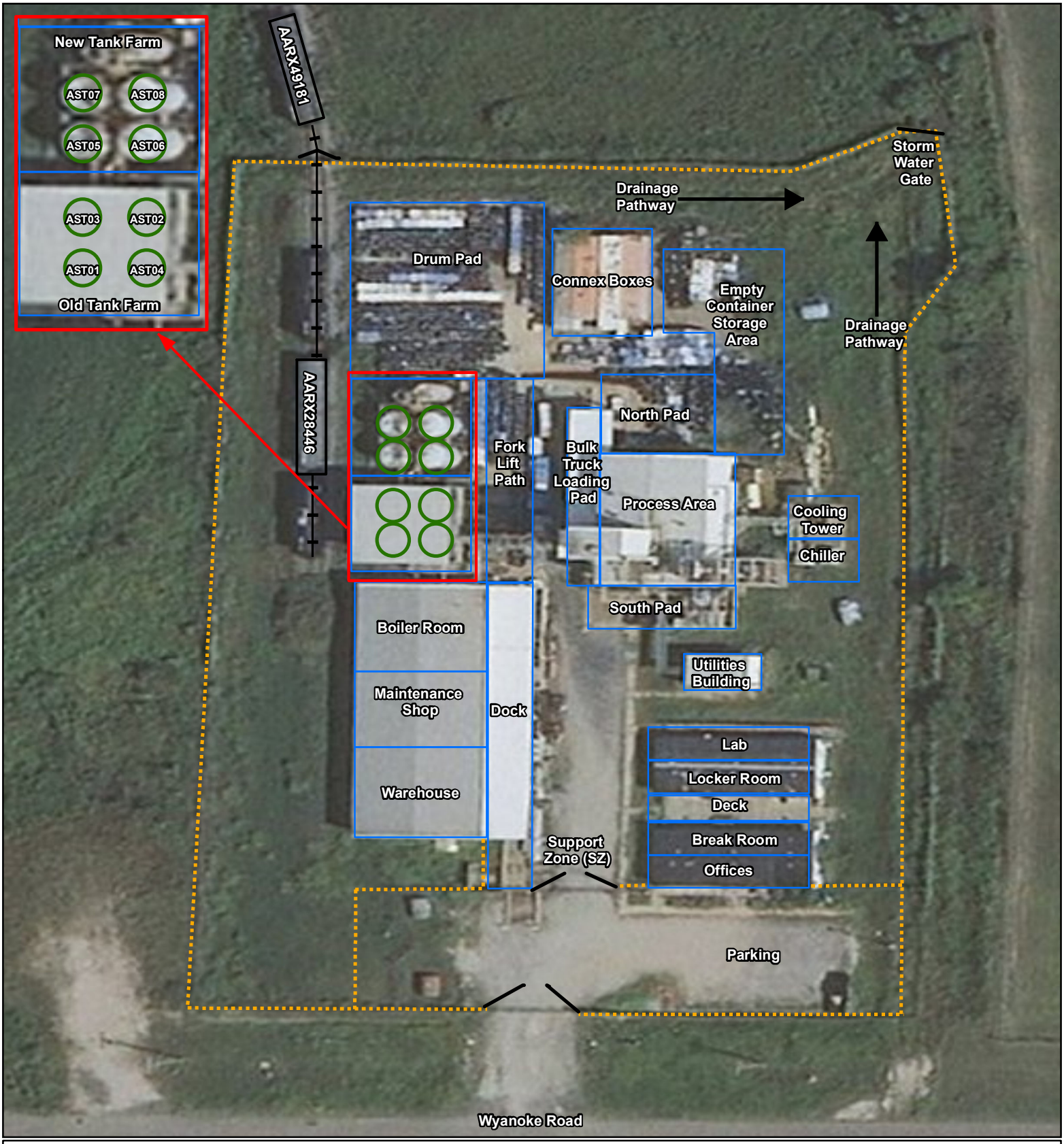
N

**US EPA Region 6**
**START-3**

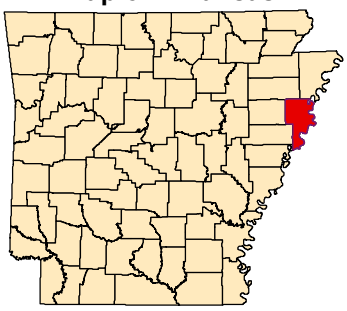
**Figure 1.** Vicinity Map
Diaz Intermediates Corp.
301 Wyanoke Road, West Memphis,
Crittenden County, Arkansas 72301

SSID No. A6C4
CERCLIS No. ARR000005843
TDD: TO-0001-11-06-03

Date: July 2011




**Map of Arkansas**



**Legend**

- Railroad Tank Car
- Aboveground Storage Tank
- Railroad
- Fence

1:750

0 25 50 100 Feet

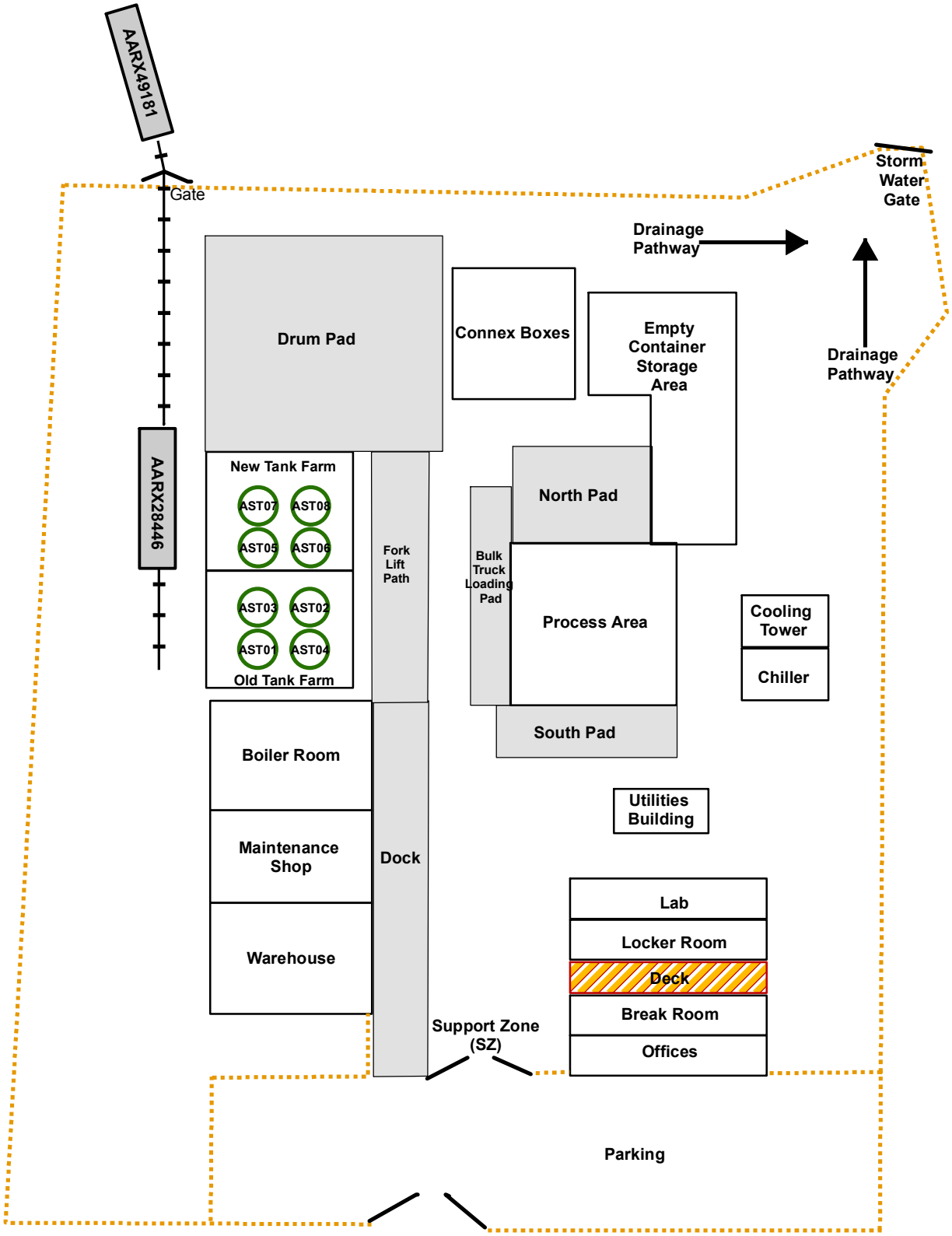
N

**US EPA Region 6**
**START-3**

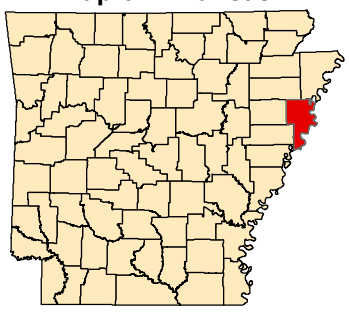
**Figure 2.** Aerial and Site Map
Diaz Intermediates Corp.
301 Wyanoke Road, West Memphis,
Crittenden County, Arkansas 72301

SSID No. A6C4
CERCLIS No. ARR000005843
TDD: TO-0001-11-06-03

Date: July 2011




**Map of Arkansas**



**Legend**

- Railroad Tank Car
- Railroad
- Aboveground Storage Tank
- Fence

1:700

0 25 50 100 Feet

N

**US EPA Region 6**
**START-3**

**Figure 3.** Site Map
Diaz Intermediates Corp.
301 Wyanoke Road, West Memphis,
Crittenden County, Arkansas 72301

SSID No. A6C4
CERCLIS No. ARR000005843
TDD: TO-0001-11-06-03

Date: July 2011

# Appendix A

# Copy of TDD
# and
# Amendments A to E



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**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Contract: EP-W-06-077

! = required field

**Note: Remaining Amount includes $0.00 in Reserve.**

| | | | |
|---|---|---|---|
| **TDD Name:** | **Diaz Intermediates Corp Removal** | **! Period:** | **Base Period** |
| **! Purpose:** | **Work Assignment Initiation, Set/Revise Expenditure Limit** | | |
| **! Priority:** | **High** | **! Start Date:** | **06/28/2011** |
| **Overtime:** | **Yes** | **! Completion Date:** | **12/23/2011** |
| **! Funding Category:** | **Removal** | **Invoice Unit:** | |
| **! Project/Site Name:** | **Diaz Intermediates Corp Removal** | | |
| **Project Address:** | **301 Wyanoke Road** | **Activity:** | **Fund-Lead Removal** |
| **County:** | **Crittenden County** | **Work Area Code:** | |
| **City, State:** | **West Memphis, AR** | **Activity Code:** | **RV** |
| **Zip:** | **72301** | **EMERGENCY CODE:** | |
| **! SSID:** | **A6C4** | **FPN:** | |
| **CERCLIS:** | **ARR000005843** | **Performance Based:** | **No** |
| **Operable Unit:** | | | |

| **Authorized TDD Ceiling:** | **Cost/Fee** | **LOE (Hours)** |
|---|---|---|
| **Previous Action(s):** | $0.00 | 0.0 |
| **This Action:** | $75,000.00 | 0.0 |
| **New Total:** | $75,000.00 | 0.0 |

## Specific Elements

**Description of Work:**

**All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.**

Contractor shall:

1. Provide Staffing Plan.
2. Conduct pre-mobilization planning with the OSC the week ending 07/01/11.
3. Coordinate with Task Monitor (TM) prior to start of work and throughout.
4. Keep website updated with documentation, photos, etc.
5. Draft POLREPs.
6. Maintain site logbook and photodocument removal activities. Be prepared to video document significant removal activity, and pre and post action site conditions.
7. Assist TM in developing site strategy for waste disposal, recycling, etc. as needed.
8. Participate in daily work progress/coordination meetings with OSC.
9. Track costs using RCMS on a weekly basis.
10. Conduct post removal sampling and provide analytical services, if directed by OSC.
11. Prepare sampling plan for TM approval based on DQO site sampling needs, if directed by OSC. If needed:

a. Evaluate air monitoring needs for onsite / perimeter. Air monitoring plan shall propose air quality standards to be used for comparison and discuss rationale for use.

b. Contractor shall be prepared to air monitor prior to start of onsite activities to obtain baseline readings.

c. Implement sampling plan using established SOPs.

d. Provide soil, waste, and air analytical laboratory support as needed to meet post excavation sampling, disposal profiling, and any additional extent of contamination sampling requirements, if needed.

12. Prepare rough cost estimate in tabular form for START removal support based on specific elements required in TDD.

Update status of TDD cost estimate table as required by the TM. Table shall also include cost information for all costs for this TDD including subcontracts.

13. Formal Report:

a. Final report shall follow established SOPs and shall include summary of removal activities, chronology of events, discussion of air monitoring activities and results, discussion of soil and waste sampling activities and results, if any, summary of ERRS cleanup operations, discuss final site conditions, and disposition of wastes.

b. Provide OSC with draft copy of the final report for review 30 days prior to finalization.

c. Provide OSC copy in electronic form (CD) with site photographs in digital format, tables and maps in .pdf format and editable format (i.e. excel, word, etc.) OSC to indicate other document attachments to be included in TM copy.

14. Provide community relations support to OSC/TM as needed.

15. Provide additional technical support to OSC/TM as needed/directed by the OSC.

**SFO:** 22

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RVC010 | XXX | 11 | T | 6A00E | 302DC6C | 2505 | A6C4RV00 | C001 | $75,000.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $0.00 |
| **This Action:** | $75,000.00 |
| **Total:** | $75,000.00 |

**Funding Category**
Removal

**Section**

**Comments:** Issued for Adam Adams
**:** Linda Carter **Date:** 06/28/2011
**Phone #:**

**Project Officer**: Linda Carter **Date:** 06/28/2011

**Contracting Officer:** Cora Stanley **Date:** 06/28/2011

No **During the past three (3) calendar years has your company, or any of your employees that will be working at this site, previously performed work at this site/facility?**
**Contractor Contact:** Debra Pandak **Date:** 07/01/2011

**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Amendment#:A
Contract: EP-W-06-077

! = required field

| | | | |
|---|---|---|---|
| TDD Name: | Diaz Intermediates Corp Removal | ! Period: | Base Period |
| ! Purpose: | Amended SOW | | |
| ! Priority: | High | ! Start Date: | 06/28/2011 |
| Overtime: | Yes | ! Completion Date: | 12/23/2011 |
| ! Funding Category: | Removal | Invoice Unit: | |
| ! Project/Site Name: | Diaz Intermediates Corp Removal | | |
| Project Address: | 301 Wyanoke Road | Activity: | Fund-Lead Removal |
| County: | Crittenden County | Work Area Code: | |
| City, State: | West Memphis, AR | Activity Code: | RV |
| Zip: | 72301 | EMERGENCY CODE: | |
| ! SSID: | A6C4 | FPN: | |
| CERCLIS: | ARR000005843 | Performance Based: | No |
| Operable Unit: | | | |

| Authorized TDD Ceiling: | Cost/Fee | LOE (Hours) |
|---|---|---|
| Previous Action(s): | $75,000.00 | 0.0 |
| This Action: | $0.00 | 0.0 |
| New Total: | $75,000.00 | 0.0 |

## Specific Elements

**Description of Work:**
**All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.**

Contractor shall:

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5. Draft POLREPs.
6. Maintain site logbook and photodocument removal activities. Be prepared to video document significant removal activity, and pre and post action site conditions.
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8. Participate in daily work progress/coordination meetings with OSC.
9. Track costs using RCMS on a weekly basis.
10. Conduct post removal sampling and provide analytical services, if directed by OSC.
11. Prepare sampling plan for TM approval based on DQO site sampling needs, if directed by OSC. If needed:
    a. Evaluate air monitoring needs for onsite / perimeter. Air monitoring plan shall propose air quality standards to be used for comparison and discuss

rationale for use.

b. Contractor shall be prepared to air monitor prior to start of onsite activities to obtain baseline readings.

c. Implement sampling plan using established SOPs.

d. Provide soil, waste, and air analytical laboratory support as needed to meet post excavation sampling, disposal profiling, and any additional extent of contamination sampling requirements, if needed.

12. Prepare rough cost estimate in tabular form for START removal support based on specific elements required in TDD.

Update status of TDD cost estimate table as required by the TM. Table shall also include cost information for all costs for this TDD including subcontracts.

13. Formal Report:

a. Final report shall follow established SOPs and shall include summary of removal activities, chronology of events, discussion of air monitoring activities and results, discussion of soil and waste sampling activities and results, if any, summary of ERRS cleanup operations, discuss final site conditions, and disposition of wastes.

b. Provide OSC with draft copy of the final report for review 30 days prior to finalization.

c. Provide OSC copy in electronic form (CD) with site photographs in digital format, tables and maps in .pdf format and editable format (i.e. excel, word, etc.) OSC to indicate other document attachments to be included in TM copy.

14. Provide community relations support to OSC/TM as needed.

15. Provide additional technical support to OSC/TM as needed/directed by the OSC.

**Amendment A adds:**

Contractor shall obtain and maintain internet access during removal action field activities.

Contractor shall provide supporting documentation and receipts along with RCMS reports provided.

**SFO:**

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | $0.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $75,000.00 |
| **This Action:** | $0.00 |
| **Total:** | $75,000.00 |

**Funding Category**
Removal

**Section**

**:** Adam Adams **Date:** 07/11/2011
**Phone #:**

**Project Officer**: Linda Carter **Date:** 07/12/2011

**Contracting Officer:** Cora Stanley **Date:** 07/12/2011

**Contractor Contact:** Debra Pandak **Date:** 07/12/2011

**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Amendment#:B
Contract: EP-W-06-077

! = required field

| | | | |
|---|---|---|---|
| TDD Name: | Diaz Intermediates Corp Removal | ! Period: | Base Period |
| ! Purpose: | Incremental Funding | | |
| ! Priority: | High | ! Start Date: | 06/28/2011 |
| Overtime: | Yes | ! Completion Date: | 12/23/2011 |
| ! Funding Category: | Removal | Invoice Unit: | |
| ! Project/Site Name: | Diaz Intermediates Corp Removal | | |
| Project Address: | 301 Wyanoke Road | Activity: | Fund-Lead Removal |
| County: | Crittenden County | Work Area Code: | |
| City, State: | West Memphis, AR | Activity Code: | RV |
| Zip: | 72301 | EMERGENCY CODE: | |
| ! SSID: | A6C4 | FPN: | |
| CERCLIS: | ARR000005843 | Performance Based: | No |
| Operable Unit: | | | |

| Authorized TDD Ceiling: | Cost/Fee | LOE |
|---|---|---|
| Previous Action(s): | $75,000.00 | 0.0 |
| This Action: | $20,000.00 | 0.0 |
| New Total: | $95,000.00 | 0.0 |

## Specific Elements

**Description of Work:**

Contractor shall:

1. Provide Staffing Plan.
2. Conduct pre-mobilization planning with the OSC the week ending 07/01/11.
3. Coordinate with Task Monitor (TM) prior to start of work and throughout.
4. Keep website updated with documentation, photos, etc.
5. Draft POLREPs.
6. Maintain site logbook and photodocument removal activities. Be prepared to video document significant removal activity, and pre and post action site conditions.
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c. Provide OSC copy in electronic form (CD) with site photographs in digital format, tables and maps in .pdf format and editable format (i.e. excel, word, etc.) OSC to indicate other document attachments to be included in TM copy.

14. Provide community relations support to OSC/TM as needed.

15. Provide additional technical support to OSC/TM as needed/directed by the OSC.

**Amendment A adds:**

Contractor shall obtain and maintain internet access during removal action field activities.

Contractor shall provide supporting documentation and receipts along with RCMS reports provided.

Amendment B adds $20,000 to continue site activities.

**SFO:** 22

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RVC010 | XXX | 11 | T | 6A00E | 302DC6C | 2505 | A6C4RV00 | C001 | $20,000.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $75,000.00 |
| **This Action:** | $20,000.00 |
| **Total:** | $95,000.00 |

**Funding Category**

Removal
Removal

**Section**

**:** Adam Adams **Date:** 08/24/2011
**Phone #:**

**Project Officer**: Linda Carter **Date:** 08/24/2011

**Contracting Officer:** Cora Stanley **Date:** 08/25/2011

**Contractor Contact:** Debra Pandak **Date:** 08/26/2011

**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Amendment#:C
Contract: EP-W-06-077

! = required field

| | | | |
|---|---|---|---|
| TDD Name: | Diaz Intermediates Corp Removal | ! Period: | Base Period |
| ! Purpose: | Incremental Funding | | |
| ! Priority: | High | ! Start Date: | 06/28/2011 |
| Overtime: | Yes | ! Completion Date: | 12/23/2011 |
| ! Funding Category: | Removal | Invoice Unit: | |
| ! Project/Site Name: | Diaz Intermediates Corp Removal | | |
| Project Address: | 301 Wyanoke Road | Activity: | Fund-Lead Removal |
| County: | Crittenden County | Work Area Code: | |
| City, State: | West Memphis, AR | Activity Code: | RV |
| Zip: | 72301 | EMERGENCY CODE: | |
| ! SSID: | A6C4 | FPN: | |
| CERCLIS: | ARR000005843 | Performance Based: | No |
| Operable Unit: | | | |

| Authorized TDD Ceiling: | Cost/Fee | LOE (Hours) |
|---|---|---|
| Previous Action(s): | $95,000.00 | 0.0 |
| This Action: | $45,000.00 | 0.0 |
| New Total: | $140,000.00 | 0.0 |

## Specific Elements

**Description of Work:**

**All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.**

Contractor shall:

1. Provide Staffing Plan.
2. Conduct pre-mobilization planning with the OSC the week ending 07/01/11.
3. Coordinate with Task Monitor (TM) prior to start of work and throughout.
4. Keep website updated with documentation, photos, etc.
5. Draft POLREPs.
6. Maintain site logbook and photodocument removal activities. Be prepared to video document significant removal activity, and pre and post action site conditions.
7. Assist TM in developing site strategy for waste disposal, recycling, etc. as needed.
8. Participate in daily work progress/coordination meetings with OSC.
9. Track costs using RCMS on a weekly basis.
10. Conduct post removal sampling and provide analytical services, if directed by OSC.
11. Prepare sampling plan for TM approval based on DQO site sampling needs, if directed by OSC. If needed:
    a. Evaluate air monitoring needs for onsite / perimeter. Air monitoring plan shall propose air quality standards to be used for comparison and discuss rationale for use.

b. Contractor shall be prepared to air monitor prior to start of onsite activities to obtain baseline readings.

c. Implement sampling plan using established SOPs.

d. Provide soil, waste, and air analytical laboratory support as needed to meet post excavation sampling, disposal profiling, and any additional extent of contamination sampling requirements, if needed.

12. Prepare rough cost estimate in tabular form for START removal support based on specific elements required in TDD.

Update status of TDD cost estimate table as required by the TM. Table shall also include cost information for all costs for this TDD including subcontracts.

13. Formal Report:

a. Final report shall follow established SOPs and shall include summary of removal activities, chronology of events, discussion of air monitoring activities and results, discussion of soil and waste sampling activities and results, if any, summary of ERRS cleanup operations, discuss final site conditions, and disposition of wastes.

b. Provide OSC with draft copy of the final report for review 30 days prior to finalization.

c. Provide OSC copy in electronic form (CD) with site photographs in digital format, tables and maps in .pdf format and editable format (i.e. excel, word, etc.) OSC to indicate other document attachments to be included in TM copy.

14. Provide community relations support to OSC/TM as needed.

15. Provide additional technical support to OSC/TM as needed/directed by the OSC.

**Amendment A adds:**

Contractor shall obtain and maintain internet access during removal action field activities.

Contractor shall provide supporting documentation and receipts along with RCMS reports provided.

**Amendment B** adds $20,000 to continue site activities.

**Amendment C** adds funding to cover the completion of field activities, report completion, and project close-out.

**SFO:** 22

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RVC010 | XXX | 11 | T | 6A00E | 302DC6C | 2505 | A6C4RV00 | C001 | $45,000.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $95,000.00 |
| **This Action:** | $45,000.00 |
| **Total:** | $140,000.00 |

**Funding Category**
Removal

**Section**

**:** Adam Adams **Date:** 09/16/2011
**Phone #:**

**Project Officer**: Linda Carter **Date:** 09/16/2011

**Contracting Officer:** Cora Stanley **Date:** 09/16/2011

**Contractor Contact:** Debra Pandak **Date:** 09/19/2011

**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Amendment#:D
Contract: EP-W-06-077

! = required field

| | | | |
|---|---|---|---|
| TDD Name: | Diaz Intermediates Corp Removal | ! Period: | Base Period |
| ! Purpose: | Change Period of Performance | | |
| ! Priority: | High | ! Start Date: | 06/28/2011 |
| Overtime: | Yes | ! Completion Date: | 02/03/2012 |
| ! Funding Category: | Removal | Invoice Unit: | |
| ! Project/Site Name: | Diaz Intermediates Corp Removal | | |
| Project Address: | 301 Wyanoke Road | Activity: | Fund-Lead Removal |
| County: | Crittenden County | Work Area Code: | |
| City, State: | West Memphis, AR | Activity Code: | RV |
| Zip: | 72301 | EMERGENCY CODE: | |
| ! SSID: | A6C4 | FPN: | |
| CERCLIS: | ARR000005843 | Performance Based: | No |
| Operable Unit: | | | |

| Authorized TDD Ceiling: | Cost/Fee | LOE (Hours) |
|---|---|---|
| Previous Action(s): | $140,000.00 | 0.0 |
| This Action: | $0.00 | 0.0 |
| New Total: | $140,000.00 | 0.0 |

## Specific Elements

**Description of Work:**

**All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.**

Contractor shall:

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4. Keep website updated with documentation, photos, etc.
5. Draft POLREPs.
6. Maintain site logbook and photodocument removal activities. Be prepared to video document significant removal activity, and pre and post action site conditions.
7. Assist TM in developing site strategy for waste disposal, recycling, etc. as needed.
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b. Provide OSC with draft copy of the final report for review 30 days prior to finalization.

c. Provide OSC copy in electronic form (CD) with site photographs in digital format, tables and maps in .pdf format and editable format (i.e. excel, word, etc.) OSC to indicate other document attachments to be included in TM copy.

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15. Provide additional technical support to OSC/TM as needed/directed by the OSC.

**Amendment A adds:**

Contractor shall obtain and maintain internet access during removal action field activities.

Contractor shall provide supporting documentation and receipts along with RCMS reports provided.

**Amendment B** adds $20,000 to continue site activities.

**Amendment C** adds funding to cover the completion of field activities, report completion, and project close-out.

**Amendment D** extends the period of performance to 02/03/2012 to allow more time for report completion and project close-out.

**SFO:**

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | $0.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $140,000.00 |
| **This Action:** | $0.00 |
| **Total:** | $140,000.00 |

**Funding Category**
Removal

**Section**

**Project Officer**: Linda Carter **Date:** 12/09/2011

**Contracting Officer:** Cora Stanley **Date:** 12/12/2011

**Contractor Contact:** Debra Pandak **Date:** 12/12/2011

**EPA**
U.S. EPA
Washington, DC 20460

**START3**
**Technical Direction Document**

Response Activities - REMOVAL
Funds (0001)
Dynamac Corporation

TDD #: TO-0001-11-06-03
Amendment#:E
Contract: EP-W-06-077

! = required field

| | | | |
|---|---|---|---|
| TDD Name: | Diaz Intermediates Corp Removal | ! Period: | Base Period |
| ! Purpose: | Change Period of Performance | | |
| ! Priority: | High | ! Start Date: | 06/28/2011 |
| Overtime: | Yes | ! Completion Date: | 03/23/2012 |
| ! Funding Category: | Removal | Invoice Unit: | |
| ! Project/Site Name: | Diaz Intermediates Corp Removal | | |
| Project Address: | 301 Wyanoke Road | Activity: | Fund-Lead Removal |
| County: | Crittenden County | Work Area Code: | |
| City, State: | West Memphis, AR | Activity Code: | RV |
| Zip: | 72301 | EMERGENCY CODE: | |
| ! SSID: | A6C4 | FPN: | |
| CERCLIS: | ARR000005843 | Performance Based: | No |
| Operable Unit: | | | |

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|---|---|---|
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| This Action: | $0.00 | 0.0 |
| New Total: | $140,000.00 | 0.0 |

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Contractor shall obtain and maintain internet access during removal action field activities.

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**Amendment B** adds $20,000 to continue site activities.

**Amendment C** adds funding to cover the completion of field activities, report completion, and project close-out.

**Amendment D** extends the period of performance to 02/03/2012 to allow more time for report completion and project close-out.

**Amendment E** extends the period of performance to 03/23/2012 to allow more time for report completion and project close-out.

**SFO:**

| Line | DCN | IFMS | Budget / FY | Approp. Code | Budget Org Code | Program Element | Object Class | Site Project | Cost Org Code | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | $0.00 |

| Funding Summary: | Funding |
|---|---|
| **Previous:** | $140,000.00 |
| **This Action:** | $0.00 |
| **Total:** | $140,000.00 |

**Funding Category**
Removal

**Section**

**Project Officer**: Linda Carter **Date:** 01/24/2012

**Contracting Officer:** Cora Stanley **Date:** 01/24/2012

**Contractor Contact:** Debra Pandak **Date:** 01/24/2012

# Appendix B

# Copy of START-3 Logbooks



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Diaz Intermediates Corp - Removal

CERCLIS # ARR000005843

"Rite in the Rain"®
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**JOURNAL**
No. 391

Logbook #1 of 4

TDD # : TO-0001-11-06-03

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER


U.S. Environmental Protection Agency
Region 6 – AR, LA, NM, OK, TX

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North Little Rock, AR 72118-5317

501-682-0874
FAX: 501-682-0565
www.adeq.state.ar.us

Michael Gates
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Hazardous Waste Division
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CONTENTS Site Logbook # 1

| PAGE | REFERENCE | DATE |
|---|---|---|
| | Site Name: Diaz Intermediate Corp- REMOVAL | |
| | Type of Activity: REMOVAL | |
| | Site Location: 301 Wyanoke Drive<br>West Memphis (Crittenden County), AR 72301<br>Latitude 35.107083° North<br>Longitude 90.193000° West | |
| | CERCLIS No: ARR 000005843 | |
| | SSID No: A6C4 | |
| | EPA On-Scene Coordinator: Adam Adams<br>ADEQ Field Team Leader: Michael Gates | |
| | START TOO No: TO-0001-11-06-03 | |
| | Logbook No: 1 | |
| | Type of Documentation: Logbook of Activities on-Site | |

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7/14/11

0715 OSC Adam Adams arrive on-site, opens the gate to the facility. Diaz Intermediates Corp is located in 301 Wyanoke Road, Crittenden County, West Memphis, Arkansas 72301. Approx. 2.5 hours NE of Little Rock, AR.
Lat. 35.107083°N; Long -90.193°West.

0730 START/ERRS arrive on-site for a site walk.
START-3: Biscocho & Moisan
ERRS(RM) Don Edgington, (FCA) Tammy Engle; (Chemist) Steve Sturgeon.
Site had overgrown vegetation around the property.
Weather temp 91.4°F Sunny
Humidity 80%

0740 Site Walk with OSC, START, & ERRS
1. ERRS noted same key opens the main office (command post) & laboratory (behind the command post.)
2. Entrance to the site is from the South side.
3. Contents of the laboratory appeared to be the same as last inspected in April 2011, EXCEPT for six (6) SCBA tanks with pelican case, and few harnesses were missing since last visit to the site. A window (small) is missing on the SW door of the laboratory facility.

4. Facility used to have a permit to pump to sewer but need to be checked with START documents
5. Per ERRS RM, pH must be between 6-10 before it can go to the POTW which is on SW corner on fenceline outside the property? Publicly Owned Treatment Works
6. Plan for processing building, clear out of contents
7. Per OSC, most chemicals on-site have never been used. Stated that since this is a chemical plant, you can pretty much go by the drum labels.
8. Secondary containment on old & new tank Farm (West of site), filled to capacity.
9. Process/cracker tanks (x2) used for phase separation with porcelain inside located on SW corner along fenceline. Empty & on it's side.
10. ERRS plan to sample in Level B when drums are 7/8th full. If not then they ERRS will use level C.
11. Per OSC, Arkansas DEQ possibly out on site on Monday.
12. Per OSC, waste characterization might be done by START to ship off for analytical. ~~Per ERRS,~~ Per OSC, ERRS will collect the sample & START will send off.
13. START doing photo documentation, pre-removal activities, during site walk.
14. Access to POTW open but ERRS will brush Hog 1st.
15. Inspector for electricity will be on site today
16. Internet via Cricket wireless.



17. Vendors for products coming from Little Rock. Purchasing still questionable.
18. Health & Safety:
    - Splash hazards for hazcatting
    - Biologicals = wasps, snakes, lots of corrosives (assume most puddles are corrosive).
    - Site HASP = START-3 & ERRS combined as an Addendum
19. Scheduling: aim to finish before mid-September.
    - Working hours 0630 to 1730 hrs. with 1/2 hr. lunch
    - OSC will be on-site most of the time.
    - ERRS crew travel day Monday 7/18/11, 1st day of work Tues 7/19/11.
    - Planning meeting, daily 1500 or 1600 hours.

0820 End of site walk

0900 START gets baseline air reading, breathing range using multi RAE (RAE unit # 095-926132, TRE multi RAE-1103104) with 11.7 electron volt probe to monitor $O_2$ levels, explosive atmospheres & toxic organic vapors. No significant readings. All clear

1001 START set up weather station. Weather Wise Instruments model WS 1080; FCC ID: WA5911SMTX; Frequency: 915 MHz. Weather station was set up →

along SW corner fence. Weather station is set-up approx. 10-12 ft. above ground and is not obstructed by building or facility.

1015 City of West Memphis Electric company on-site to inspect electric box & coverage in the area.

1020 START-3 sign Health & Safety Plan (HASP) & Daily Tailgate Safety Meeting Form.

1105 Weather Temp 91.6°F Wind 3.1 mph from SSE
humidity 55% Sunny.
Electric Company rep. (see 1015 entry) departs site, No electricity yet.

1135 START/ERRS out for lunch
1216 START's back on-site
1230 ERRS back on-site.

1316 Weather Temp 95.2°F Wind from SW @ 8.3 mph
humidity 63% Sunny
ERRS/START continue to set-up command post area.

1401 Altivas Industrial Services notified ERRS/OSC that they are interested in purchasing 60 drums of m-~~bromobenzene~~ bromoanisole, Tanks 6-7 containing ~~Bromic Acid & Methanol (?)~~ m-bromoanisole (?)



Altivas Industrial Services
Attn: Chris Pencarinha (cpencarinha@altivas.com)
13831 Northwest Fwy, Suite 440,
Houston, TX 77040
(713) 568-3651

Altivas requested:
1. Tank 6 & 7 = off-spec Hydrobromic Acid
2. 50 to 60 drums = off-spec m-bromoanisole (marked "MBA" with yellow or red sticker on top of drum.

Drums will be staged on the loading dock.

1600 West Memphis Electric company arrive on-site, inspects, notified ERRS/OSC/START that electricity cannot be turned on until tomorrow - Fuse box outside facility is not connected.

1630 West Memphis Water Utilities arrive on-site to turn on water to site. Note: water was not turned on-site since Diogo bankruptcy in 2007.
1635 Utilities worker depart site.
1640 Water pipes throughout site leaking water.
- old tank farm, maintenance/boiler room, fork-lift path, Process Area building, Cooling tower, underneathe Laboratory trailer, eye wash station, etc... Area slightly flooded. →

7/14/11

1655 Water Utilities rep. return to site, turns off water running throughout site.

1720 START/ERRS/OSC secure site. Depart facility. End of Day.



7/15/11

0630 STARTs arrive on-site. Health & Safety meeting with STARTs. START sign Daily Tailgate Safety meeting Form.

0640 START begins pre-removal video documentation.

0709 OSC arrive on-site

0730 ERRS RM/FCA arrive on-site

0740 ERRS notified START/OSC:

1. Contaminated reduction zone (CRZ) on Fence line & around office/lab trailers
2. 20ft. away from any activity is the contaminated zone (CZ)
3. OSC stated that no air monitoring (for now) except the use of multi-RAE

0800 Electric company arrive on-site, attaches fuse outside facility, turns on electricity on-site.

0807 Weather Temp 86.5°F Wind from E @ 3-8 mph
Humidity 59% Sunny

0900 ERRS begin marking off m-Bromoaniline (mBA) drums to prepare for shipment.

* START continue to set-up command post, server, → internet (via Cricket server provider), etc...

7/15/11

1122 ERRS out for lunch

1137 Temporary toilets (X3) & hand wash station arrive on-site. Sets up on South west corner of site inside the CRZ.

1200 START out for lunch
1210 ERRS return from lunch
1240 START return from lunch

1327 Weather temp. 97.2°F Wind from SSE @ 3.8 mph
Humidity 44% Sunny

1330 ~~St~~ not ERRS Rm & Chemist notified START/OSC:
1. pH meter on-site is working & needs to be calibrated. tested it via bottle of drinking water.
2. Tested liquids in Old & New tank farms. After calibration
Old tank Farm = pH ~~5.4~~ not 7.1
New tank Farm = pH 6.9

1445 ERRS FCA depart site
1530 ERRS Rm / Chemist depart site
START continue documentation, set-up printers, internet, etc...

1535 Weather temp 96.4°F Wind from SE @ 6 mph
Humidity 92% Sunny



7/15/11

1615 Bank of America / ADEQ notified OSC to verify contents of rail cars on property.
START/OSC attempt to obtain rail car contents. unable to verify due to current temp of tanks & weather conditions. OSC attempted to break a seal on top of railcar AARX 49181 (outside facility on NW corner). A "hissing" sound heard, & due to H&S reasons reseated the cap. Will attempt to open again on 7/18 in the morning while temp is cooler.
Note: ~~tanks~~ railcar AARX 49181 = outside facility gate
*AARX 28446 = inside facility gates, on west side of property.
* It is believed that this railcar is empty.

1700 START/OSC secure site - Depart facility. End of day. Next working day is Monday 7/18/11.

* Note: Email received from EPA RPM Charles Fisher regarding Railcars (see 1615 entry). Stated Both cars are owned by Diaz. According to RPM earlier this year Atty. representing the bank told EPA that they did not have security interest in chemicals contained in GATX cars. Therefore, RPM informed GATX that it's OK for them to remove their cars from the site, & by doing so GATX then became →

7/15/11

the owner of the Chemicals & was responsible for the T&D of the contents.



7/18/11

0630 OSC Adams arrive on-site
0700 START Moisan arrive on site
0730 START Biscotto & ERRS arrive on site

0740 STARTs conduct H&S meeting. START sign Daily Tailgate Safety Meeting Form.

0755 START Moisan calibrate multi RAE (5 gas) gets baseline readings
LEL = ∅ $O_2$ = 20.5
VOC = 0.4 CO = ∅

0808 Weather Temp 87.6 °F Wind ESE ~~flo~~ not 3.8mph
humidity 61% Sunny.

0820 ERRS continue to break off m-Bromobenzoate (MBA) drums (ERRS labelling drums with an "X") scattered throughout the property.
START-3 prepares weather report, daily tailgate meeting form, etc... Documents (photo, video, logbook) site activities

1132 ERRS out for lunch
1206 START out for lunch
1208 ERRS back from lunch
1240 START back from lunch

1240 Weather Temp 96.1°F Wind from SW @ 3.1 mph
humidity 95% Sunny.
START continue to prep (i.e. START files, certificate, etc...)
Begin to prepare Daily Progress Report.
ERRS continue to mark off drums. START Moisan assisted.

1349 Planning meeting: Attendance = ERRS - 2 / OSC - 1 / START - 2
Topics discussed:
1. Sixty-four 55-gal counted by ERRS chemist (to date)
2. Tomorrow: 5 additional ERRS crew to arrive (1-Foreman, 4-laborers)
- clear out CRZ. Brush hog.
- Re-palletize MBR drums (time permitting).
- Fire department will be out here to put a meter on fire hydrant (S-side of facility). Used for decon.
- Note: Estimated cleaning done & begin haz cat on Thurs 7/20
3. Possible break TBD, but foreman break noon on 8/11/11 & back @ work 0630 hrs on 8/15/11.

1450 START/ERRS out to do more drum inventory.

1527 Weather Temp 100.4°F Wind from SE @ 5.4 mph
humidity 42% Sunny

1655 ERRS depart site
1720 START/OSC secure site, depart facility.



0630 START/ERRS/OSC arrive on-site
ERRS - 5 additional crew (1-Foreman, 4-laborers) mobilized
START - 1 additional crew (will replace START Moisan of duties)
Combined H&S meeting: Attendance: ERRS-8 / START-3 / OSC-1
Topics discussed:
1. Site intro, site briefing.
- Labels might be hard to read due to time & weather conditions
- Discussed route to hospital, what to do in case of fire, Contamination reduction zone, etc...
2. Operations - clear up Support Zone from overgrown vegetation
- prepare ~~into~~ exit CRZ from overgrown vegetation
- organize pallets of drums, time permitting
3. Safety - assume acidic, corrosive, & flammable on standing water
- No smoking in Hot zone
- MSDS on-site available
- slip, trip, fall
4. START - air monitor.
Weather forecast: Low 82 / High 97, Heat Index 103, winds from WSW @ 5-10 mph.

0640 Fire Chief Wayne Sokly on-site, spoke w/ OSC Adams, courtesy visit
START sign daily Tailgate Safety form
0645 Site tour for additional ERRS & START crew.

0725 Weather temp 87.6°F Wind from South @ 3.8 mph
Humidity 91% Sunny

7/19/11

0830 ERRS begin daily activities (site maintenance, clear path, etc...)
0900 ERRS begin brush hog activities around property

1100 Fork lift (500 lbs) arrive on-site, ERRS/START continue to mark MBA drums

1115 Michael Gates (ADEQ Haz. Waste Inspector) on-site. Courtesy visit. Speaks to OSC Adams about current site conditions. (See Business card on Front cover page)

1145 ERRS out for lunch
1208 START out for lunch
1236 START / ERRS back from lunch

1240 Weather Temp 96.3°F Wind from WNW @ 6.0 mph
Humidity 95% Sunny

1247 Dumpster (King Disposal Inc.) for cold trash arrive on-site. Placed dumpster West of loading dock.
START Moisan depart site. START Miller takes over Moisan's duties.

1305 ADEQ Gates depart site. ~~Per~~ Note: Per ADEQ Gates, spoke with Water Division, Sanitary Sewer does not need permit as long as analysis are met. Can use NaOH to neutralize.



7/19/11

1435 Water utilities comes in to turn water meter on hydrant South of the site fence. ERRS / Utilities rep. noticed that this is a "dead" hydrant. Will try to turn on tomorrow.

1446 ERRS shut off line into building (processing Building) so water will not flow, should fire hydrant water source turn on over night.
ERRS still continuing to mark MBA drums

1450 Weather Temp 97.2°F Wind from S @ 5.4 mph
Humidity 92% Sunny.

1515 Planning meeting. Attendance: OSC-1 / STARTs-2 / ERRS-2
Topics discussed:
1. During high heat index days 40 mins work / 20 min break
2. Tanks 6 & 7 sampled by Thursday 7/22. HBr, grab sample, START to send off via dangerous goods.
3. Per OSC, START to collect storm water samples in Old & New Tank farm. Follow what ERRS did during stabilization activities in 2010 (Jan).
4. Tomorrow: - begin staging MBA drums
- continue clearing & grubbing.
- plan to look @ rail car contents tomorrow.
- wind socket & Boom lift to arrive on-site

7/19/11

1600 ERRS continue to do site maintenance.

1726 ERRS / START / OSC secure site. Depart site. End of activities



7/20/11

0630 ERRS / START arrive on-site.
Combined H&S Meeting. Attendance = ERRS-8 / START-2 / OSC-Ø
Topics discussed:
1. Operations - gauge contents of rail cars from the top hatch, wear respirators, stay upwind, slowly vent.
- continue to clear overgrown vegetation.
- possibly sort out MSA by the afternoon.
- If water utilities arrive
2. Safety - Heat stress. 40min in / 20 mins Break. Level D
- Hydrate, drink water even if not thirsty.
- limited space around drums
- Harness / height 500lbs - deep weight on full protection
3. START - air monitor, photo / video documentation
Weather forecast: low 77 / Hi 99, Heat index 107, wind from WSW @ 5-10mph

0648 meeting end. ERRS begin daily activities. START sign daily tailgate safety meeting form.

0700 OSC Adams arrive on-site
ERRS begin to gauge contents of railcars on-site. One ERRS is using a facemask. START photo documentation. Contents are:
Railcar ~~AAR2446~~ ~~AAR2446~~ = empty
~~AAR~~ 49181 = sludge bottom, approx. 2in.
= ERRS estimated it to be 427gal of sludge acid. →

7/20/11

0741 Weather Temp. 86.9°F Wind from SW @ 3.1 mph
Humidity 49% Sunny.

0800 W-Memphis fire extinguisher (Brian Houston) on-site to check all extinguishers

0840 ERRS continue to clear path with overgrown vegetation.

1018 START obtain baseline air monitor reading using multiRAE monitor
No oxygen deficient or enriched or otherwise harmful or explosive atmospheric gases, or vapor detected in the ambient air. Note: New replacement multiRAE on-site today:
Unit # 1019114 Calibrated by manufacturer on 3/15/11.
Serial # 095-525355

1105 ERRS / START out for lunch.
1154 ERRS / START Return from lunch.

1208 Weather Temp 95.2°F Wind from West @ 6.9 mph
Humidity 93% Sunny
ERRS begin to segregate MBR drums using a ~~[illegible]~~ forklift

1231 Site walk w/ OSC / START to determine sampling locations.
OSC stated START should sample on: (1) New Tank Farm; (2) old Tank Farm; (3) Processing Building • Storm water test for metals, VOCs, Total Suspended Solids, Biochemical Oxygen Demand, oil/grease, cyanide, pH, temp.



1420 Water utilities back on-site turns on water from hydrant.
ERRS turns on valve on South side that leads to water inside facility. only water source to date is on hydrant

1500 Hydrolift delivered on-site (60ft. boom)

1527 Planning meeting: Attendance ERRS-2/STARTs-2/OSC-1
Topics discussed:
1. START still waiting on RI ~~EX~~ software for dangerous goods
2. ERRS to collect 1 Liter sample from tank 6 & 7. (tomorrow)
3. Continue to organize MBR drums (tomorrow)
4. pH Bulk truck area & 2nd containment east of processing. pump to ground if pH is within limits.

1555 ERRS / START check pH of storm water on:
Bulk truck loading pad = 6.5 pH
2nd ary containment, East of processing building = pH 7.0
OSC oked to pump water into the ground
1608 ERRS begin to pump liquid from Bulk truck loading Pad.

1631 Weather Temp 99.7°F Wind from NW @ 4.5 mph
Humidity 94% Sunny

1730 ERRS / START / OSC secure site. Depart site. End of Day.

7/21/11

0630 START/ERRS arrive on site - Conducted H&S meeting.
Attendence: ERRS-8/START's-2/OSC-Ø
1- Operations - Collect 1L sample of HBr from tank 6&7.
- Continue to stage MBP drums.
- Finish pumping standing water on Bulk truck loading pad & 2ndary containment E of Processing Building
- dry decon Bush Hog
- Organize empty drums located E of the North Pad.
2. Safety - complacency, conditions may change
- Buddy system esp - in warehouse.
- any doubts, stop & discuss
- heat stress
3- START - air monitor w/ multi-RAE; document
Weather forecast: Low 88/ high 98, Heat index 104, Sunny
wind from WSW @ 5-10 mph.

0654 meeting end - ERRS begin daily activities. START sign Daily tailgate form

0715 - ERRS begin to drain Bulk Truck Pad area standing water to grass.
- ERRS begin to put on PPE for sampling.

0725 - START use multi RAE to air monitor opening in tank 6.
All clear w/ 5 gas meter.

0731 - ERRS attemp collecting HBr from tank 6.



7/21/11

0803 Weather temp. 87.8°F Wind from NW @ 3.1 mph
humidity 48% SUNNY

0841 ERRS opens warehouse, maintenance, & Boiler Room to let it vent.
START collect air monitor from the outside. All clear.

0908 1 liter each HBr collected from tank #6 & #7

0931 - ERRS completes pumping water from Bulk truck pad.
- ERRS begin pumping water off 2ndary containment, E of Processing Building
- ERRS begin staging MBr drums on Bulk Truck loading pad.
- ERRS begin to arrange empty drums & totes on E side of property

1120 ERRS/START out for lunch
1220 - ERRS/START return from lunch.

1228 - ERRS continue to segregate/stage drums
- ERRS continue to arrange empty drums

1237 Weather temp 98.4°F Wind from NE @ 4.5 mph
humidity 44% Sunny.

1412 ERRS was told by RM to work 30 min/Break 30 min due to heat index

Weather Temp 101.1°F Wind from E @ 5.4 mph
Humidity 42% SUNNY!

7/21/11

1530 Planning meeting. ERRS-2/STARTs-2/OSC-Ø
Topics discussed:
1. To date, total 104 of 55-gal staged @ Bulk Truck Pad
2. Tomorrow, continue to re-organize & segregate MBA drums

H&S: START suggested a potable water be staged near working area for emergency reasons. No running water through the site. ~~No~~ Closest water source is through fire hydrant on the south side of the property. OKed by OSC/ERRS.

1602 ERRS staging emergency potable water near eye wash station in Bulk truck pad.

1730 ERRS/START/OSC secure site. Depart facilities. End of Day.



7/22/11

0630 ERRS/START arrive onsite.
Combined H&S meeting. Attendance: ERRS-8/STARTs-2/OSC-Ø
Topics discussed:
1. Operations - Organize pad & drums, totes. Vendor is requesting a special packaging needs.
- ~~possibly~~ possibly collect composite samples of the "brown" product material in the MBA (some) drums.
- continue to prepare water/emergency wash stations.
2. Safety - Buddy system @ all times.
- when operating & rotating drums, watch for pinch points.
- tighten bungs if it's loose.
- Heat stress.. (4-water = 1-Gatorade)
~~3. START~~ - Rained last night, watch for soft grounds & critters.
3. START - air monitor, documentation
Weather forecast: Low 80/High 96, Heat index 108, Sunny most with 20% chance of thunderstorm/showers; wind from S @ 5-10mph

0650 Safety meeting end. ERRS begin activities. STARTs sign Daily Tailgate Safety Meeting Form.

0700 OSC Adams arrive on-site.

0719 START calibrates miniRAE, heads out to check current air conditions around the property.

7/22/11

0723 Weather Temp 83.5°F Wind from NE @ 4.5 mph
Humidity 48% Sunny

0741 START returns to command post, no significant (out of the ordinary) air readings with multiRAE.

0800 ERRS Begin staging MBA drums in Bulk Truck Loading
ERRS begin site maintenance NE of the Processing Building
START continue monitoring, documentation, prepare Daily Report, etc.

1100 ERRS out for lunch.
1140 START Biscotto out for lunch
START Miller demobilizes off-site.
1145 ERRS Back from lunch
1232 - START Back from lunch
- Pallets (250 total) being unloaded from truck delivery by ERRS.

1258 Weather Temp 99.5°F Wind from South @ 4.5 mph
Humidity 46% Sunny.
1325 - ERRS begin segregating drums by classification.
- Bromobenzene
- Bromotoluene
- Bromobased - unknown/illegible
- m & p Bromo anisate
- HCl & HBr (sec acid, 20ft away from rest.
- Rent a Potty maintenance on-site to check site laboratory.



7/22/11

1447 Weather Temp 100.4° Wind from SE @ 4.5 mph
Humidity 45% Sunny.
1511 ERRS RM notified crew 30 min work / 30 mins. break due to heat index 107°F

1530 Planning meeting. OSC-1 / ERRS-2 / START-1
Topics discussed: tomorrow...
1. ERRS continue to segregate various drums by class. See 1325 hrs.
2. Chemical inventory on lab.
3. Transfer drums from 2nd floor of Processing Building to ground.
4. MBA visual characterization on p vs. m-BA drums per verbal request.
5. START waiting on haz shipment software from FedEx. QASP for sample sampling almost approved.

1540 ERRS continue to segregate drums by class.

1730 ERRS / START / OSC secure site. Departs site. End of Day

7/23/11

0630 ERRS/START arrive on-site.

Combined H&S meeting. Attendance: ERRS-8/START-1/OSC-Ø

1. operations - transfer drums from 2nd floor of Process Area to 1st floor
   - take visual of drum contents. Count # of drums
     Clear (Good) vs. Brown (Bad) MBA drums.
   - Continue to segregate drums by classification
2. Safety - situational awareness
   - Buddy system
   - splash risk, no respiratory hazard per ERRS RM.
   - wasp/critters/biological hazards
   - Emergency wash/eye wash on-site
3. START-3 - air monitor, logbook, photo documentation

Weather forecast: Low 75/High 95, Heat index 107; S wind from 5-10mph; Sunny most part but 40% chance rain after 1pm.

0651 Mtg. end/ERRS begin daily activities/START sign Daily Tailgate Safety.

0655 OSC Adams arrive on-site.

0700 START air monitoring using multi RAE - No significant (out of the ordinary) readings

ERRS begin prep for drum relocation from 2nd floor of Process Area to ground level.

0722 Weather Temp. 80.1°F Wind from SE @ 4.5 mph
Humidity 84% Sunny



7/23/11

0810 ERRS chemist noted 3 drums of MBA & a few HBr/mixed organics drums will be transfered to ground level on Process Area.

ERRS begin drum contents transfer from 2nd floor to ground level via pump.

0900 Transfer completed. Collected 2-MBA Bulk drums/2-HBr Bulk drums/3-Non-haz solids drums. Will sample on monday 7/25, per ERRS RM.

ERRS begin segregating drums via classification. See entry on 7/22/11, 1325 hrs. for different classes.

ERRS begin counting (via visual contents) MBA drums in Bulk truck pod. Clear (Good) vs. Brown (Bad) MBA drums.

1030 Counting complete. Per chemist 86-good MBA/16-Bad MBA drums

1110 lunch Break on-site

1210 ERRS continue activities.

1340 Weather Temp 93.9°F Wind from SE @ 4.1 mph
Humidity 70% Sunny

1400 OSC Adams depart site.

ERRS continue to segregate drums. START continue to document, DAR, etc

1730 ERRS/START depart site, end of activities

7/25/11

0630 ERRS/START/OSC arrive on-site.

Combined H&S Meeting: Attendance - ERRS = 8 / OSC-1 / START-1

1. operations - continue to segregate, pack MBA drums; change bumps
   - mark drums to HazCat. Hazcat samples collected.
   - relocates various drums (solids) from 2nd Floor of Process Area.
   - collect composite MBA (good vs. bad) drum contents.
2. Safety - pinch points, cognisant of surroundings, spotter on fork lift.
   - wear respirator on solids.
   - symptoms of dehydration, etc...
3. START - water sample Process Area, Old, New Tank farm.
   - multi-RAE solids in 2nd floor of Process Area; & general areas.

Weather Forecast: Low 79 / High 94, Heat Index 104, 50% chance t-storms

0650 meeting End - ERRS begin daily activities - START sign Daily tailgate.

0700 START calibrates multi RAE, puts on respirator, air monitor
6 drums of solids (various) on 2nd Floor of Process Area.
One ERRS crew opened drums. No significant or high spikes reading. Note = Drums contain mask cartridges, broken test tube vites, Absorbent pads, Powder drums, IDW.
ERRS begin to segregate drums by class. See categories on 7/22/11
ERRS Chemist begin to take solid & liquid samples for hazcatting.
5% of known samples & all unknown samples

0801 Weather temp 86.9°F Wind from ~~2.2~~ E @ 2.2mph
Humidity 79% Sunny.



7/25/11

0900 START head out to collect surface water samples. See approved QASP.
Samples to be analyzed for TAL, VOCs, Total Suspended Solids, Biological oxygen demand, oil & grease, cyanide, & pH. All samples will be entered in SCRIBE. These are the following samples:

0920 Old Tank Farm (GPS 35.107414°N / -90.193096°W)
Sample # DIC-SW06 (MS/MSD)
pH = 5.32 temp = 77°F

1005 New Tank Farm (GPS = 35.107347°N / -90.193095°W)
Sample # DIC-SW07
pH = 4.07 temp = 72°F

1050 Process Area (GPS 35.107218°N / -90.192840°W)
Sample # DIC-SW08
Sample # DIC-SW09 (Duplicate)
pH = 7.41 temp = 73°F

1133 - Sampling end.
- ERRS / START @ lunch.

1205 ERRS / START return from lunch.

1233 Weather temp 95°F Wind from E @ 3.1mph
Humidity 62% Sunny.

START begin to process / pack samples.
ERRS continue to segregate drums by class

7/25/11

1301 ERRS begin HazCatting collected samples. Determine flamability/corrosivity

1429 Ronny Rogers (Crittenden County Emergency Management Coordinator) on-site for a courtesy visit.
Office: 100 Court St., Marion, AR 72364
w-phone: 870.739.3534
email: oemronny@crittco.com

1501 ERRS PM noted that "good" (clear) MBA drums now 89 drums total. "bad" (brown-color) MBA remains 16 in count.

1730 ERRS depart site.
START continue to process samples.

1820 START completes packaging/processing samples.
OSC/START secure site, departs site.
START heads to Memphis, TN Red X.
Note: sample coolers (X2) [see Chain of Custody] will be shipped to Test America-Houston



7/26/11

0700 OSC arrive on-site

0730 START/ERRS arrive on-site.
Combined H&S meeting - Attendance: ERRS-8/ STARTs-1/ OSC-1
Topics discussed:
1. operations - continue to collect samples of unknowns. Level C PPE
- continue to package MBA drums
- rearrange pallets (eye height)
2. Safety - Benzene - respiratory/inhalation
- Acids - skin burn, splash hazards
- stay upwind
- Heat stress
3. START-3 - air monitor - package dangerous goods.
Weather Forecast: L74/H96 Heat index 103; Wind from E@5mph.

0743 Meeting end. ERRS begin daily activities. START sign daily tailgate.

0750 START air monitor (multiRAE) around site. No significant readings.

0811 Weather Temp. 89.6°F Wind from N@1.6mph
Humidity 20% Sunny.
ERRS begin segregating/packing drums for shipment.

0900 Level C PPE, ERRS begin collecting unknown drum samples for HazCatting

0930 ERRS Chemist begin HazCatting activities in the lab.

7/26/11

1100 ERRS out for lunch
1130 START out for lunch
1150 ERRS return from lunch
1208 START return from lunch
ERRS continue to segregate drums by class, collect samples, HazCat.
START gets video documentation of ERRS activities.

1237 Weather Temp 97.3°F Wind from E @ 6.0 mph
Humidity 59% Sunny.

1312 Site sign (w/ EPA, ADEQ, & website info) delivered to site.
Sign placed on the front gate.

1426 Planning meeting w/ OSC, ERRS PM, & START PJM.
Topics discussed:
(Today's completed tasks) 1. 48 HazCat evaluated w/ 8 unknowns.
2. Staged MBA drums clear color vs Brown color - ERRS discovered 4 additional MBA drums. To date: 90 clear MBA vs. 16 Brown MBA.
3. Continue to reorganize drums by class. Re-palletize & change bump as needed. Transferred 7 drums (damaged) to new drums.
(Tomorrow) 1. Relocate 8 drums of solids from 2nd floor in Process Area.
2. Continue to sample, HazCat, Re-organize



7/26/11

1529 Weather Temp ~~99°F~~ 99°F Wind from SW @ 6.0 mph
Humidity 53% Sunny

1607 Two HEPACO - Memphis Rep. on-site to discuss options about Dangerous goods shipment w/ ERRS / START / OSC
1630 Representative depart site.

1730 ERRS / OSC / START secure site. Depart site. End of Day.

7/27/11

0630 START/ERRS/OSC arrive on-site
Combined H&S meeting - Attendance: ERRS-8/START-1/OSC-1
Topics discussed:
1. operations - get additional sample of the "clean" MBA.
- Relocate solids drums on 2nd floor of Process Area building.
- continue to collect samples, Haz Cat.
2. Safety - Harness if using manlift to relocate drums.
- Full PPE for sampling.
- ~~Work to~~ Plan to work/work to plan

0655 Meeting end. ERRS begin daily activities - START sign daily tailgate

0710 START air monitors around property using multi-RAE -
No significant readings.

0725 ERRS collecting additional clean MBA samples.
ERRS begin relocating 6 drums of haz. solids from 2nd floor of Process Area to ground level using a pulley system.
Man lift is not utilized in this process.

0805 Weather Temp 88.3°F Wind from E @ 3.8 mph
Humidity 77% Sunny.

0830 ERRS Chemist continue Haz Cating collected samples.



7/27/11

1030 ERRS ~~AM~~/START PJM/OSC begin packing HBr & MBA samples.
A Courier from Altivas (vendor) will transport these samples. 2-HBr samples & 2-MBA samples Boxed.

1054 ADEQ Reps-(Michael Gates & Brett Baker) on-site to check on removal progress.

1122 ERRS lunch
1157 ERRS back from lunch. Continues activities.

1208 ADEQ depart site.
START depart for lunch.

1256 START Back from lunch.
1330 Weather temp 98.6°F Wind from E @ 5.4 mph
Humidity 42% Sunny

1400 OSC depart site.
1546 Air Pro Heating & Air Rep - on site to check on AC unit malfunction

1650 - manlift picked up by United Rentals.
- 80 samples Haz Cated, to date
1730 ERRS/START secure site. Departs site. End of Day.

7/28/11

0630 ERRS/START arrive on-site.
Combined H&S meeting - Attendance: ERRS - 8 / START - 1 / OSC - Ø
Topics discussed:
1. operations - Drum sampling, Haz Cat, segregate pallets
- organize site, cut grass, etc...
2. Safety - watch out for each other. Don't get complacent.
- Heat stress. Right safety attitude all day.
3. START - air monitor, document.
Weather forecast: Low 78 / High 95; Heat Index 105; Sunny; wind from SSE @ 5-10mph.

0650 Meeting End. ERRS begin daily activities - START sign Tailgate Form

0706 OSC arrive on-site.

0715 START air monitor around property. No significant reading.

0720 - ERRS continue to collect samples for Haz Cat.
Note: this afternoon all unknowns will be sampled.
- ERRS continue to segregate drums
- Haz Cat activities

0900 Weather Temp - 94.9 Wind from SE @ 9mph
Humidity 78 Sunny



1132 ERRS lunch
1215 START lunch
1230 ERRS Back from lunch
1320 START Back from lunch
Hill-Courier for vendor Affinas (J-Alisworth) picked up packaged HBr & MBA JAAD.
ERRS continue with daily activities (see 0720 has entry)

1347 Weather Temp 93.2°F Wind from SE @ 6mph
Humidity 61% Sunny

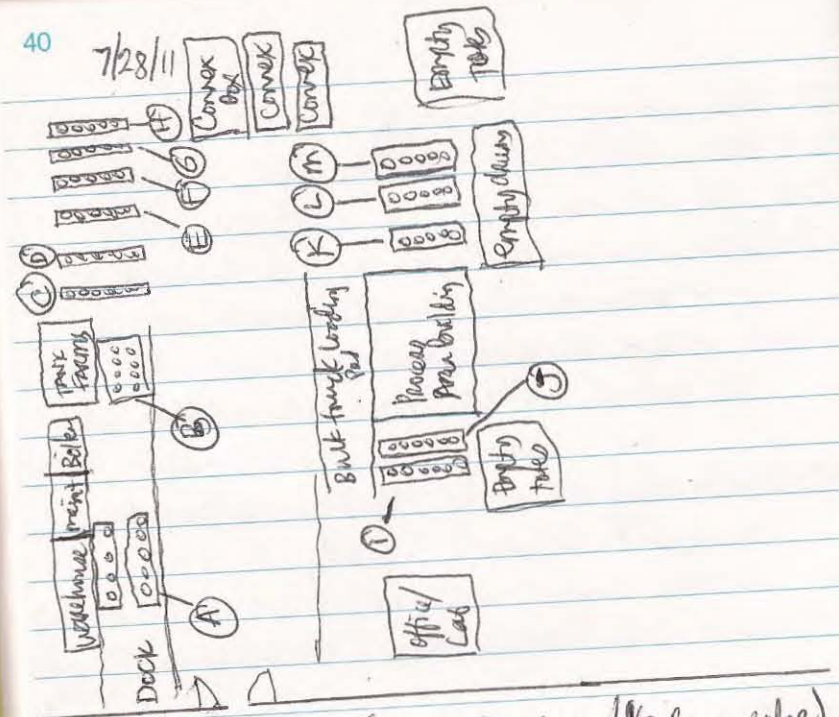
1420 Heat Index 102. Per ERRS PM, work will be 40 mins / 20 min Break
ERRS Continue to segregate drums - START air monitor - No significant reading.

1541 Planning meeting w/ OSC, ERRS, & START.
- today: ERRS continue to segregate.
- tomorrow: - Bulking / pour reducing totes & drums
- Finish sampling / Haz Cating

1625 Weather Temp 97°F Wind from SE @ 6-9mph
Humidity 49% Sunny.

SEE site sketch & drum count (NEXT PAGE)
Segregated by class

7/28/11




(A) m-Bromobenzoate (Count: 90 clear / 16-Brown color)
(B) Toluene (3 rows) (Count: 311 drums)
(C) Toluene (5 rows)
(D) Benzene (3 rows) (Count: 188 drums)
(E) Propyl-bromide (1 row) (Count: 44 drums)
(F) Toluene totes (2 rows) (Count: 21 totes)
(G) Benzene totes (2 rows) (count: 22 totes)
(H) Methanol totes (1 row) (count: 23 totes)
(I & J) Neutralizers & p-Bromobenzoate (count: 42 drums)
(K) HBr (Count: 64 drums / 7 totes)
(L) HCl (Count: 56 drums)
(M) Unknown mixed organics

1730 hours ERRS / START / OSC secure site - Depart facility.



7/29/11

0630 - START / ERRS / OSC arrive on-site.
Combined H&S meeting - Attendance: ERRS-8 / OSC-1 / START-1
Topics discussed:
1. operations - check physical appearance on drums / totes contents
- consolidate / bulk like-drums
- continue sampling / HAZ CAT
- Set up wet decon, if time permits
2. Safety - OSC went through combined HASP for the site.
- watch for center load of gravity, especially with totes
- modified level C, stay upwind
- vapors HBr & HCl strong odor.
3. START - air monitor. Documentation
Weather forecast: Low 78 / High 91, mostly cloudy, winds from SSW @ 5-10 mph, 60% chance of rain & thunderstorm

0701 Meeting end. ERRS begin daily activities. START sign Daily Tailgate

0710 START air monitor. No significant readings.

0725 ERRS begin segregating, collecting samples; HazCat; Bulking drums / totes
Bulking Benzene.

0744 Weather temp. 80.1°F Wind from SSE @ 7.6 mph
Humidity 92% Cloudy.

0840 START video document site activities.

7/29/11

1140 ERRS / START off for lunch
1225 ERRS / START back from lunch

1250 Weather Temp 91.1°F  Wind from NE @ 7.6mph
Humidity 66%  Partly Cloudy
ERRS continue daily activities (See 0725hrs entry)

1300 START air monitors. No significant readings.

1623 Weather temp. 94.3°F  Wind from S @ 6.0mph
Humidity 59%  Sunny

1700 ERRS run reports: - 171 - samples collected / HazCat (2 totes & 169 drums)
- Bulked / combined 23 totes to 9 totes.
- Total: 5% labeled known & 100% unknown were HazCatted.
START received preliminary analytical results from lab on Samples collected on 7/25/11

1730 START / ERRS / OSC depart site.



7/30/11

0630 ERRS / START arrive on-site.
Combined H&S Meeting - Attendance: ERRS - 8 / STARTs - 2 / OSC - Ø
Note: START - Gibson on-site to transition duties / train with START - Biscocho on Daily Activities. START - Gibson will take over START - Biscocho's duties beginning 8/3/11.

Topics discussed:
1. operations - transfer / consolidate totes / drums of organics
- Rearrange N - drum pad.
2. Safety - Fire PPE  - splash
- Heat stress  - situational awareness
- Biologicals  - symptoms - headache
3. START - air monitor
Weather forecast: Low 78 / High 92; Heat Index 103; Wind from SW between 5-10 mph; 50% chance showers; Sunny

0659 Meeting end. START sign daily tailgate. ERRS begin daily activities.

0710 STARTs air monitor properly (EZ). No significant readings.

0730 OSC arrive on-site
0731 Weather Temp 79.3°F  Wind from SE @ 6.0mph
Humidity 94%  Sunny
0930 OSC demobilizes for a scheduled break.

0940 ERRS begin relocating & determining drums (Benzene) that need to be consolidated. (See map of Benzene location on page 40, Log Book 1, 7/28/11.
ERRS begin bulking totes contents.

1205 lunch
1235 back from lunch

1306 Weather temp 94.8°F Wind from SW @ 6.7mph
Humidity ~~94%~~ 60% Sunny
ERRS begin consolidating drum contents (Benzene vs. DBFB vs. Acids), using pump (manual drum pump)

1500 START Gibson depart site

1537 ERRS RM noted Heat Index 103. So ERRS 40 mins work / 20 min break

1606 Weather temp. 96.4°F Wind from S @ 9.8mph
Humidity 51% Sunny.

1730 ERRS/START secure site - depart site



0630 ERRS/START arrive on-site. Note: ERRS FCA Mario Salerno mobilized to the site to replace ERRS FCA Engel (scheduled leave)
Combined H&S. Attendance: ERRS-9/START-1
Topics discussed:
1. operations - organize warehouse building
- Bulk drums using a pump.
- reorganize/stage Benzene drums.
2. Safety - Pyridines (in warehouse), acute drums, poisons.
- Heat stress
- Be cognisant even when there is no scent.
3. START - air monitor, documentation
Weather forecast: Low 80/High 100, Heat index 109
Sunny. Wind from NNE @ 5mph

0651 Meeting End. ERRS begin daily activities. START sign Daily Tailgate Safety Form.

0701 START air reading around site/warehouse.
Result: No significant readings

0715 ERRS begin rearranging/relocating empty totes from the warehouse building.

0722 Weather temp 88.0°F Wind from NW @ 2mph
Humidity 79% Sunny

8/1/11

0940 ERRS start rearranging/staging pyridines steel drums inside the

1008 ERRS begin kulking drums (Benzene) using a compressor. ERRS in PPE (Level C)

1130 ERRS FCA ~~Tammy~~ Tammy Engle demobilizes for a scheduled break

1230 START/ERRS lunch

1315 START/ERRS back from lunch

1327 Weather temp 101.5°F Wind from NE @ 9.2 mph
humidity 45% Sunny.
ERRS RM ~~reports to~~ ~~START~~ informs START that

1340 START air monitor site - Result: No significant high readings.

1401 ERRS RM stated heat index 107. ERRS to work 30mins/Break 30 in

1454 ERRS measure height of tank contents. PPE use.
Tank 6 = 8ft 3in = 4,847 gal
Tank 7 = 13ft. 8.5in = 8,053 gal

1541 ERRS Transportation & Disposal Mr. Douglas (EQM) mobilized onsite
Weather 100.8°F temp Wind from E @ 6.9 mph
49% humidity Sunny



8/1/11

1617 ERRS continue to measure height of tank contents. PPE use.
Tank 8 = 13in substance = 636 gal
Tank 5 = 9in = 441 gal
Tank 4 = 10 feet 6in = 6,169 gal

1730 ERRS/START secure site, depart facility.

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1202 Executive Drive West
Richardson, Texas 75081

**Noel Biscocho**
Scientist

START-3 Field Project Manager.
(Diaz Int.)

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Diaz Intermediates Corp. REMOVAL

CERCLIS # ARR000005843

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Logbook # 2 of 4

TDD#: TO-0001-11-06-03

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CONTENTS Site Logbook #2

| PAGE | REFERENCE | DATE |
|---|---|---|
| | Site Name: Diaz Intermediates Corp. - REMOVAL | |
| | Type of Activity: REMOVAL | |
| | Site Location: 301 Wyanoke Drive<br>West Memphis (Crittenden County), AR 72301<br>Latitude 35.107083° North<br>Longitude 90.193000° West | |
| | CERCLIS No: ARR 00000 5843 | |
| | SSID No: AG04 | |
| | EPA On-Scene Coordinator: Adam Adams<br>ADEQ Field Team Leader: Michael Gates | |
| | START TDD No: TO-0001-11-06-03 | |
| | Logbook No: 2 | |
| | Type of Documentation: Site Logbook of Activities | |

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8/2/11

0630 ERRS/START arrive on-site.
Combined H&S meeting. Attendance: ERRS-8/START-1/OSC-0
Topics discussed:
1. operations - obtain & repair fire hydrant connection
- Fix floor & door to the Break Room.
- Bulk small 5 gal containers using 95 gal polyoverpack
- continue rearranging contents of the warehouse.
- obtain hot trash container for PPE.
2. Safety - PPE, watch for splash hazards
- Get hydrant hose for emergency use.
Weather: Low 80/High 108, Heat Index 108, Wind SSW 5mph
0655 meeting end. ERRS begin daily activities. START sign Daily Tailgate Safety Form.

0709 START air monitor using MultiRAE. Result: No significant readings

0715 ERRS begin arranging, re-staging drums in warehouse
- ERRS begin repairing broken compressor for building.

0740 Weather temp 86.7°F Wind from E @ 3.1mph
Humidity 67% Sunny

0845 ERRS obtained fire hydrant/hose connection for emergency purposes.

8/2/11

0900 EPRS relocating 5-gal buckets from warehouse & staging outside on the loading dock - (temporary placement))
(Blue 5gal buckets) Bromoanisoles } solids
(white 5gal buckets) Bromobenzenes

1102 EPRS replacing door & part of flooring in Break Area for H&S.

1220 EPRS Received email from Vendor Altivos regarding:
1. Sample mBA & HBr received. See notes 7/27/11 @ 1030hrs.
2. P.O. from interested vendor.
3. Details about how to pack drums.
4. Product in drums now cost $0.05/lb FOB, 20 containers to the site per vendor.

1230 START / EPRS lunch
1310 Back from lunch

1337 Weather Temp 102.7°F Wind from W @ 9.2mph
Humidity 42% Sunny.
EPRS continue site maintenance, & of warehouse
START air monitor, Result: No significant readings around warehouse

1430 EPRS completes ~~relocating / cleaning drums~~ relocating drums & cleaning warehouse. Begins relocating MBA drums from loading dock to warehouse.



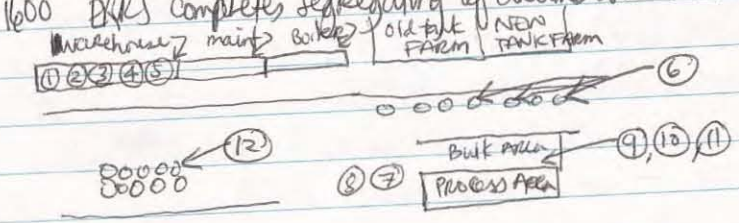
City of West Memphis Utility Dept.
Industrial Pretreatment Program
Director of Environmental Quality

8/2/11

1500 OSC mobilizes to site. Reports that OSC ~~spoke~~ left message with W-Memphis Sanitary Sewer rep. Denise Bosnick 870-702-5141 regarding analytical standards into draining water down sanitary sewer.
(eg @ ci.west-memphis.ar.us)

1540 Weather Temp. 105.6 Wind from NE @ 4.5mph
Humidity 60% Sunny.

1600 EPRS completes segregating of drums around site.




1. MBAs
2. Pyrimidines
3. Red Phosphorous
4. Ammonium Chloride
5. Anisole (steel drums)
6. Crystalized / sludge Bromo Benzene overpacks (white buckets)
7. Crystalized ~~Bromobenzene~~ tri-bromobenzene
8. " p Bromoanisole (Blue 5gal Buckets)
9. p-Bromoanisole
10. p-Bromofluorotoluene
11. p-Bromofluorobenzene
12. Assorted Flammable drums

1730 EPRS / START / OSC secure site - Depart site.

8/3/11

0630 - ERRS/START arrive on site
Combined H&S meeting Attendance
ERRS - 8 / START - 2 / OSC - 1
Topics discussed
1 - operations -
Removing of materials from the Boiler room
organizing of solids in the warehouse
2 - Safety - PPE, Heat and Keep hydrated
Weather - Low 85 / High 103 Heat Index 106 Winds SSW 5.5 mph
06:50 - meeting End ERRS begain daily activities. START sign Daily Tailgate safety form.
07:05 - START Air monitor using mutRAE. Resuti: No Significant Reading
07:15 - ERRS begin arranging, restaging drum from warehouse
- A/C repair guy (Brock Bolden) arrived on site
07:45 - (Brock Bolder) depart site
07:52 - STATESide personal arrived on site to do a walk though with the OSC (Adam Adams to discuss which materials



8/3/11

STATESIDE could use.
08:30 - STATEside personal Tom Cunningham depart site.
= ERRS Took break
09:00 - ERRS START ed Transporting of materials to STATESIDE list and QTY of materials
2 Drum of Hi-Quintex white oil SAE20
1 Drum of Monolec Hydraulic oil SAE20
1 Drum of Almasol Var-Purpose Clean
1 Drum of Mobilcycle Oil Hinered
1 pallet Diatomite
33 PKGS of HyDroCH loRic Solution
10:10 - ERRS begain organizing, segregating and staging the solids out of the warehouse
11:00 - ERRS Took break
11:30 - ERRS begain working on organizing, segregating and cosdating drum according to compatibility
12:02 - START Gibson depart site for lunch.
12:30 - START Gibson Arrive @ site from lunch

8/3/11

12:35 – ERR Took lunch KG
13:00 – Weather 99°F
Heat Index 117°F Winds
SW 8MPH KG
ERR begain Assorted and
consaldation Benz
and sold mateil drums
13:30 – The arrive @ site to ~~unplug~~
remove plug for us to
discharge the secondary
containment liquids into
the sanitary sewer. We
were granted access by
the City of West memphis
Environmental Manager
Denise Bosnick. KG if we
met the Effuent parameters
Weather - Temp 105. Heat Index 123
14:45 – Contd to Assorte and
sergate Benzen drums
ERRS will work a 20/40
schedule work 20mins
rest 40mins due to the
Excessive Heat. KG
1530 – START Gibson conducted
a walk around the site



8/3/11

— to conduct Air monitor No
signhent readings
16:35 – START Observed ERRS
staging and sergating Benzen
and sold drum for shippment
17:07 – ERRS deconing pre-pain
for 8/4/11 activities KG
17:30 – ERRS, START and OSC depart
site End of day KG

8/3/11 [illegible]

8/4/11

06:30 - ERR/START Arrive on site
Combined H&S meeting
Attendance = ERRS-8/START-1
Topics discussed
1- operations - begain discharging from old tank farm.
stabilizing the New tank farm
Contining to consolidating Drums
2- safety - heat stay hydrated PPE, watch for splash hazards
Weather - Low 82°/High 100°
Heat Index 117° winds 5.5mph
07:03 - Meeting end ERRS begin pumpi. out old tank farm.
stabilize the New tank farm
07:08 - START sign tailgate form
07:12 - START conducted Air Monitoring using MultiRAE. Results no significants Readings.
07:30 - START took video of ERRS pumpin out old tank farm.
09:00 - old tank farm was finsh bein pump out
09:05 - ERRS Took break



09:20 - ERRS continued to consolidate Drums
11:30 - ERRS - took lunch depart site.
11:45 - START Gibson depart site for lunch
12:12 - START Gibson Arrive on site from lunch
12:30 - ERRS Arrive @ site from lunch
12:35 - ERRS continued to consolidate drums.
13:25 - ERRS notify start that they had found totes that were leaking on the drum pad. approx 20 gallons of Toluene (Wet Pure) had spilled onto the drum pad.
START conducted Air monitor and took photos around the spill site.
13:30 - ERRS had to move sorting totes to get to the totes that had spilled
13:45 - ERRS consolidated the two totes that were leaking into one drum

8/4/11

14:10 - ERRS Took breake
14:30 - ERRS Begain spreading oil Asbestol on drum pad.
15:00 - ERRS begai consolidating totes that look like could cause a spill.
15:20 - ERRS Took breake
15:50 - ERRS continued to consolidate Totes
1600 - Nicholas Mitchell from United Surplus to see he could use any of the matche on site
16:20 Nicholas Mictenhell depart site


UNITED SURPLUS

NICHOLAS MITCHELL
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- All types of valves and machinery
- All types of electrical wire - new or used
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8/4/11 Ken Mitchell



8/4/11

16:40 - START conducted Air Monitig around the Drum pad. No sigheeling readings.
17:00 - ERRS cleaned office, breake room.
17:30 - ERRS depart site End of day

Ken Mitchell 08/4/11

8/5/11

06:30 - ERRS/START Arrive on site
Combined H&S meeting
Attendance = ERRS-7/START-1/osc
Topics discussed
1-operations - check pH in North Tank farm
Pull all Toluene Totes transfer to steel 55gal c/T Tops
Safety - Heat wearnes, slip, trip and falls
Weather - 79° Winds.
06:56 - Meeting over - ERRS began to segregating and transferre Toluene (Wet Pure) from totes to steel 55gal c/T tops - conducted pH in new T from pH [illegible]
07:00 - START fill out and signed daily tailgate form
07:10 - START conducted Air Monitor while conducted a walk around the site no significant reading
10:42 - ERRS took lunch
Weather 76°
Thunder stroming
11:35 - ERRS continued to Transfer up Toluene from totes to steel drums



8/5/11

12:06 - START depart site for lunch
12:28 - START Arrive on site from lunch
Weather 76° - currently Thunderstorming
1350 - ERRS continued to transfer Toluene from totes to drums
15:30 - ERRS took brake
16:00 - ERRS Rolled up water holes for the next day
1700 - Rolloff Arrives on site
ERRS begain to put old pallets into the rolloff.
17:30 - ERRS/START/ depart site
End of day

[illegible] 8/5/11

8/6/11

06:30 - ERRS/START Arrive on site
Combined H&S meeting
Attending = ERRS-7/START-1
1- Topicas discussed
operations - check pH readings
in New Tank farm.
Sample MBA's
transferre Tolene from
totes to 55 metal drum
2 - Safety - PPE, warenESS and Heat
0650 - meeting End ERRS Began to
pump stormwater from the New
Tank from to the old Tank farm
and then discharging it the
Sanitiex sewer.
-START - fill out and sign daily
tailgate form
07:15 - START walked site conducting
Air Monitoring No signfant readings
07:25 - ERRS checked pH reading
from the New Tank farm
Reading 10.1 and 10.2
07:40 - ERRS check pH reading from
drums of Toluene that had
been transferre from Tote



8/6/11

to drum from the day before.
08:00 - ERRS began to discharge stormwate
from the New Tank farm
~~then to the~~ to the old Tank
farm then discharging it slowly
to the ~~sewer~~ 50 micron bag
then discharing it to the sewer
08:30 - START Took video of the
discharging of the Tank farms
10:00 - ERRS took breaks
10:25 - ERRS began to check the 89
MBA's for Quitly
1045 - ERRS completed checking all
89 MBA's 84 were good 5 bad
10:50 - ERRS began to sample the
84 MBA's
1200 - ERRS stop for lunch
1315 - ERRS began to transferre
Toluene from totes to 55 gal.
drums
1320 - ERRS condinet to discharg
from the Tank farms
1425 - ERRS completed discharging
from the old Tank farm and
New Tank farm

8/6/4

13:05 - ERRS - The pump ERRS using to transferr Toluene from Totes to drum stop working. ERRS fixed pump reruen transferring

16:00 - ERR/START/OSC - checked out the storm shelter on site

16:15 - ERRS Took breaks.

1645 - ERR cleaned breakroom took out trash.

17:10 - Meeting went over todays event

17:30 ERRS/START/OSC/Depart site End of day.

Ken [illegible]



Ken [illegible] 08/06/2011

8/8/11

06:30 - START/ERRS Arrive on site -
combined H&S meeting
Topics -
(1) Operation - sampling of Toluene and Methanol
Transfer Toluene from totes to steel drums
Surgating and consolidating drums.
(2) H&S - PPE, splash and Heat stress.
(3) Weather -
High 90° Low 78°
Heat Index 110-115
Winds SSE
0652 - meeting End
START fill out and sign daily tailgate form
07:10 - ERRS began collecting samples of Toluene Transferring Toluene
07:15 - START conducted Air Monitoring on the site.
09:00 - ERRS began collecting samples of Methanol



10:45 - ERRS completed transfer Toluene from 275 gallon totes to 55 gallon steel drum.
ERRS surgating the MBA's
11:10 - ERR's Waste Management Carlton Gibson Arrive on site to do a profile.
10:40 - Carlton Gibson depart site
11:45 - ERRS depart site for lunch
12:00 - START depart site for lunch
12:20 - START Arrive on site from lunch
12:25 - ERRS Arrive on site from lunch
ERRS continued to sample, MBA.
13:00 - Weather. 98° Winds 2.2 South.
14:15 - OSC Instructed a second start to be on site to do inventory of drums on site
15:00 - ERRS packed samples for shipment
15:30 ERR took break
ERRS went to 30 on 30 off due to Excessive Heat
Weather - 101.7 Winds SWG MPH

8/8/11

1400 – ERRS continued to [illegible] and Consolidate drums

1700 Meeting to discuss today events

Kim Gill 8/8/11



WASTE MANAGEMENT

**Carlton Gibson**
*Industrial Waste Representative*

**WASTE MANAGEMENT OF TN-MEMPHIS**

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3750 Hatcher Circle Memphis, TN 38118
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Kim Gill 8/8/11

8/9/11

06:30 - ERRS/START Arrive on site
Combined H&S meeting. Attendance
ERRS-7/START-1
Topics discussed
1-operations - Inventory,
relocate, segregate and stage
drums and totes
2- Safety - PPE, awareness and
slips, trips and falls
06:40 - Meeting End ERRS and start
began doing Inventory of drum
and totes on the North Drum Pad
~~06:45 - Equipment Arrives on site to~~
~~(Level B equipment) to be used~~ TTC
when transferring Acid from
tank farm.
06:50 - START-collected Air Monitoring
readings using a MultiRAE
plus (No significant readings)
08:30 - ERRS/START - took a break.
08:45 - ERRS/START - continued to
do Inventory.
10:30 - ERRS/depart site to pick up
truck/OSC conducted Safety Audit
11:20 - ERRS Arrive on site to drop
off truck



11:30 - ERRS took lunch
11:40 - START depart site for
lunch/to meet with Justin
12:20 - STARTS Arrive on site.
12:45 - Walk through the site with
Justin Jones (START)
13:20 - START Jones began to Inventory
1400 - Truck load of 200 polys
Arrive on site.
14:10 - ERRS unloaded polys off
truck.
15:00 - ERRS took break.
15:25 - ERRS continued to organize,
and segregate drums
16:20 - Fedex picked up samples
17:00 - ERRS cleaned breakroom
17:00 - ERRS/START depart site

8/9/11

8/10/11

06:30 - ERRS/START Arrive on site
Meeting -
Topics - Invetory, relocating, organizing and segregating drums.
H&S. being aware of sounds, PPE.
06:40 - Meeting End ERRS/START continued to Invetory of drums and totes
06:42 - (Level B) equipment Arrive on site to be use when transform matrix in the tankfarms
07:00 - START collected Air monitor reading using MultiRAE
No sigifen readings
08:30 - ERRS/START took break
08:45 - ERRS/START continued to Invetory.
09:05 - Airgas Arrive on site to drop of oxygen tanks.
11:00 - ERRS took lunch
11:20 - STARTS took lunch
12:00 - ERRS/START continued to Invetory



8/10/11

13:00 - Waste Management Arrive on site to pick up Roll off box but couldn't due to no manifest being signed
15:30 - ERRS took breaks
15:50 - ERRS/START continued to Invetory organize segregating drum and tote
14:50 - ERRS cleaned office
17:00 - ERRS had a debriting on days events.
17:30 - ERRS/START depart site

Ken Gill 8/10/11

8/11/11

06:30 - ERRS/START Arrive on site
combined Meeting Attedeme
ERRS = 7/START - 2
Topcies discussed
The transfer of Hyd Acid
Invetory
Safety - PPE, in case of ER
hydro
Weather, cloudy 74°
S.W. Wing 0 to 9.2 mph
06:58 - Meeting End
ERRS began to stage 55 gallon
poly drum along the side of
The New Tank farm. For the
transfer of Hybrobromic Acid
START - began Invetory
of contars inside the boilder
Room.
0740 - Waste Magment Arrive on
site changed out Rolloff box
09:25 - START depart site to buy
blood pressure Monitor
09:55 - a load of 50 poly and 50
steel drums arrive on site



ERRS unload all 100 drums
off truck
10:20 ERRS took breaks
10:45 ERR began to transfer
Hydrobromic Acid from tank to
located in New Tank farm
11:32 - STATE Rep's Mate Gates and
Jovat Wells. Arrives on site
to conduct a status check
on site.
12:15 - STATE Rep depart site
12:20 - ERRS/START took lunch
13:00 - @ this point ERRS have
transfer 12 55 gallon poly
drum. ERRS contand to
transfer
1350 - START completed Invetory
START create a spread sheet
for Invetory
14:20 - ERRS took breaks
14:45 - ERRS contiuted to transfer
16:15 - START Jones depart site
for the day.
16:50 - ERRS completed 48 drum of travel
17:30 - ERRS/START Depart site

8/12/11

06:30 - ERRS/START Arrived site
Meeting Attendee
ERRS-2/START-1
Topics discussed
continued to transfer Hydrobromic
Acid from tank #6 into New
Tank farm
Safety - Awareness, slips, trips
and falls.
06:45 - Meeting End
ERRS began to transfer Hydrobromic
Acid.
07:00 - The pump truck was being used
to transfer breakdown
07:45 - - ERRS collect and possess sample
of toluene
08:15 - ERRS bulked, repackaged
Aluminum Chloride, Anhydrous
0900 - ERRS took break
09:20 - ERRS continued to repackaged
the Aluminum Chloride Anhydrous
10:30 - ERRS unload a load of 100
55 gallon poly drums
11:00 - ERRS took lunch
11:20 - START took lunch



11:25 - ERRS got a new compressor
11:55 - ERRS began to
to transfer Hy. Acid from
Tank #6 in New Tank farm
into 55 gallon poly drums
12:15 - START conducted Air Monitor
around the work zone
14:00 - ERRS took break
14:25 - ERRS continued to transfer
from tank #6.
15:00 - ERRS completed the
transfer of Hydrobromic Acid
from tank #6 ERRS began
transferring from tank #4
ERRS began rigging tanks
#8 and #4 in New Tank farm
16:30 - ERRS conducted site monitor
17:10 - ERRS had a debrief meeting
17:30 - ERRS/START - depart site.

Ken Gun 8/12/11

8/13/11

06:30 - START/ERRS Arrive on site
Meeting - Attendance - ERRS-7/
START-1-
Topics - Transfering of tank
~~8 and~~ 5 in the new Tank farm
and transfering of Hydrobromic
Acid 48% from 275 gallon totes
to 55 gallon polydrums
Safety - splash, PPE and warnings
06:48 - Meeting End.
ERRS began to transfer Hydrobromic
Acid 48% from tank 5
START conducted Air monitoring
on site no significant readings
09:30 - ERRS completed the transfer
of tank # 5. 19 poly drums
were transfer from tank 5.
09:35 - ERRS took break
10:00 - ERRS began to transfer Hydrobromic
Acid from 275 gallon totes to
55 gallon polys.
11:45 - ERRS/START Took lunch
12:45 - ERRS - ~~began~~ contented to
transfer Hydrobromic Acid from
275 gallon tote to 55 gallon
polys



8/13/11

13:00 - ERRS completed transfer
of Hydrobromic Acid Began
to transfer and consolidating
m-Fluoroanisole (mix) APPX 8-5 gal containers to 1-55 gal poly. (mgt)
14:00 - Contiend to consolidating
Fluoroanisole and began
site maitence
15:00 - START depart site to
demain.

Note: (mgt) P&O ~~Di~~ Bromoanisole (wet mix) bulked APPX 12, 5-gal containers into 1-55 gal poly on 8/13/11, per ERRS RM (8/15/11) (mgt) START-3

Ken [illegible] 08/13/11

8/15/11

0630 START/ERRS arrive on-site. Note: START-3 N. Biscocho mobilized to ~~site on~~ 8 W. Memphis on 8/14/11 to take over START-3 Gibson's START duties on Site.

Combined H&S meeting - START-1/ERRS-6 Attendance

Topics discussed:

1. ops - bulking / consolidating (Level B)
   - Tank 7, Consolidate / drum to 55-gal
2. Safety - Fork lift safety
   - PPE, splash protection
   - vapor pressure, off-gassing
3. START - air monitor, document

Weather Forecast: Low 78 / High 87, Sunny

0642 Mtg. End. ERRS begin prep for the day. START sign Daily Tailgate Safety mtg. Form.

0706 Temp 68.4° Wind 0 mph
Humidity 95% Sunny.

0710 START calibrates & air monitor using multiRAE around property & warehouse. No significant readings.

0720 ERRS begin bulking from totes to 55-gallon poly drums
Totes contain 48% HBr
ERRS begin segregating drums via fork lift



8/15/11

0805 ERRS begin bulking 55-gal x-bromotoluene (cecile) via hand pump.

0845 OSC Adams on-site.

0920 ERRS completes HBr (48%) transfer. Total (12) 55-gal drums filled, labeled, & ready for shipment. To date 120 drums of 55-gal 48% HBr ready for shipment

ERRS begin repackaging 99% HBr (Wet/Pure) from an old 55gal poly to a new 55 gal poly.

1043 Weather temp 86.9°F Wind from N @ 3.1 mph
Humidity 53% Sunny

1103 ERRS/START out for lunch
1140 ERRS/START back from lunch

1150 START air monitor. No significant readings
1224 Weather Temp 89.4°F Wind from W @ 10.7 mph
Humidity 43% Sunny.
ERRS continue to bulk drums, repackage, label, etc....

1446 OSC sends email to START from EPA Region 4 CERCLA & RCRA Enforcement Paula Whiting (dated 8/12/11 @ 1544 hrs). Email states that Waste Management, Inc in Robinsonville, MS is acceptable to receive waste regulated by the

8/15/11

CERLA Off-site Rule. EPA advised ERRS TEAM to contact the RCRA & OPA Enforcement within 60 days of continued acceptability.
Paula A. Whiting (RA CERCLA_ Off Site Contract @ epa.gov)
RA CERCLA off-site Contract
RCRA & OPA Enforcement & Compliance Branch
USEPA Phone: 404-562-9277

1515 Weather Temp 93.7°F Wind 6.0 NW
Humidity 40% Sunny

1700 Planning meeting & Summary of activities w/ ERRS & START.
- 3 totes 48% HBr transferred to (12) 55-gal poly
- (40) 55-gal poly Wet/Pure HBr repackaged to (40) 55-gal poly
- Bulked all X-bromotoluene to (8) 55-gal poly
- Bulked all OBFB dibromotoluene to (8) 55-gal poly.
- Bulked/repackaged (1) 30 gal Aluminum chloride anhydrous to a 55-gal open top poly.

Tomorrow: - (13) $AlCl_2$ 55-gal poly will be shipped out.
- Lab containers to be ~~packet~~ packed & will be shipped out.

1730 ERRS / START / OSC secure site - Depart site



8/16/11

0630 START / ERRS arrive on-site.
Combined H&S meeting - Attendance: ERRS - 6 / START - 1
Topics discussed:
1. operations - ~~Bulking~~ & transferring HBr 99% from tank #7
- Trudeke on site to lab pack lab chemicals
- Bulking X-Bromotoluene & di-bromotoluenes.
2. Safety - splash hazards, vapors, etc...
- Heat stress symptoms.
3. START - air monitor, document
Weather forecast: High 89 winds from E @ 5 mph, Sunny

0640 Meeting end. ERRS begin daily activities.

0652 START-3 air monitors warehouse & around site. No significant readings.
ERRS begin prep for Level B HBr transfer.

0720 ERRS begin to transfer HBr (99%) from tank #7 into 55-gal poly. Level B. START video & photo doc.

0741 Weather temp 79° Wind from NE @ 1.2 mph
Humidity 68% Sunny

0810 OSC arrive on-site.
ERRS begin bulking X-Bromotoluene & m-bromotoluene.
Level B - Hand Pump.

8/16/11

1100 ~~Tradebe~~ Tradebe on-site to collect / lab pack materials
- Lab pack lab chemicals, document, etc...
Reps-on Site (James Monogi / James Bragg)
Rep off-Site (Giovanni Rumbulo 219-397-3951)
from Millington, TN

1150 Lunch Break

1215 Back from lunch. START air monitor. No significant Readings

1222 EPPO continue to Bulk drums
EPPO continue to transfer tank #7 contents

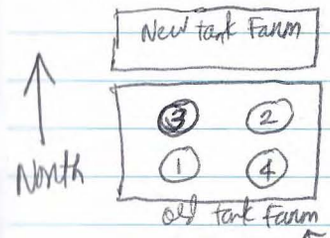
1347 Tradebe loaded truck ~~departs~~ signs manifests, departs site with:
- Lab Packs (chemicals from lab)
- Ferric chloride (2) 55-gal
- Aluminum chloride (13) 55-gal
- ~~Red~~ phosphorous (1) 55-gal
- Non-RCRA Regulated material (1) 55-gal.
- etc... See waste manifests 007672865 & 007672864

* Note: (1) 55-gal $AlCl_2$ remains on-site. It contains $AlCl_2$ & liquid from ~~3rd~~ Flow of Process Building. Currently stay

1440 START & EPRS RM verified contents on Old Tank Farm via labels on tanks. START photo document. Cont...



map sketch should look & be modified to:




According to labels on tank:
1 - Benzene
2 - 50% HBr Aqueous waste
3 - p-Bromofluorobenzene (wet/pure)
4 - 50% HBr Aqueous waste

* Note the changes on the sketch!!

1614 EPRS FCA mobilized to Site
1617 Weather Temp 88.5° Wind from NE @ 4.5 mph
Humidity 49% Partly Cloudy.

1643 EPRS / START meeting. Today's completed activities:
- (108) 55-gal poly filled with 99% HBr (wet/pure) from AST tank #7.
- x-bromotoluene (XBT) crude consolidated/decreased 55-gallon poly by 6-drums.
- XBT (bottoms) decreased/consolidated 55-gal drums by 3-drums
- XBT (technical) decreased 55-gal poly by 1-drum.
- di bromotoluene (DBT) crude decreased 55-gal poly by 22-drums
- DBT (high purity) decreased by 1-drum.
- DBT (technical) decreased by 1-drum
- Lab Packs / $AlCl_2$ / etc... shipped off-site. see waste manifests

1130 EPPO / OSC / START secure site. Depart site.

8/17/11

0630 START/EPRS arrive on-site -
Combined H&S meeting - Attendance EPRS-7, START-1
Topics discussed:
1. operations - measure contents of AST Tank 7
- continue to bulk/consolidate drums
2. Safety - splash hazards, PPE
- vapor
3. START - air monitor, documentation
Weather forecast: H89, 20% chance rain, sunny.

0649 Meeting end - EPRS prepare for daily activities.

0653 START air monitor warehouse & around site - No significant readings

0740 Weather Temp 75.7°F Wind from E @ 3.8 mph
Humidity 87% Raining
EPRS on temp - shut down.

0805 Rain stops - EPRS resume work. EPRS begin re staging drums. Pump rain water from Bulk Truck Pad to New Tank Farm.

1050 EPRS transfer Toluene (Recycled) from a 55-gal poly to a shipable 55-gal steel drum



8/17/11

1100 EPRS out for lunch
1115 ADEQ Rep. Baker/Gates on-Site to get an update.
1145 ADEQ Reps. depart site.
EPRS back from lunch.
EPRS begin HBr 99% transfer from AST tank 7 to 55-gal poly. (Level B.)

1159 Weather Temp 84.2°F Wind from SE @ 3-8 mph.
~~B.P. off~~ Sunny

1230 OSC demobilizes off site for an EPA Response Duty.
START out for lunch.

1302 Back from lunch. START air monitor around site.
No significant readings

1700 Afternoon meeting with EPRS/START.
Today: (45) 55-~~poly~~ gal. poly filled from 99% HBr AST tank 7
(1) Toluene (recycled) transferred from one poly to 55-gal steel drum.

1730 EPRS/START secure site. Departs site.

8/18/11

0630 START/ERRS arrive on-site.
Combined H&S meeting: Attendance: ERRS-7/START-1
Topics discussed.
1. operations - verify QA/QC inventory list. Maintenance
- continue transfering HBr to 55-gal poly.
2. Safety - pay attn. to air line hose
- cracks on drums, vapor, stay up wind.
3. START - air monitor. Document.

0643 meeting end. ERRS prep for activities. START sign Daily Tailgate form.

0701 START air monitor warehouse & around site. No significant readings.
ERRS begin maintenance around Site.

0715 START/ERRS begin QA/QC drums inventory & locating drums.

0742 Lightning/thunder around Site followed by rain. ERRS/START inside the office.
Weather temp 79.7°F Wind from NE @ 7.6mph
Humidity 86% Cloudy/Lightning/Rain

0948 Lightning stops. ERRS/START resume work. ERRS begin pumping Rain water from tank lift pad, Process area, Bulk truck pad, & North sump pad to Old & New Tank Farm 2ndary containment.
ERRS/START resume QA/QC of drums.



8/18/11

Weather temp 71.8°F Wind from NNW @ 12.1mph
Humidity 99% Cloudy

1100 ERRS lunch
1110 Waste Management on-Site collect non-haz debris.
1130 Waste Management signs manifests, depart site.
START lunch, ERRS Back from lunch.

1205 START Back from lunch. Air monitor around property,
No significant readings.
ERRS back pumping water to Old/New Tank Farms.
ERRS/START continue counting drums.

1238 Weather Temp 76.6°F Wind from SW @ 5.4mph
Humidity 92% Partly Cloudy.

1250 (70) 55-gal close top poly delivered on-Site.

1305 - Transfered (4) leaking 55-gal HBr poly 99% drums to new poly drums
- Rain water from New Tank farm transfered to Old Tank Farm

1700 ERRS/START meeting. Activities today (see notes above),
pH on both Tank Farms 2ndary containment = 3.0

1730 ERRS/START secure Site. Depart Site.

8/19/11

0630 START/EKRS arrive on-site.
Combined H&S meeting. Attendance: EKRS-7/START-1
Topics discussed:
1. operations - Finish transfer of HBr 99% from tank 7 to 55-gal poly.
- Sample Benze & Bromopyridine-2, package, ship off.
- transfer Benzene to 55-gal poly.
2. Safety - transport of bromopyridines
- incompatability, poison, vs. flammable, 20ft spacing
- pH vs. potency
- corrosive
3. START - air monitor, document
Weather forecast: High 93, sunny all day

0650 Meeting end. EKRS prep for activities. START prepare air monitor.

0701 START air monitor warehouse & around site. No significant readings

0710 EKRS transfer 99% HBr from AST tank 7 to 55-gal poly. Level B.
EKRS stage Bromopyridine-2 55-gal steel drums from warehouse to dock.

0930 HBr transfer complete. 99% HBr = 29 drums transferred today
To date: 99% HBr 55-gal poly = 220 drums labeled
48% HBr 55-gal poly = 128 drums labeled



8/19/11

0930 Cont.. EKRS measure drum contents on AST tank #1, Benzene = 3-5in content.
Per EKRS RM, plan to to:
- transfer Benzene to 55-gal poly.
- take sample of Benzene from polys (32 oz)
- Empty tank to fill in with organics/water mixture.

0938 Weather temp 86.7°F Wind from NE @ 3.8 mph
Humidity 75% Sunny

0950 EKRS pumping water from 2ndary containment on Old tank Farm to 2ndary containment on New tank Farm to gain access to the valve on the bottom of Tank #1 Benzene (AST).

1026 Sampling of Bromopyridine-2 (Wet/Pure) Poison located on loading dock. 32-oz sample, package, deliver to Millington, TN (Trateke Company). Level B.
EKRS consolidated 27 (empty) 55-gal steel, &
(2) 5-gal buckets Bromopyridine
Remaining on-site: 2 (½ full) 55-gal poly. Will be consolidated in the future.

1105 EKRS lunch
1140 EKRS back from lunch.
EKRS continue prep for Benzene transfer to polys.

8/19/11

1215 START lunch
1242 START back from lunch.
1244 Weather temp 86.2°F Wind from E @ 3.1mph
Humidity 76% Cloudy
START air monitor around site - No significant readings

1300 EMRS begin transfer of Benzene from AST tank #1 to 55-gal poly.

1400 Tank #1 empty. Total Benzene drums = (4) 55-gal poly
32oz. sample collected Benzene, Hazmat Pack, labeled

1415 Drum/site maintenance - Restaging drums for methanol transfer tomorrow.

1619 Weather Temp 94.1°F Wind @ SE
Humidity 58% Sunny.

1730 EMRS/START secure site / depart site.



8/20/11

0620 START/EMRS arrive on-site.
Combined H&S meeting. Attendance: EMRS - 7/START - 1
Topics discussed:
1. operations - neutralize New Tank Farm w/ NaOH caustic soda.
- Transfer methanol from totes to 55-gal poly.
2. Safety - potency, vapors, hydrocarbons, vapor space, PPE
- noise stress & 85 decibles.
3. START - air monitor, documentation
Weather forecast: High 95, Sunny w/ 30% chance of rain/T-storms

0642 START calibrates multiRAE: VOC (Isobutylene), $H_2S$ (Hydrogen Sulfide), LEL (methane), $O_2$ (Oxygen 20.9%vol), CO (carbon monoxide)
0702 Air monitor around warehouse, site, & EMRS work area.
No significant reading. Monitor left @ EMRS work area for the day

0744 EMRS circulates sodium hydroxide (caustic soda) in water in secondary containment New Tank Farm. Initial pH 4.0. Level C
EMRS continue to prep for methanol transfer. Grounding, etc..

0815 EMRS begin methanol transfer from 275-gal totes to 55-gal steel.
Grounding used. Level B. multiRAE monitor.

1048 Weather 93.6°F temp 3.1 mph from E winds
67% Humidity Sunny.
1135 Lunch Break

8/20/11

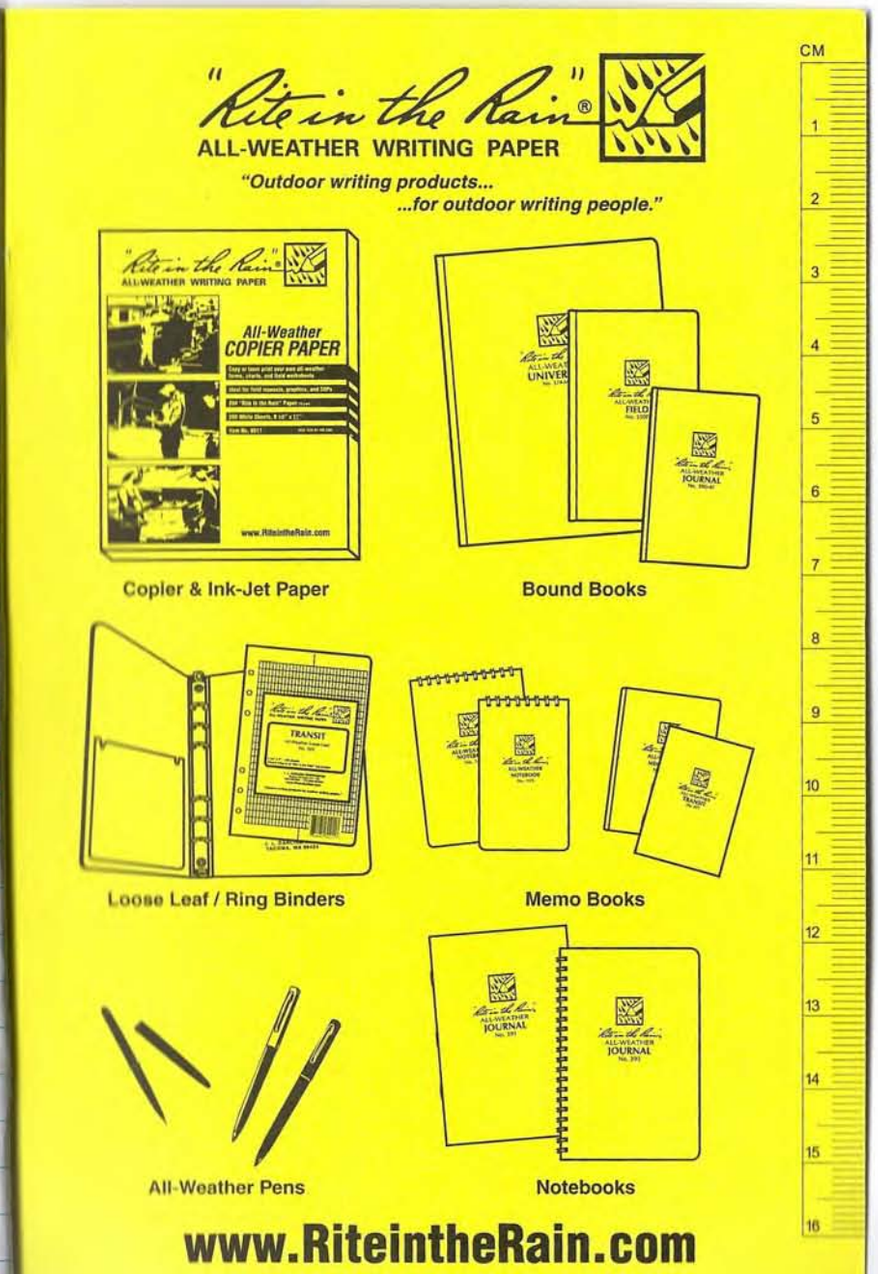
1210 Back from lunch. START air monitors. No significant readings
ERRS continue to transfer methanols to steel drums.

1312 Weather temp 86.9°F Wind from NE @ 9.2mph
Humidity 73% Sunny.

1330 ERRS checks (9) 55-gal poly of methanol. Segregates the ff:
-(8) 55-gal poly containing red/brown color (poss. Bromination)
-(1) 55-gal poly clear methanol. Per ERRS Rep, will be transferred to a steel drum @ a later date.

1700 ERRS/START team meeting - Summary of activities.
1- See entry on 1330 hrs.
2- (10) 275-gal totes of methanol transferred to (47) 55-gal steel drums.
3- 60 lbs. of NaOH circulated around secondary containment @ New Tank Farm. Ending pH is 6.0. Per ERRS Rep, will check pH again on Mon 8/22/11 before draining to sanitary sewer.

1730 ERRS/START secure site - Depart site.

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Logbook # 3 of 4

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CONTENTS Site logbook #3

| PAGE | REFERENCE | DATE |
|---|---|---|
| | Site Name: Diaz Intermediates Corp - Removal | |
| | Type of Activity: Removal | |
| | Site location: 301 Wyanoke Drive<br>West Memphis (Crittenden County), AR 72301<br>Latitude 35.107083° North<br>Longitude 90.193000° West | |
| | CERCLIS No: ARR 000005843 | |
| | SSID No: A6 C4 | |
| | EPA On-Scene Coordinator: Adam Adams<br>ADEQ Field Team Leader: Michael Gates | |
| | START TOD No: TO-0001-11-06-03 | |
| | Logbook No: 3 | |
| | Type of Documentation: Logbook of Activities on-Site | |

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08/22/11

0630 START / ERRS arrive on-site.
Combined H&S meeting. Attendance = ERRS - 7 / START - 1
Topics discussed:
1. operations - circulate water in New tank farm, check pH
- pump water to sanitary sewer if parameters are right.
- organics / mixed water transfer in tank #1.
- maintenance around site.
2. Safety - vapor space, splash hazard
- slip, trip, fall
3. START - air monitor, documentation
Weather forecast = High 85, Sunny

0640 Meeting end. ERRS prep for daily activities. START sign daily tailgate.

0655 START air monitor in warehouse & around site. No significant readings.

0705 ERRS circulate water around 2ndary containment in New Tank farm using a pump.

0719 START / ERRS check pH of 2ndary contained in NTF. pH = 6.6

0725 ERRS begin (slow) pump to sanitary sewer via a 50 micron filter unit. (Note = used Permit # 27 City of W Memphis Ordinance No. 1714 as a reference. See PDF on files)

0740 Weather temp 84.4°F Wind 0.8 mph from NE
Humidity 97% Sunny

8/22/11

0813 ERRS begin transfer of organics & water mixtures (i.e. MFBF non-distilled water, Area A Pit water, etc...) from totes to AST Tank #1 (empty) via a pump. multi PPE unit during transfer, Level C.

1132 lunch break

1210 back from lunch. START air monitor.

1215 ERRS continue to pump water ~~off~~ (not) to sanitary sewer via 50 micron filter.
ERRS continue to transfer mixed waters from totes to AST, Tank 1.
Air monitor throughout. Level C.

1314 Weather temp 97.5°F Wind from E @ 3.1 mph
Humidity 56% Sunny

1715 Combined meeting, Today's completed tasks:
1. Completed drain of water from 3rd any containment NTF to sanitary sewer
2. Totes emptied to AST, Tank #1: → # of totes emptied

| | |
|---|---|
| MFB95 (WP) Fractionation | 1 |
| MBFB 99 (WP) fractionation | 1 |
| MBFB (H) undistilled $H_2O$ | 6 |
| MBFB (H) overhead $H_2O$ | 3 |
| DBFB/Dibromotoluene $H_2O$ (H) undistilled | 3 |
| Area A - Pit water (Zinc) | 1 |

1730 ERRS/START secure site. Depart site



8/23/11

0630 START/ERRS arrive on-site.
Combined H&S meeting: Attendance: ERRS-7/START-1
Topics discussed:
1. operations - continue totes/mixed water transfer to AST, Tank 1.
- prep & continue methanol transfer.
- maintenance around site.
2. Safety - PPE, vapor space, splash hazard,
- Heat stress, slip/trip/fall
3. START - air monitor, documentation
Weather forecast: Low 80/High 95, Heat Index 105, Sunny

0643 meeting end. ERRS begin prep for day. START ~~ale~~ sign HASP.

0650 START air monitor around warehouse & site. No significant readings

0720 ERRS begin transfer of mixed water from totes to AST, Tank 1.
Air monitor in progress, Level C. Summary of totes @ COB
ERRS site maintenance (cut grass, etc..).

0756 Weather temp 83.7°F Wind from ~~2.2~~ East @ 2.2 mph
Humidity 77% Sunny.

0841 Steel drums (70 total) delivered to site.
0945 Pallets (100) delivered on-site.

8/23/11

1023 Transfer of organics/mixed waters in AST, Tank 1 complete.
- ERRS measure contents of AST, Tank 1.
  - 11 ft. 9 in full (w/ 5ft. 3in open space)
  - Calculated to 6,897.25 gal content (tank label says 9,987.8 gal capacity.)
- List of emptied totes (today only) will be listed on end of day.

ERRS begin prep for methanol transfer

1025 START Recieves replacement multiRAE (from TRS) with an 11.7eV lamp Bulb installed.

1130 lunch

1135 Back from lunch
ERRS continue to prep for methanol transfer.
START air monitor around site. No significant readings.

1317 Weather temp 98.4°F Wind from SW @ 4.5mph
Humidity 55% Sunny

1415 OSC Mike McAteer mobilizes to site.

1430 ERRS begin to transfer methanol from 275-gal totes to 55-gal steel drums. ERRS checking for discoloration using a drum thief. multiRAE air monitor.
Level C. Saranex



8/23/11

1715 Combined meeting. Summary of today's activities.
1. Site maintenance (cut grass)
2. methanol transfer from totes to 55-gal steel drums.
   - number of totes decreased = 5
   - number of steel drums filled: 23
   - labeled & ready for shipment.
3. Liquid (in totes) transfered to AST, Tank # 1 :→

| | # of totes |
|---|---|
| Area A, PH water zinc → | 4 |
| DBFB/Dibromotoluene undistilled water | 2 |
| MBFB (R) undistilled water | 1 |
| MBFB 99 (up) Fractionation | 2 |
| m-Bromobenzoate & Process water | 1 |

1730 ERRS secure site. START/ERRS/OSC depart site.

8/24/11

0630 EPRS / START arrive on-site.
Combined H&S meeting: Attendance: EPRS - 7 / START - 1
Topics discussed:
1. operations - Finish methanol transfer from totes to 55-gal steel drums
- stage unknown drums & misc. drums away from dock.
- SGS Industrial services on Site to collect HBr samples
- maintenance
2. Safety - Splash hazards, vapor pressure, vapors, PPE
3. START - air monitor, document
Weather forecast: High 88, Cloudy, 50% chance rain / thunderstorms

0645 Meeting over. EPRS prep for daily activities

0701 START air monitor - multi RAE 11.7 eV ckts. Around warehouse, Site, etc... No significant readings
EPRS begin staging drums around the warehouse

0722 Weather temp 77.7°F Wind from West @ 8.3 mph
Humidity 88% Cloudy.

0814 OSC Arrive on-site
0840 Lightning / Rain. EPRS stop work
0953 EPRS resume work. Weather temp 75.0°F Wind from SE @ 6.9 mph
humidity 87% Cloudy / Rain
EPRS continue to sort MeA drums in warehouse - prep for shipment.



8/24/11

1017 SGS Industrial Services On-Site (Rep: Dennis Dominique) (1041 Harbor Ave, Memphis, TN) to collect HBr samples.
- waits due to cloudy / rainy conditions.

1105 AirGas company on-site to replace / fill up air tanks.

1130 lunch

1205 Back from lunch. EPRS continue prep for methanol transfer.
1257 Weather temp 77.4°F Wind from SE @ 6.0 mph
humidity 94% Cloudy
START air monitor around site - No significant readings.
1340 SGS Industrial Services (see entry on 1017 hrs) collects samples, packaged, & depart site. Two (1-quart) samples collected:
30% assay HBr = 48% HBr drummed from Tank #6
46% assay HBr = 99% HBr drummed from Tank #7

EPRS begin methanol transfer from totes to 55-gal steel drums.
multi-RAE use - Level C.
Site maintenance & stage drums continues.

1715 Combined meeting: Today's activities
1. Collect two (1-qt) HBr samples (see 1340 hrs entry)
2. Transfer ~~HBr~~ methanol from totes to forty (40) 55-gal steel drums. To date: total 109 methanol 55-gal steel.
Note: (8) 55-gal poly of "bad" (bromated) methanol
1730 EPRS / START secure site. OSC / START / EPRS depart site.

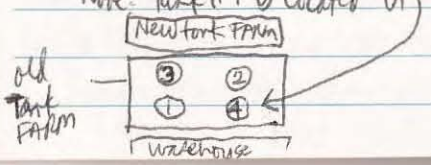
8/25/11

0630 START/ERRS arrive Site.
Combined H&S meeting. Attendance = ERRS - 7 / START - 1
Topics discussed:
1. operations - re-stage drums.
- re-drum purge Annisates UN 2222
- continue methanol transfer from totes to 55-gal steel.
2. Safety - splash hazards, slip/trip/fall
- humidity
3. START - air ~~site~~ monitor. Documentation
Weather forecast: High 95, Partly Cloudy, Heat index 105.

0645 meeting end. ERRS prepare for daily activities. START calibrate multiRAE

0701 START air monitor in warehouse & around Site. No significant readings.

0805 ERRS begin transfer of acid mixtures (i.e. hydrochloric/hydrobromic mix, hydrochloric acid 48% bottoms), etc..) & unknown liquids from 55-gal polydrums, with pH less than 4, to AST, Tank #4. Level C.
ERRS begin checking pH of unknown drums south of the conveyor belt. Anything <4 pH will get transferred to AST, Tank #4.
Note: Tank #4 is located in






8/25/11

0813 Weather Temp 79.2°F Wind from SE @ 5.4 mph
Humidity 85% Sunny

0815 OSC McAteer arrive on-site.

1030 ADEQ Jonathan Wells on-site to get an update / site walk with START Biscotto & ERRS Rm Edgington.

1110 ADEQ Wells depart site

~~1120~~ ERRS out for lunch

1122 START / OSC out for lunch

1142 ERRS Back from lunch ~~not~~
- continues ~~methanol~~ acid mixture transfer. Level C.

1210 START / OSC Back from lunch
START air monitors around Site. No significant readings.

1416 Weather Temp 91.6°F Wind from W @ 4.5 mph
Humidity 65% Partly Cloudy.

1600 ERRS continue to locate unknown drums (no label), pH drums, segregate, & stage drums.

1715 Meeting. Summary of today's activities:
1. pH of unknown drums determined. Unknown drums segregated into two categories: acidic (pH of less than 4

8/25/11
cont...

& basic (pH ~~less than~~ greater than 7). (46) 55-gal poly with acidic unknowns were transferred to AST, Tank #4.

2- (47) 55-gal poly drums containing acid mixtures (see list below) were transferred to the above ground storage tank #4.

Hx (Recycle) Hydrochloric acid / hydrobromic mix = 33 poly
hydrobromic acid 48 (bottoms) = 13 poly
Hydrochloric acid 20 BE = 1 poly
total = (47) 55-gal poly

Measure Tank #4 = 5 ft. 4 in product = 3,136 gal product.

1730 ERRS/START secure site. ERRS/OSC/START depart site.



8/26/11

0630 ERRS/START arrive on Site.
Combined A&S meeting - Attendance: ERRS-7/START-1
Topics discussed:
1. operations - transfer di-Bromoanisoles to shippable containers
- continue with mixed acids transfer to tank 4.
- consolidate/repack misc. drums (i.e. take off overpacks)
2- Safety - PPE, splash hazards, vapor hazards
- slip / trip / fall.
3- START - air monitor, documentation
Weather forecast: High 90, Winds NNE, Sunny

0642 Meeting end - ERRS begin daily activities. START calibrates multiRAE

0650 START air monitors around Site & warehouse. No significant readings.

0700 ERRS collects 32oz. samples of ~~MBA~~ mbromoanisole & m-Bromoanisole (wet/pure) for Testate. Packages & prepare for delivery.

0720 ERRS begin transfer of di-bromoanisoles from (blue) 55-gal steel drums to shippable 55-gal steel drums. Level C - multiRAE
ERRS begin transfer of mixed acids (and liquids that have a pH of <4) to tank #4. Face shield, apron.
Full list of transferred materials listed @ end of day.

0815 Weather Temp. 81.1°F Wind from W @ 3.8 mph
Humidity 68% Sunny

8/26/11

1100 lunch

1132 Back from lunch. ERRS begin transfer of overpacks to shipable containers. See list @ end of day.

1145 ERRS FCA off-site to deliver MBA samples (x2) collected @ 0700 hrs. to Millington, TN (Vendor: Tradebe)

1500 ERRS cease transfer to Tank #4 due to faulty equipment. Will start again on Mon. 8/29 when replacement arrives. ERRS will continue transfer of overpacks to steel drums.

1544 Weather Temp 94.8°F Wind from W @ 5.4 mph
Humidity 41% Sunny

1710 Combined meeting - Summary of today's activities:

1. di-Bromoanisoles, UN 2222, Flammable flash point 110°
   (6) 55-gal transferred to (6) 55-gal steel drums (shipable)
   (5) 55-gal viscous/solids → will be transferred @ later date.
   (4) 55-gal empty & nothing to transfer.
2. Dibromobenzene (R) for debromo. Start with (18) 55-gal steel drums & consolidated to:
   (3.5) 55-gal steel drums (liquid)
   (1) 55-gal steel drum (solid)
3. Toluene (wet/pure). Bulked (2) drums to (1) 55 gal poly drum
4. Overpacks transfer:
   (1) Toluene → 55 gal steel drum (1)



cont...

Overpacks (cont..)
   (1) Anisole → 55-gal steel drum (1)
   (1) Bromobenzene → 55-gal steel drum (1)
   (3) x-Bromofluorobenzene → (3.5) 55 gal poly drums
   (1) p-fluoroanisole → 55-gal poly (1)
5. mixed acids & unknown w/ pH < 4 transferred to tank #4:
   (8) mixed organics neutralized 55 gal poly
   (8) mixed overhead organic water (+) 55-gal poly.
   (1) undistilled MBFB (pH 3) 55 gal poly
   (7) Unknowns with pH < 4 55-gal poly.
   24 ~~total~~ 55 gal transferred to tank #4
   Total height of Tank #4 = 7 ft. 2 in
   Approx. gallon contents = 4,214 gal liquid

1730 ERRS/START secure site. USC/ERRS/START depart site

08/27/11

0630 START/EWRS arrive on-site.
Combined H&S meeting - Attendance: START-1 / EWRS-7
Topics discussed:
1. operations - Re-pack, consolidate misc. drums on Bulk Truck Pad.
- site maintenance
2. Safety - splash hazards, vapor pressure, slip/trip/fall
3. START - air monitor. Documentation
Weather Forecast: Low 75/High 92, Winds from NNW, Sunny

0645 Meeting end. EWRS prepare for activities. START calibrate monitor

0650 START air monitor around site & warehouse - No significant readings.

0705 EWRS site maintenance (cut grass, etc...)
EWRS begin transfer of misc drums & contents of overpacks to 55-gal poly drums. Level C. multiRAE use.
See complete list of transferred materials by end of day.

0806 Weather Temp 79.5°F Wind from W @ 3.1 mph
humidity 76% Sunny

1145 lunch Break
1220 EWRS/START back to work. EWRS continue site maint./drum transfer.

1300 START perimeter air monitor - No significant readings.
EWRS air monitor/multiRAE during drum transfer.



8/27/11

1323 EWRS PCA depart site for the wkend.
1416 Weather Temp 95.2°F Wind from NE @ 3.8 mph
Humidity 42% Sunny!!!

1710 EWRS complete today's activities. Summary:
1. Overpacks transfer:
(2) Bromotoluene $\xrightarrow{\text{into}}$ (1) 55-gal poly
(2) Bromofluorobenzene (possibly methanol) $\xrightarrow{\text{into}}$ (2) 55-gal steel
(3) Bromobenzene fine debrome $\xrightarrow{\text{combined}}$ with other drums
Benzene fine debrome
(1) p-Bromoanisole $\xrightarrow{\text{combined}}$ with other drums w/ p-Bromoanisole
(1) Bromobenzene $\xrightarrow{\text{into}}$ (1) 55-gal poly

Note: (2) overpacks were empty & therefore no transfer needed

2. Per EWRS pm, drums on-site:
~~645 drums~~
1480 drums on-site
22 totes
to-date

1730 START/EWRS secure site. Departs site.

8/29/11

0630 ERRS / START arrive on Site.
Combined H&S meeting. Attendance: ERRS-7 / START-1
Topics discussed:
1. Operations - Bulk small 5-gal/30-gal containers
- Finish acid mixture transfer (liq. pH <4) to AST tank 4
- Continue organic transfers to AST Tank #1.
- Site maintenance
2. Safety - splash hazard, inhalation, VOCs, PPEs
3. START - air monitor. Documentation
Weather Forecast: Low 64/High 88, Sunny

0647 Meeting End. ERRS prepare for activities. START calibrate air monitor.

0701 START air monitors warehouse & around Site. No Significant readings.

0708 Site maintenance, drum segregation

0715 ERRS begin bulking/consolidating in Bulk Pad (i.e. dibromoacetate in 5-gal buckets, etc..). Complete list @ the end of day.

0806 Weather temp 72.9°F Wind from N @ 1.6 mph
Humidity 76% Partly Cloudy

0935 Memphis Drum Services delivers 30 poly (55 gal) drums.



8/29/11

1000 Replacement compressor arrive on Site. Transfer of liquids with pH <4 continues. Face shield/apron use. 21 drums total to transfer to tank #4

1010 START / OSC Adams receives email from ERRS T&D regarding samples:
Tradebe Vendor from Millington, TN stated samples sent:
- Toluene is not toluene
* - (Wet/Pure) is Bromomethylbenzene BTU 10,000 5.7% HOX
- (Recycled) has 2 layers: Top has 1% HOX, bottom is water.
- methanol has 1.5% HOX, 7% water, & 5,000 BTU.
- not good for recycling
- Solvent-142 mechanic parts is good. (1) drum
(45) 55-gal poly N-propyl bromide (maybe: possible outlet but waiting for reply)
- Hydrobromic acid ( " " " " " " )
- still waiting for lab results for the rest.

1130 Lunch Break

1205 Back from lunch. START air monitor perimeter. No significant readings.

1318 Weather Temp. 84.1°F Wind from North @ 6.9 mph
Humidity 35% Sunny
ERRS continue transfer liquids (pH <4) to AST tank #4

1308 Bulking of 5-gal/30-gal into 55-gal poly. Splash protection, multi RAE
complete list @ end of day.

8/29/11

1400 ERRS completes Tank #4 transfer.
ERRS begins transfer of organics/mixed water into Tank #1. level C.

1513 Weather Temp. 96.6°F Wind from NE @ 4.5mph
Humidity 33% Sunny.

1649 Transfer of liquids to AST 1 complete. Site maintenance.

1710 Combined meeting. List of completed tasks:

1. Liquid transfer to AST 1:
   - 5 totes / 23 drums of organics / ~~totes~~ totes
   - 2 unknown 55-gal poly
   - Gauge = 13ft / 10in. = 8,134 gal content.
2. Liquid transfer to AST 4 (acids)
   - 21 drums with liquids pH <4
   - Gauge: 7ft. 9in = 4,450 gal content.
3. ~~Overpacks: contents transferred to~~ Transfer of contents:
   - (1) tote Bromobenzene into (2) 55-gal poly
   - (1) drum Bromoanisole into (1) 55-gal poly
   - (1) DBT 55-gal drum into another DBT drum
   - (1) Methanol w/ Bromine contamination into another "bad" MeOH.
   - (4) 55-gal fluoroanisole into (2) 55-gal fluoroanisole
4. 5-gal poly transfers:
   - (34) p-dibromobenzene into (3) 55-gal poly.
   - (25) 1,2,4 tribromobenzene (technical) → (1) 55-gal poly.



8/29/11

Cont...

4. 5-gallon poly transfers (cont..)
   - (12) 3,5 dibromoanisoles → (1) poly drum.
5. Empties:
   - (15) 5 gal unknowns.
   - (6) 1 gal unknown
6. Hot trash:
   - (6) hot trash drums into 13 gal. poly BAGS

1730 ERRS/START/OSC secure site. Depart site.

(5) totes unknown
(16) mixed organics neutralized
(7) mixed organics OVHD, water
] (23) 55 gal poly

8/30/11

0630 START/EPRS arrive on-site.
Combined H&S meeting. Attendance: EPRS-7/START-1
Topics discussed:
1. operations - Sample AST Tank 1 & AST 2
- continue bulking small 5 gal polys,
- cover empty totes for upcoming break
- Bulk Bromopyridine & Phenols
- Bulk sludge by MCC unit.
2. Safety - skin protection, splash haz, inhalation, VOCs
3. START - air monitor - Documentation.
Weather forecast: Low 68, High 95, Sunny.

0645 meeting end. EPRS prepare for activities - START calibrate air monitor

0650 START air monitor around warehouse & site. No significant readings

0700 EPRS begin consolidating small drums 5-gal poly - (i.e. Carring TC-762L-3) - See complete list @ end of day.

0815 OSC master on-site

0910 Email from EPRS em/OSC: okd to transfer remaining drums/containers not currently out for bids in AST No. 3, sample/characterize

0917 Weather Temp 85.1°F Wind from E @ 9.8 mph
Humidity 47% Sunny.



8/30/11

0920 Waste Management on-site picks up non-haz waste

1023 continue to transfer 5-gal poly into 55-gal poly drums

1130 Lunch

1205 Back from lunch. EPRS continue bulking, site maintenance.
START air monitor site. No significant readings.

1400 Bromopyridine/Phenols 5-gal bulking into 55-gal poly. level C.
Complete list @ end of day.

1433 Weather Temp. 97.2°F Wind from SW @ 5.4 mph
Humidity 34% Sunny.

1609 MBA Being ~~cons~~ not stored for shipment prep. 99% MBAs
1630 Sample collected in Tank 1 & Tank 2, will be sent to Test America, TN.
1715 End of activities. Meeting - Summary of completed tasks:
1. 5-gal poly transfers ~~into 55-gal poly~~:
- (10) Carring TC 762 L-3 $\xrightarrow{\text{into}}$ (1) 55 gal poly
- (6) 4 Bromomethylbenzene (pure) → (1) 55-gal poly
- (8) Spallguard-2 (Solid) → (1) 55 gal poly
- (2) Unknown $\xrightarrow{\text{Bulked into}}$ AST Tank #3 w/ pH 5
- (3) Bromobenzene → Organic AST
- (2) MS MGS-04 (Magnesium sulfate anhydrous) → into overpack
- (1) n Propyl bromide (tech) $\xrightarrow{\text{into}}$ another n Propyl bromide drum → out.

8/30/11

cont.. 1. 5-gal poly transfer (cont.)
(1) diBromobenzene 99% solid → into another DBB drum
(2) haz Cat samples → into organic AST
(9) Bromopyridine → into 30 gal poly drum
(7) Phenol → into 30 gal poly drum.

2. To date, tank measurements:
AST Tank #2 (supposedly 50% HBr) = pH 3,
= 7ft 2in contents
(4300 gal) APPX.
AST Tank #3 (supposedly p-Brom...) = pH 5
= 7 1/2 inches contents
= 375 gal.

3. As of today, remaining totes on-Site:
(17) Dibromofluorobenzene (crude)
(1) mBFM (m-Bromofluorometane), wet/pure
(6) DBFB dibromofluorene, mix

1730 START/ERRS secure site. OSC/START/ERRS depart Site.



8/31/11

0630 START/ERRS arrive on-Site.
Combined H&S meeting. Attendance: ERRS - 7/START - 1
Topics discussed:
1. operations - Continue to transfer MBA.
- Sample AST Tanks 1&3
- Bung checks on drums, security locks on Tank Farm
- repalletize HBR drums & shrink wrap.
2. Safety - Slip/trip/fall
- vapor hazards, splash hazards.
3. START - air monitor, documentation
Weather forecast: Low 74/ High 97, partly cloudy

0647 Meeting end. ERRS prepare for daily activities. START prepare air monitor

0652 START air monitor warehouse, & around Site. No significant Readings

0710 ERRS consolidating m-Bromanisole (MBA) 55-gal poly (partially full) into other MBA drums to make it full. Splash protection
ERRS checking & securing bungs on all drums.
ERRS begin site maintenance

0733 Weather temp 79.3°F Wind from SE @ 2.2mph
Humidity 63% Partly Cloudy.

0900 Plastic pallets arrive from Altiras. ERRS begin to place drums (99% HBr on new pallets, shrink wrap).

8/31/11

1040 ADEQ Rep- Jonathan Weeks & Brett Baker arrive on site- Tours Site, monitor progress.

1110 ADEQ depart Site

1130 Lunch

1200 Back from lunch. START air monitor Site, no significant readings
ERRS continue MBA transfer & site maintenance.

1335 FedEx arrive on-Site to pick up water samples from inside AST Tank 1.
Sample from AST, Tank 1 will be sampled for TOX 9020B, sulfides, pH, metals, Flashpoint, Cyanide, Bromide, SVOCs & VOCs

1430 Weather temp 101.1° Wind from SE @ 6.9 mph
humidity 34% Sunny

1730 START/ERRS secure site- OSC/START/ERRS depart site.
Note:- Scheduled Labor Day Break Begins Tomorrow.
- OSC McAteer will demobilize off site
- 1st day Back on-Site Wed 9/7/11. OSC Adam Adams will resume Federal on-site coordination.



9/7/11

0630 START/ERRS arrive on-Site from a Scheduled Labor Day Break.
Note that ERRS FCA is now replaced with Tyrone Price.
Combined H&S meeting. Attendance: ERRS-7/ START-1
Topics discussed:-
1. operations - Stage & bulk remaining organics drummed to AST 3.
- Re-stage MBAs inside warehouse. Re-stage HBr drums (no pick-up today, rescheduled TBD)
2. Safety- vapor pressure/hazard, splash hazard, slip/trip/fall
3. START - air monitor, documentation

0649 Meeting end- ERRS begin daily activities, START prep air monitor.

0700 START air monitor inside warehouse & around Site. No significant readings

0705 ERRS begin re-staging drums (HBr). Note: HBr drums will not be picked up today per vendor.
ERRS prepare valve/gauge in tank farms for drum transfer.

0800 OSC Adams arrive on-Site & resumes Federal On-Scene duties.

0857 Weather temp 65.5°F Wind from NW @ 8.3 mph
humidity 64% Sunny.

1025 BTX Air Express on-Site to pick up sample for vendor Airtech.
Samples were collected on 8/30/11 from 55-gal drums w/c came from Tank #6 (48% HBr) & Tank #7 (White/Pure HBr)

9/7/11

1040 Contents of drums in 55-gal poly being pumped into AST Tank #3. Face shield, gloves, apron use. Complete list of transferred materials at end of day.

1125 ADEQ Michael Gates on-Site. Site tour & get update on progress from OSC/START/ERRS RM.

1145 ERRS lunch

1245 ERRS Back from lunch. Continue with transfer of contents on 55-gal poly to AST, tank #3. See complete list @ COB.

1257 ADEQ Gates depart site.

1306 START Lunch

1340 START Back from lunch. Air monitor around Site, no significant readings

1402 Weather temp 81.3°F Wind from NW @ 7.6 mph
humidity 41% Sunny

1440 Philips Services Corporation (Avalon, TX) vendor on-Site to collect 1-qt samples of the following (ERRS assisted in sample collection) toluene (wet/pure), toluene (recycle), toluene (bromine-contamination), m-bromoanisole, fluoroanisole, bromobenzene, m-bromofluorobenzene, n-propyl bromide, & methanol.

1705 Samples collected, packed, Chain of custody signed. PSC Representative departs site.

1710 Team meeting. List of drums transferred to AST, Tank 3 ↑ & list of activities completed



9/7/11

(Cont...)

1. Re-staged MBA drums in warehouse.
2. Re-staged HBr drums into North Drum Pad.
3. Stage drums to be bulked tomorrow:

| | | |
|---|---|---|
| Dibromotoluene (solids) | -(1) | 55-gal poly |
| Bromobenzene (solids) | -(1) | 55-gal poly |
| Unknown (solids) | -(5) | 55-gal poly |
| dibromo for de bromo | -(3) | 55-gal poly |
| di bromo for de bromo | -(1) | 275-gal tote |

4. Drum contents transferred into AST, TANK #3. All 55-gal poly
Resulting volume = 4,900 gal (8ft. 4in product)

| | |
|---|---|
| (7) n-Amylbromide (pure) | (1) n-Amylbromide (T) |
| (1) n-Amylalcohol (Recycle) | (4) n-Bromoalcohol (high purity) |
| (3) n-Bromobutane (recycle) | (3) n-Bromobutane (technical) |
| (2) Bromo ethylbenzene (pure) | (1) o-bromotoluene |
| (1) o-bromofluorobenzene | (3) 2,3 dibromobutane (pure) |
| (2) n-heptyl bromide (wet/pure) | (1) MBFB |
| (8) methanol (bromine contamination) | (3) Fluorobromobenzene |
| (1) Bromobenzene | (32) p-Bromoanisole (recycled) |
| (1) Anisole | (2) o-Bromoanisole |
| (1) p-Bromopentoxybenzene | (1) o-Bromobutoxybenzene |
| (1) p-Bromoanisole (wet/pure) | (1) m-Bromotoluene (pure) |
| (1) m-dibromobenzene (HP) | (1) m-Bromochlorobenzene (pure) |
| (2) para-bromofluorobenzene (HP) | (1) di-bromotoluene (crude) |
| (7) Unknown | |

1730 ERRS/START secure site. OSC/START/ERRS depart site.

9/8/11

0630 OSC / START / ERRS arrive on-site
Combined H&S meeting - Attendance: OSC-1 / START-1 / ERRS-7
Topics discussed:
1. Operations - transfer to 5,000 gal tanker truck from AST #4
- collect samples from non-haz solids (iron filter cake), AST Tank #2, AST Tank #3
- transfer liquid to AST Tank #3 (alkaline)
2. Safety - hearing & eye protection / eye contact.
3. START - air sample, documentation
Weather forecast: Low 53 / High 75 sunny

0655 Meeting end. ERRS prepare for activities above - START calibrate monitor

0704 START air monitor around warehouse & site. No significant readings

0710 ERRS locating, segregating, staging misc. fractionated water (i.e. MFBF overhead water, etc..) scattered throughout the property. See complete list @ end of day.

0830 5,000 gal tanker truck (from Vickery Transportation) collects appx. 4000 gal of liquid from AST, Tank #4
1034 Vickery tanker truck completes transfer, signs manifests, depart site to a local weighing station off-site (with an ERRS crew). ERRS notes that remaining contents on AST Tank 4 is 2ft. 7in (Appx. 1500 gal); Waste manifest # #004613303FLE



9/8/11

Cont...
Gross wt. 74,520 lbs
Tare wt. 31,340 lbs. (truck weight empty)
Net weight 41,020 lbs. (@ 10.255 lbs/gal = 4,000 gal)
Truck departs west Memphis, AR to disposal facility Vickery Environmental @ Vickery, OH

1100 ERRS collects samples (liquid) from AST #2 & AST #3 (solids) iron filter cake.
Prepares shipment to Test America in Nashville, TN for analysis

1210 Lunch
1240 Back from lunch - Air monitor around site. No significant readings
1300 ERRS begin transfer of mixed water to AST Tank #3. Splash protection / apron / face shield / gloves. Complete list @ end of day.

1400 ERRS begin consolidating partially full drums in Bulk Truck Pad, Level C. See complete list @ end of day.

1538 Weather temp. 81.5°F Wind from NW @ 8.3 mph
Humidity 41% Sunny
1620 FedEx picks up samples collected @ 1100 hrs.

1715 Meeting. List of completed activities:
~~1. Tank #1 volume~~ Rgt

See next page. →

9/8/11

→ Vol = $\pi r^2 h$
= (3.142)(5)²(17)
= 1335.6899 ft.³

→ 1 ft³ = 7.4805 gal
= (1335.6899)(7.4805)
= 9989.08 gals / AST

1. Note: AST height = 17 ft., radius = 5 ft., est. gal volume per ERRS RM = 48.95 gal/in → [(16'x12in)x 48.95]

AST #1 = height 16' product = Appx. 9398.4 gal

AST #3 = height ~~after truck disposal~~ = 8'9" = Appx. 5,139.75 gal

2. AST #4 = see 1034 hrs. entry for disposal info.
= Remaining height = 2'7" = Appx. 1500 gal

3. Contents of drums (55 gal) bulked into AST #3:
(4) dibromotoluene overhead water
(6) bromobenzene overhead water
(17) MBFB fractionation
(29) MBFB non-distilled water
(11) unknown neutral water
(5) unknown acids
(2) de-bromo benzene for debromo
(1) n-amyl bromide
(1) n-butyl bromide
(1) n-octyl bromide

total Bulked = 77 drums

4. Consolidated from partially full drums to drums with similar contents.
(4) debromobenzene $\xrightarrow{\text{into}}$ (1) 55-gal poly
(7) MBFB $\xrightarrow{\text{into}}$ (2) 55-gal poly
(2) Bromobenzene $\xrightarrow{\text{into}}$ (1) 55-gal poly
(5) 3,5 difluorobromobenzene → (1) 55-gal poly.
(2) Benzaldehyde → (1) 55-gal steel.
(2) m-Chlorobenzene → (1) 55-gal poly



9/8/11

4. (Cont...)
(2) XBFB into → (1) 55-gal poly
(3) p-fluoroanisole → (1) 55-gal poly.

total = 27 drums

~~5. Staged~~
Total = 27 drums consolidated to (9) 55 gal drums

5. (15) 55-gal poly with 1-6 inches sludge will be consolidated @ a later date.

1730 START/ERRS secure site - OSC/START/EPA depart site.

9/9/11

0630 START/ERRS/OSC arrive on-site
Combined H&S meeting. Attendance: OSC-1/START-1/ERRS-7
Topics discussed:
1. Operations - consolidate drums with sludge/solid
- transfer any remaining liquid to AST, Tank #3 (pH 5-6)
2. Safety - proper ergonomics when transferring drums
- electric saw, watch for flammability
- adapt with situation, take initiative.
- Fork lift traffic, PPE, eye protection, splash hazards
3. START - air monitor, documentation
0645 Meeting end. ERRS prepare for today's activities. START prep air monitor.

0650 START air monitor inside warehouse & around site. No significant reading.

0700 ERRS begin to cut drums containing solids/sludge. Apron, gloves, electric saw, face shield.

0710 ERRS begin consolidating solids/sludge into totes. Level C.
Complete list of consolidated materials @ end of day.
START photo/video documentation

0829 Weather temp 66.4°F Wind from SW @ 2.2mph
humidity 69% Sunny

1100 Lunch



9/9/11

1145 Back from lunch. START air monitor around site, No significant readings

1200 ERRS continue bulking solids/sludge.

1335 ERRS begin to transfer liquid, that settled on top of the sludge/solids in totes, into AST Tank 3 (pH 5-6). Solids remain on bottom of tote & will be profiled @ a later date.
ERRS continue consolidating/bulking solids/sludge.

1415 Weather temp 86.2°F Wind from WSW @ 11.4mph
humidity 35% Sunny

1500 Prelim results from AST Tank #1 (bulked organics & process water)
Sample collected on 8/31/11 (see notes). See digital files for results.

1710 Team meeting. List of completed tasks today:
1. Solids/sludge bulked into totes.
(3) 55-gal m-dibromobenzene
(23) 55-gal MBFB (H)
(9) 55-gal bromobenzene (H)
(2) 55-gal dibromo for debromo
(2) 55-gal DBF (H)
(1) 55-gal isomer mix XBFB (wet/pure)
(8) 55 gal X-bromotoluene (bottoms)
(8) 55-gal unknowns

cont. →

9/9/11 Cont...

2. Four (4) totes were filled with sludge & the liquid (right) ~~that~~ phase that settled on top of the sludge was transfered into AST #3.

3. Remaining (9) 55-gal steel dibromoanisoles: liquid phase settled on top of solids were transfered into AST #3. The solids remaining will be taken out @ a later date. Note, each of 9 drums had appx. 1/2 of solids per drum.

1730 START/ERRS secure site. OSC/START/ERRS depart site.



9/10/11 (SATURDAY)

0630 START/ERRS arrive on-Site.
Combined H&S meeting. Attendance: START-1/ERRS-7
Topics discussed:
1. operations - Filter x-bromotoluenes using 50 micron filter
2. safety - PPE, stay hydrated, splash hazard
3. START - air monitor, documentation
Weather forecast: Low 61°/High 86, wind from SW, sunny

0642 Meeting end. ERRS prepare for day's activities. START prep air monitor

0652 START air monitor around warehouse & Site. No significant readings.

0700 ERRS begin filter of x-bromotoluene using a 50-micron filter bag. Level C, face shield. (Per vendor, when samples were shipped, a sludge was noticed @ bottom of drums. Cost increase in shipment to vendor. So vendor & ERRS decided to ~~ship~~ filter the XBT prior to shipment). Vendor on-Site by 9/14/11.

0757 Weather temp 70.0°F Wind from NW @ 3.8 mph
Humidity 72% Sunny

1210 Lunch

1242 Resume work. START air monitor around Site. No significant readings. ERRS continue transfer/filter of XBT drums via 50 micron filter.

→

9/10/11

1245 Weather Temp 87.6°F Wind from South @3.8 mph
Humidity 41% Sunny.

1710 meeting - List of activities completed:
1. Forty-eight (48) X-bromotoluene in 55-gal poly drums filtered via 50-micron filter.

1730 START/ERRS secure Site. Depart Site.



9/11/11 (Sunday)

0630 START/ERRS arrive on-Site.
Combined H&S meeting: Attendance: START-1/ERRS-6 (Note: ERRS Foreman demobilized off-Site & will temporarily be replaced by ERRS James Drake, Jr.)
Topics discussed:
1. operations - continue with filtration of XBT drums, 50 micron filter.
2. Safety - splash hazard, drum overflows, stay focused - flammability & corrosiveness.
3. START - air monitor, documentation
Weather forecast: Low 62/High 85; Sunny, wind from N.

0642 Meeting end - ERRS prepare for day's activities. START prep air monitor

0652 START air monitor around warehouse & Site. No significant Reading.

0700 ERRS continue to filter x-bromotoluene (crude, techical, wet/pure), using 50-micron filter, per vendor's request.
Level C (saranex), face shield, gloves

0752 Weather temp 68.2°F Wind from SE @2.2 mph
Humidity 85% Sunny

1200 mp
1130 Lunch
1245 Resume work. START air monitor, no significant Readings.
ERRS continue to transfer XBT.

9/11/11 (Sunday)

1439 Weather temp 91.6°F Wind from NW @ 13.0mph
Humidity 38% Sunny

1715 Meeting - List of completed tasks:
1. Another forty-eight (48) x-bromotoluenes, in 55-gal poly drums, filtered via 50-micron filter.
Total filtered XBT to date: (96) 55-gal poly.

1730 EPRS/START secure Site. Depart Site



9/12/11

0630 EPRS/START arrive on Site
Combined H&S meeting: Attendance: EPRS-6/START-1
Topics discussed:
1. operations - transfer/filter sludge into new drum. Skim off liquid on XBT crude.
- locate & filter bromobenzene.
2. Safety - splash hazard, spilling, stay focused, keep moving & don't stay @ one spot too long.
3. START - air monitor, documentation
Weather forecast: Low 70/High 95, wind from N.E.

0645 Meeting end. EPRS prepare for activities. START prepare air monitor

0655 START air monitoring in warehouse & around Site. No significant readings

0701 EPRS begin transfer/filter of sludge of x bromotoluene (crude). 50 micron filter - Level C.
EPRS begin to clean drums filled/filtered XBT over last two days. Drums will eventually be relabeled.

0739 EPRS decides remaining XBT drums too thick to filter. XBT drums will be bulked in a tote ~~tote~~ instead. See complete list @ end of day. Bulking done in Level C - Air monitor.

 9/12/11

0754 Weather temp 73.0°F Wind from NE @ 0-5 mph
humidity 80% Sunny.

1100 lunch
1130 Back from lunch. START air monitor around Site. No significant readings.
1145 ERRS resume work: consolidating, cleaning drums, etc...
Complete list of tasks @ end of day.

1434 Weather temp 93.6°F Wind from E @ 9.2 mph
humidity 36% Sunny

1715 Combined meeting. List of completed task:
1- Filtered X-Bromotoluene:
(1) 55-gal poly. Total shipped to date: (97) 55-gal polys.
*Note: Per ERRS RM, X-bromotoluene will be labeled 2-Bromotoluene (similar with NBT; combustible, not flammable, non-DOT regulated, etc...)

2. X-Bromotoluene (crude) sludge consolidated:
(18) 55-gal poly $\xrightarrow{\text{into}}$ (3) 275 gal tanks.

3. Bromobenzene ("good") consolidated:
(16) 55-gal poly $\xrightarrow{\text{into}}$ (3) 275-gal tanks.

 9/12/11

Cont...

4. Staged/segregated "good" (clear) Bromobenzene:
(16) 55-gal poly. Will be re-labeled for shipment.

5. Staged drums containing acids & alkaline to transfer in ASTs tomorrow.

1730 ERRS/START secure Site. Depart Site.

9/13/11

0630 START/ERRS arrive on-site.
Combined H&S meeting - Attendance: ERRS-6/START-1
Topics discussed:
1. operations - transfer of acids & alkalines to AST #4 & #2
- clean off & relabel XBT & BB drums
- filter DBT in totes
2. Safety - stay hydrated, spill/splash hazard
3. START - air monitor/documentation
Weather forecast: Low 69/High 94, Wind from South 5-10mph

0639 meeting end. ERRS prep for day's activities. START prep air monitor.

0649 START air monitor around warehouse & site. No significant readings.

0655 ERRS begin (continue) cleaning/scrubbing X-bromotoluene & bromobenzene drums; Re-label.

0720 ERRS begin filtering DBFB/Dibromotoluene mix from a tote to another tote. See complete list @ end of day. 50-micron filter. Level C.

0934 Weather temp 82.4°F Wind from SE @ 1.6 mph
Humidity 68% Sunny

1130 Lunch



9/13/11

1205 Back from lunch. START air monitor around site. No significant readings.
1210 ERRS begin acid transfer to AST #4 - See complete list @ end of day
1315 ERRS begin alkaline transfer to AST #3 - see complete list @ end of day.

1502 Weather temp 96.1°F Wind from E @ 5.4 mph
Humidity 41% Sunny.

1710 Combined meeting. List of completed activities today.
1. (6) 275-gal tote containing DBFB/dibromotoluene mix filtered via 50-micron filter.
2. Consolidated (2) totes of DBFB/DBT mix into (1) tote.
3. Staged: (4) totes of XBT } will be profiled
(3) totes of bromobenzene
4. AST Tank #4:
(4) flourobenzene acid transfered into AST #4 → 55 gal poly
(2) 55-gal poly unknown pH <4
Total on AST #4: 2ft. 4in. = Approx 1225 gal liquid
5. AST Tank #3:
(1) 55-gal unknown mixed organics into AST Tank #3
Total on AST #3: 7ft, 5in = Approx 4300 gal liquid
6. AST Tank #2: alkaines/caustics
(10) 55-gal mixed organics
(1) 55-gal methanol Bromine } transfered into AST #2 refs
(5) 55-gal unknown
Total on AST #2: 14ft. 5in = Approx. 8500 gal. liquid.
7. misc.: Tank AST #1: 13ft 10in = Approx. 8100 gal liquid.

9/14/11

0630 START/EPRS arrive on-Site.

Combined H&S meeting - Attendance: EPRS-6 / START-1

Topics discussed:

1. operations - load XBT drums on vendor's truck
   - Sample (composite) sludge on totes
   - Filter DBFB liquids
2. Safety - vapor, PPE, fatigue
3. START - air monitor / documentation

Weather forecast: Low 60 / High 88, Partly Cloudy. 30% Chance rain.

0645 Meeting end. EPRS prep for activities. START prep air monitor

0655 START air monitor around Site & warehouse. No significant readings.

0720 Composite sludge sampling in totes for disposal profiling. Level C.

0730 EPRS begin transfer of XBT drums into shippable pallets.

0835 Weather temp 77.2°F Wind from NE @ 9.8 mph
Humidity 79% Cloudy / Scattered showers

1135 EPRS lunch

1153 ADEQ Michael Bates on-Site for Site walk & update on progress

1217 ADEQ depart Site

1220 EPRS back from lunch. Begin DBFB/Dibromotoluene mix filter (50 microns), Level C. See complete list @ end of day.

1227 START lunch.



9/14/11

1257 START back. Air monitor around Site - No significant readings

1314 Disposal Box truck from PSC (Chemical Reclamation Services). EPRS begin loading truck with 55-gal poly drums of x-bromotoluene.

1415 PSC truck signs manifest (# 000040125GBF). OSC Adams signs. EPRS depart with truck driver to a local weigh station.

1440 EPRS return to Site with weight ticket. Truck depart W. Memphis to facility in Avalon, TX.

Gross weight 72 840 lbs
Tare weight 31 980 lbs (truck empty)
Net weight 40 860 lbs of liquid (10.91 lbs/gal)

EPRS continue with filtering, segregating, consolidating, etc...

1618 Weather temp 85.1°F Wind from SE @ 10.7 mph
Humidity 74% Partly Cloudy.

1630 Sludge samples picked up by FedEx to Test America in Nashville, TN. profiling

1715 Meeting. List of completed activities:

1. (12) 55-gal poly with x-bromotoluene shipped off-Site to PSC
2. Composite samples of sludge in totes sent to Test America in Nashville, TN for disposal profiling.
3. (2) 55-gal poly w/ bromobenzene filtered using 50-micron bag filter to save on disposal surcharges for shipment prep
4. (14) partially full 55-gal poly containing DBFB/Dibromotoluene mixed consolidated into (2) totes (275-gal totes).

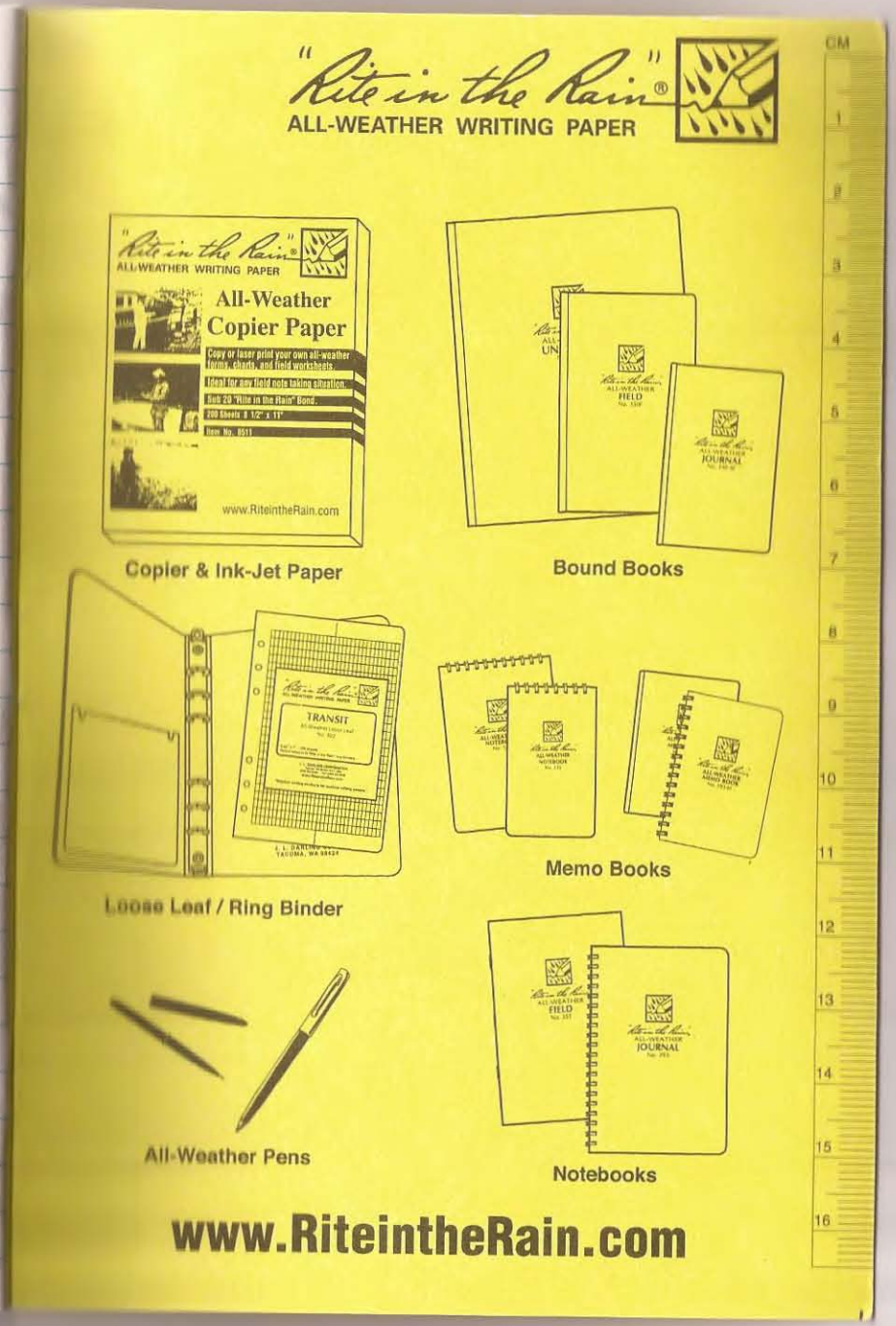
9/14/11 (Cont...)

5. (1) 55-gal poly containing unknown mixed organics transfered into organics AST, Tank 3.

6. (1) 55-gal poly containing methanol bromine transfered into the caustic AST, Tank #2.

Note: 5 profiles to date: ASTs 1, 2, 3, Iron Filter cake, & sludge in totes. Maintenance, segregation, & bulking as needed.

1730 START/ERRS secure Site. OSC/START/ERRS depart Site.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Logbook # 4 of 4

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CONTENTS Site logbook #4

| PAGE | REFERENCE | DATE |
|---|---|---|
| | Site Name: Diaz Intermediates Corp - Removal | |
| | Type of Activity: Removal | |
| | Site Location: 301 Wyanoke Road<br>West Memphis (Crittenden County), AR 72301<br>Latitude 35.107083° North<br>Longitude 90.193000° West | |
| | CERCLIS No: ARR000005843 | |
| | SSID No: A6C4 | |
| | EPA On-Scene Coordinator: Adam Adams<br>ADEQ Field Team Leader: Michael Gates | |
| | START TDO No: TO-0001-11-06-03 | |
| | Logbook No: 4 | |
| | Type of Documentation: Logbook of Activities on-Site | |

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9/15/11

0630 EPRS/START arrive on-Site.
Combined H&S meeting. Attendance: EPRS-6/START-1
Topics discussed:
1. operations - Bulk acid pick up by Vickery Environmental
- skim liquids off top of DBFB/DBT mix.
2. Safety - Stay focused, take your time but do work efficiently
3. START - air monitor/documentation
Weather forecast: Low 51/High 74, Wind from NNE @ 15-25 mph

0642 Meeting end - EPRS prep for day's activities. START calibrate multiRAE

0655 START air monitor around warehouse & Site. No significant readings

0715 EPRS begin filter of DBFB/Bromotolvene mix from 55 gal poly to a 275 gal tote using a 50 micron bag filter (in preparation for disposal). Level C. See complete list at end of day.

0730 Vickery tanker-truck arrive on-Site. Begin bulk load of liquids in AST #4 (acids/corrosives pH<2). See complete list @ end of day.
0820 Vickery truck signs manifest (#004617935FLE) truck driver & OSC Adams signs.
EPRS depart Site with truck driver/load to a local weigh station. cont...

9/15/11
(cont..)

0845 EARS return to Site with weight ticket. Tanker truck depart West Memphis bound to disposal facility in Vickery, OH.
Gross weight 54040 lbs
Tare weight 35000 lbs (truck empty per truck driver)
Net weight 19040 lbs (liquid from AST #4.)
*Note: driver stated he received 1800 gal on truck.
Therefore 19040 lbs / 1800 gal = 10.57 lbs/gal

0846 Weather temp 58.5°F Wind from NW @ 9.2 mph
humidity 80% Cloudy

0932 MBA drums being relocated to N-Drum Pad for warehouse in prep for shipment

1130 Lunch

1210 Back from Break, EARS continue consolidation of DBFB/Dibromotoluene mix.
See complete list @ end of day.
EARS begin cleaning & relabeling drums etc ...

1240 START air monitor around Site - No significant Readings

1420 Weather temp 75.4°F Wind from E @ 8.3 mph
humidity 52% Sunny.

1700 Team meeting - List of Completed task:
1. (42) partially full 55-gal poly drums containing DBFB/dibromotoluene mix (sludge) consolidated into (7.5) 275-gal tote..



(cont...) 9/15/11

2. (90) partially full 55-gal poly drums containing DBFB/dibromotoluene mix filtered using a 50-micron bag filter, to save on disposal surcharges, & consolidated into four (4) 275-gal totes in prep for disposal shipment.

3. The remainder of corrosive (pH <2) liquid from AST, Tank #4 shipped off-Site, in bulk for disposal - See 0845 hrs. entry for Net weight.

1730 START/EARS secure Site. OSC/START/EARS depart Site

Note: On 9/16/11 Vickery Environmental reports that tanker truck contents received in Vickery, OH facility. Contents of tanker truck is 1855.98 gallons. See waste manifests (scanned) for documentation from Vickery.

9/16/11

0630 ERRS/START arrive on-site.
Combined H&S Meeting: ~~Topics~~ Attendance: ERR 5-6/START-1
Topics discussed:
1. operations - sludge transfer DBT/DBFB mix & annisoles
- Repaletize MBAs & DBTs prepare for shipment
2. Safety - splash hazard, respirator, PPE
3. START - air monitor / documentation
Weather forecast: Low 57/High 72; wind from NE @ 5-10mph, Cloudy

0649 meeting end. ERRS prep for activities today. START prep air monitor.

0659 START air monitor around site & warehouse. No significant readings.

0710 ERRS labeling/cleaning drums in Drum Pad, prep for shipment
ERRS consolidating drum contents into totes. Level C. See list @ end of day

0851 Weather temp 60.3°F Wind from NE @ 2.2 mph
Humidity 63% Partly Cloudy

1100 Lunch Break (ERRS)
1130 START Lunch Break. ERRS continue with consolidation, maintenance, check bungs, segregation of drums.
1203 START back from lunch. Air monitor around site. No significant readings
1520 Consolidation of di-bromoanisole (solids) into totes. Level C. See list @ end of day.
1531 Weather temp 75.2°F Wind from NE @ 3.8 mph
Humidity 42% Cloudy



9/16/11

1710 meeting. List of completed tasks:
1. (52) partially full 55-gal poly containing DBFB/Dibromotoluene mix (sludge) consolidated into (9) 275-gal totes.

2. (7) partially full 55-gal steel drums containing di-bromoanisole (solids) consolidated into (1) 275-gal tote.
Totes of sludge/solids to date: 34 totes.

3. (3) partially full 55-gal drums of m-bromoanisole consolidated into (1) 55-gal poly drum.

4. (2) 55-gal drums containing dibromotoluene, repackaged into two (2) new shippable 55-gal poly drums.

5. Segregated, packaged, changed pallets/bungs of drums to be shipped off on Tues 9/20 vs. Thurs. 9/22.

1730 START/ERRS secure site. OSC/START/ERRS depart site.

9/17/11

0630 EERS/START arrive on Site.
Combined H&S meeting - Attendance: EERS - 6/START - 1
Topics discussed:
1. operations - complete bulking arsenic & few over packs
- Inventory & Reorganize all drums in Boiler room.
- Decon zinc precipitate solids from 2ndary containments
- Reorganize drums pad area, prep for shipment
2. Safety - spash hazards, pitch points, PPE, good communication, focus.
3. START - air monitor, documentation
Weather forecast: Low 60/High 81°F; Partly Cloudy, Wind from SE 5-10mph

0655 Meeting end - EERS prep for activities - START prep for air monitoring

0705 START air monitor around warehouse & Site - No significant Readings

0720 EERS begin consolidating 55-gal drums solids into totes. Complete list @ end of day. Level C - PPE.

EERS prep drums for shipment (i.e. clean, label, repaletize, shrink wrap)

0839 Weather temp 66.6°F Wind from NE @ 6.9mph
Humidity 74% Partly Cloudy

1140 lunch Break
1220 Back from break. START air monitor around Site, No significant Readings.



(Cont...) 9/17/11

EERS continue to consolidate drums/over pack. List @ end of day.
EERS begin to clean/decon zinc precipitate solids in New & Old Tank Farm.

1400 Transfer of MBFB (labeled toluene/arsenic mix) tote into a new shippable 275-gal tote.
Begin to clean out/clear containers (i.e. paint buckets, used oil, etc...) from inside the Boiler Room - Segregate.

1434 Weather temp 86.0°F Wind from SE @ 6.0mph
Humidity 41% Sunny.

1720 Meeting - List of completed tasks today:
1. Decontaminated the zinc precipitate solids from the 2ndary containment areas in both the Old & New Tank Farms.
2. Various containers located inside the boiler room (i.e. used oil, soda ash, $MgSO_4$, etc..) were segregated, & will be consolidated/disposed at a later date. Note: items not listed on this logbook but will be listed on the final inventory list.)
3. (1) 55-gal drum containing x-bromotoluene repackaged into (1) new shippable 55-gal poly.
4. (1) 275-gal tote containing MBFB (once labeled toluene/arsenic mix) repackaged into a shippable tote.

Cont...

 9/17/11

5. (2) 55-gal drum containing bromotoluene consolidated into an existing partially full, 55-gal drum containing bromotoluene
6. (4) partially full 55-gal poly drum containing sludge were consolidated into (~~2.5~~ 2.5) 275-gal totes. Drums are:
   - 1 - Dibromotoluene
   - 2 - dibromoannisole
   - 1 - dibromoannisole (Wet/Pure) solid
7. (47) pallets of drums packaged, labeled, shrink wraped & ready for shipment.

1730 START/ERRS secure site. Depart facility.



9/19/11

0630 START/ERRS arrive on-site. Note: ERRS Foreman Chad Robertson resumes foreman duties (from a scheduled break). Two additional ERRS crew on site. Combined H&S meeting. Attendance: ERRS-9/START-1

Topics discussed:

1. operations - decon drums, continue to stage drums, reorganize/label
2. Safety - skin contact, ~~pitch po~~ pinch point, total awareness, watch out for two new crew members & for each other.
3. START - air monitor / documentation.

Weather forecast: Low 66/High 77 winds from W @ 5-10mph, partly cloudy

0655 meeting end. ERRS prep for day's activities. START prep multiRAE.

0705 START air monitor around warehouse & site. No significant readings.

0715 ERRS pump rain water (settled in from last night's rain) from for lift pad to New Tank Farm 2nd any containment. Plan: let rain water settle on tank farm, pH, neutralize if necessary, drain to sanitary sewer

0800 Prep bulk truck pad for drum wash (i.e. place liners, fill totes with potable water to use as a modified pressure washer) etc...

0905 ERRS begin to decon 55-gal drums empty. Cut drums, pressure wash in bulk truck pad, RCRA empty (wash), & not RCRA clean (multiple wash). Level C - PPE

1016 Weather temp 70.7°F Wind from W @ 2.2 mph
Humidity 94% Raining

9/19/11

1100 ERRS lunch.

1115 START lunch

1130 ERRS resume work. Begin prep for more drum decon. pH of New Tank 2nd any 8.0

1145 START back from lunch. Air monitor around Site. No significant readings.

1200 ERRS rep provides START a copy of final profile for AST 1. Per ERRS Rep, same profile will be used for AST #3 as AST #1 has a higher conc. analytes. Both AST 1&3 tank contains organics/liquids. See profiles.

ERRS continue to decon drums "RCRA empty." Lord C.

ERRS continue to label drums (label provided by vendor), shrink wrap, & stage in Drum Pod.

1333 Weather temp 77.5°F Wind from N @ 1.6mph
Humidity 85% Partly Cloudy

1600 ERRS filter decon water (50 micron bag) & liquid placed in 2nd any cont. New Tank

1715 Meeting - List of completed tasks today:
1. (68) pallets (4) 55-gal poly each; labeled, shrink wrapped, & staged ready for shipment tomorrow.
2. (97) drums cut, washed (RCRA empty), deconed.

1730 START/ERRS secure Site, depart Site.



9/20/11

0630 START/ERRS arrive on-Site.
Combined H&S meeting. Attendance: ERRS-9/START-1
Topics discussed:
1. operations - cutting drums, load truck, consolidate, shrink wrap
2. Safety - splitter, electric current/hazard, repetative motions, awareness, stress/strain, eye contact.
3. START - air monitor / documentation
Weather forecast: Low 65/High 75, Cloudy; wind from SSW @ 5-10mph

0645 Meeting end. ERRS prep for activities. START prep air monitor.

0650 START air monitor around warehouse & Site. No significant readings.

0701 ERRS begin cutting, deconing 55-gal poly drums to "RCRA empty" status. Saranex, face shield. Electric saw.

0751 1st PSC Box truck on-Site to load non-regulated m-bromoanisole. Complete list by departure of all trucks

1113 Weather temp 71.2°F Wind from NE @ 2.2mph
Humidity 91% Cloudy

1115 All three PSC trucks loaded, sign manifests, departs Site with one ERRS crew to a local weigh station.

1140 EMRS return to Site with weight tickets. Trucks depart AR to Avalon, TX.

| manifest # | Contents/# of Pllys | loaded - tare weight = (net weight) |
|---|---|---|
| 008944317 JJK | (68) DBFB/OBT | 43480 lb |
| 008944316 JJK | (66) BBFB/OBT | 41240 lb |
| ~~008944318 J~~ | (1) XBT | |
| 008944318 JJK | (72) MBA | 41640 lb |
| 008944320 JJK | (41) MBA | 37860 lb |
| | (28) XBT | |

1150 Lunch Break

1220 Work resume. START air monitor around Site. No significant readings.
EMRS continue to decon/cut drums for disposal. RCRA empty, level C.

1330 EMRS begin to consolidate Diazene-42 & misc. drums accd. to similar containing drums. level C/PPE. Complete list @ end of day.

1410 Weather temp 78.4°F Wind from NE @ 1.6mph
Humidity 75% Cloudy

1520 RCRA disposal box on Site. EMRS places liners. Loads RCRA empty deconed/cut 55-gal poly.
New Tank Farm 2ndary containment system pH 8.

1715 2nd disposal box arrive on Site from Waste Management.
Disposal truck on 1520hrs. full.



1720 meeting - List of completed tasks:

1. (69) pallets (4) 55-gal poly drums/pallet) shipped off-Site.
2. (16) pallets (4) 55-gal poly drums/pallet) labeled & shrink wrapped in preparation for disposal.
3. (203) 55-gal drums previously emptied for their haz. substances were cut into smaller pieces & decontaminated to "RCRA empty" status. Total deconed drums to date: 300.
4. (4) partially full 55-gal drums diazene-42 consolidated into (2) 55-gal poly.
5. (2) partially full 55-gal drums bromopyridine into (1) 55-gal poly.
6. (2) partially full " " " n-propyl bromide " " " "
7. (1) " " " " " bromopenal consolidated into an existing bromopenal 55-gal poly.
8. (1) partially full 55-gal poly drum bromofluorobenzene consolidated into an existing bromofluorobenzene 55-gal poly.

1730 START/EMRS secure Site. OSC/START/EMRS depart Site.

9/21/11

0630 START/ERRS arrive on-Site.
Combined H&S meeting. Attendance: ERRS-9/START-1
Topics discussed:
1. operations - Continue decon drums "RCRA empty" cut into small pieces
- Label, shrink wrap, stage drums for shipment tomorrow.
2. Safety - careful around chain saw, loud noise, gloves, PPE
3. START - air monitor/documentation
Weather forecast: Low 60/High 89, Wind from N @ 5-10mph.

0650 meeting end. ERRS prep for activities. START prep air monitor.

0700 START air monitor around warehouse & around Site. No Significant Readings

0710 ERRS cut previously emptied hazardous substance drums into smaller pieces, decon into "RCRA" empty. Level C, face shield, earplugs
ERRS begin labeling MBFB, etc.. Repacking, shrink wrap, stage for shipment.
START work on current drum count on Site. Begin final report writing.

1058 Weather temp 79.5°F Wind from NE @ 3.1mph
Humidity 72% Sunny

1110 ERRS lunch
1115 ADEQ Michael Gates & Brett Baker on-Site - Site tour with ADEQ, OSC, START, & ERRS RM. Provided Excel of current Drum count & contents, etc...
1145 ERRS back from lunch. Continue with decon drums & prep for drum shipment.



9/21/11

1206 START lunch
1240 START back from lunch. Air monitor around Site. No Significant Readings

1345 Waste Management picks up 30 yd3 roll off box w/ RCRA empty drums.
(Manifest # 31012)
Weather temp 84.7°F Wind from N @ 2.2 mph
Humidity 58% Sunny

1653 Meeting with OSC, START, ERRS RM. Determined ~~based~~ RECYCLED products:
Based on 2010 volume (221,086 gal). Altires removed appx. 13.6% (appx 30,145 gal) April 2011. Since July 2011, recycled 9.6% (appx. 22,032 gal) by week's end. Total of 23.2% (appx 52,177 gal). May increase by 0.4% (appx 802 gal) by demob day. See EPA email.

1715 Team meeting. List of completed tasks:
1. Pallets, with (4) 55-gal poly/pallet, labeled & shrink wrapped in prep for disposal shipment.
2. (300) 55-gal poly, prev. emptied of haz-substances were cut into smaller pieces & deconned to "RCRA empty" status.
Total deconned to date: (600) 55-gal poly drums.

1730 START/ERRS/OSC secure Site. Depart Site.

9/22/11

0630 ERRS/START arrive on-site.
Combined H&S meeting - Attendance: ERRS-9/START-1
Topics discussed:
1. operations - load drums in disposal truck/vendors
- decon/cut 55-gal poly to RCRA empty
2. Safety - Biologicals, Hand/foot protection, don't rush in loading.
3. START - air monitor/documentation.
Weather forecast: Low 65/High 90°F; Wind 10-15mph from N; Sunny

0637 Meeting end. ERRS prep for day's activities. START prep air monitor.

0645 START air monitor around warehouse & Site. No Significant Readings.
First (disposal) box truck arrive on-site collect drums packaged.
See Complete list after last truck departs today

0700 ERRS begin bulking residual acid liquid from drums. level C.
ERRS begin cutting emptied drums & deconning to RCRA empty. level C
See list @ end of day.

0806 Weather temp 71.2°F Wind from W @ 4.5mph
Humidity 67% Sunny.

0810 OSC Adams spoke with Chief Wayne Gately of WM Fire Dept.
- OSC invited FD to stop by site next wk. prior to ERRS/START/OSC demob/completion of removal.
- OSC willing to donate remaining PPE & poly drums



9/22/11

0950 ERRS foreman/RM reports (4) 55-gal poly acids discovered on Empty container storage area. No labels. meeting with OSC, START, ERRS RM: Plan is to neutralize, then bulk in AST.

1045 (5) out of 6 expected box truck loaded, manifest signed, heads to local weigh station with ERRS crew.

1100 ERRS lunch

1115 ERRS crew return with weight tickets. See list after 6th truck leaves site. Trucks depart for (PSC) Avalon, TX, (Tradebe) Millington TN.
START out for lunch.

1130 ERRS return, continue with deconning activities.

1154 START return to Site - Air monitor around Site - No Significant Readings

1258 6th (disposal (box truck) arrive on-site. loads drums.

1334 6th disposal truck loaded, manifest signed, departs site with an ERRS crew to a local station.

1355 ERRS crew return with weight tickets. Note: PSC trucks depart for Avalon, TX, while Tradebe trucks depart for Millington, TN.

| manifest # | 55-gal # containers/Contents | loaded-Tare # Net weight | Vendor |
|---|---|---|---|
| 007674399JJK | (77) methanol | 31,580lbs | Tradebe |
| 007674400JJK | (32) methanol<br>(30) toluenes<br>(21) toluene w/ Bromine | 41,480lbs | Tradebe |

Cont →

9/22/11 (Cont. from previous page)

| manifest # | # of 55-gal containers / Contents | Loaded-Tare= (Net Weight) | Vendor |
|---|---|---|---|
| 008944321JJK | (63) MBFB | 35,540 lb | PSC |
| | (1) Fluoroacetate | | |
| 008944322JJK | (30) Bromobenzene | 35,760 lbs | PSC |
| | (40) n-propylbromides | | |
| 008944323JJK | (12 totes) DBFB/DBT | 32,920 lbs | PSC |
| 008944324JJK | (2 totes) DBFB/DBT | * | PSC |
| | (10 totes) MBFB | | |

* Driver left w/ no weight ticket. Approx. load per manifest = 40,000 lbs.

1404 Weather temp. 86.9°F Wind from WNW @ 6.9 mph
Humidity 48% Sunny

End of work day now decided to 1830 hrs. to meet deadline/demob.

1815 Combined meeting. List of completed tasks:

1. (6) box trucks on-site for disposal. See summary @ 1355 hrs.
2. (320 poly, 314 steel) 55-gal drums previously emptied of haz substances were cut/crushed, & decanted to "RCRA empty".
3. Total to date: 920 poly / 314 steel
3. (124) 55-gal poly containing residual acid from the Empty Container Storage Area were consolidated to (3.5) 55-gal poly.
4. (4) 55-gal poly full of unknowns were discovered @ Empty Container Storage Area. Acidic pH. Plan: to neutralize & bulk.

1830 START/EARS/OSC Secure Site. Depart Site.



9/23/11

0630 EARS/START arrive on-Site

Combined H&S meeting. Attendance: EARS - 9/START - 1

Topics discussed:

1. operations - consolidate acids, neutralize as needed.
   - load HBr trucks; cut/decon emptied drums.
2. Safety - stay focused/alert, signs of fatigue, weather/climate change
3. START - air monitor/documentation

Weather forecast: Low 65/High 75°; Wind from NNE 5-10 mph; Sunny.

0654 Mtg end. EARS prep for day. START prep air monitor.

0708 START air monitor in warehouse & around Site. No Significant readings

0712 EARS begin to sort out drums in Empty Container Storage Area, crush steel drums as needed. See list @ end of day.

0830 EARS consolidate unknown drums (low pH)/residual contents into totes. level C

0907 Weather temp 62.8°F Wind from NW @ 6.0 mph
Humidity 86% Partly Cloudy

1100 EARS lunch break

1120 START lunch break

1145 EARS back from lunch, continue with liquid transfer to totes. level C

1210 START back from break. Air monitor around Site. No Significant readings

1230 Waste management picks up (crushed RCRA empty containers. 30 yd³. manifest # 31013

9/23/11

1323 Weather temp 76.8°F Wind from N @ 6.0 mph
Humidity 50% Sunny

1430 EPRS located appx. (25) 55-gal poly HCl 20BE partially full. Consolidated into a tote, neutralize with NaOH caustic soda, pH will be taken after homogenized (tomorrow). Complete list @ end of day. Level C.

1500 Begin to cut drums, decon to RCRA empty status. Level C, face mask.

1537 Second Waste Management picks up RCRA empty containers. 30 yd³. Manifest # 31014.

1600 Cleighters & Freighters on Site. Final packing of HBr drums. EPRS assist in packing.

1611 Email from OSC sent to START regarding Aluminum Chloride shipped on 8/16/11 Manifest # 007672865 JJK. $AlCl_2$ drums (x13) were rejected @ the vendor's disposal site. ~~Vendor~~ Fed EPA OSC notified Trade to incinerate/dispose of drums & EPA will pay any additional cost for disposal.

1630 Cargo box trucks (x2) from Altpro on-Site. Truck drivers leave boxes & will be back on 9/26/11 (Monday) for pick up when completely loaded. EPRS loads cargo box 48% HBr paletized, labeled, shrink wrapped

1808 EPRS continue to load drums
EPRS continue to cut/decon (RCRA empty condition) drums



9/23/11

1808 Weather Temp 79.5°F Wind from N @ 3.1 mph
Humidity 40% Sunny

1915 Meeting - List of completed tasks:

1. (2) 30 yd³ drums emptied of their haz. substances & deconed to "RCRA empty" condition shipped off-site for disposal
2. (128) palletized 55-gal poly drums containing 48% HBr loaded into two cargo box containers. Drums will be shipped off-site on 9/2[illegible]/11.
3. (36) 55-gal poly drums containing residual & corrosive low pH liquids, retrieved from Empty Container Storage Area, consolidated into one tote. Contents were neutralized w/ sodium hydroxide & left overnight to complete neutralization
4. (102) poly & (87) steel 55-gal drums prev. emptied of their haz. substances deconed to "RCRA empty" condition & resized into smaller pieces.

Total deconed & resized to date: (1022) poly / (401) steel 55-gal drums.

1930 EPRS/OSC/START secure Site. Depart Site

0630 ERRS/START arrive on-Site.

Combined H&S meeting. Attendance: ERRS-9/START-1

Topics discussed:

1. operations - dewater non-haz solids iron filter cake (liquid layer)
   - dispose of RCRA empty containers. drum decon & resizing.
2. Safety - ~~electronics~~ electricity, saw, PPE
3. START - air monitor / documentation

Weather forecast: Low 61/High 81, 10-15 mph from SE, Sunny.

0645 Meeting end. ERRS prep for day's activities. START prep air monitor

0655 START air monitor around warehouse & Site. No significant readings.

0705 ERRS begin to cut/decon emptied drums to "RCRA empty" status. level C. face shield.

0745 Waste management picks up 30 yd³ of ~~crushed/cut decon drums~~ crushed debris: wood, plastic, metal, & PPE. manifest # 31010.

ERRS took pH of consolidated/neutralized tote (pH 10). Begin transfer to tank #3 (along w/ other drums with residual liquid). level C.

0950 Waste management picks up crush/decon drums, RCRA empty status. 30 yd³. Waste manifest # WMNA 11128228)

1008 Weather temp 71.1°F Wind from SE @ 9.2 mph
humidity 64% Sunny.

1207 Lunch Break



1240 Back from lunch. START air monitor, no significant readings. ERRS continue acid transfers, cut/decon drums, sort out empty container drums

1331 Weather temp 76.1°F Wind from SE @ 8.3 mph
humidity ~~64%~~ 50% Sunny.

1450 Dewater liquid layer on iron filter cake drums. Transfer to AST #2.

1810 Meeting. list of completed tasks:

1. ~~DPE~~ 30 yd³ of crushed drums disposed (see 0950 this entry)
2. (284) 55-gal poly, (5) 275-gal totes previously emptied of haz. substances deconed to "RCRA empty" condition & resized into smaller pieces. Total to date:
   (1,306) 55-gal poly
   (401) 55-gal steel
   (5) 275-gal totes
3. Residual waste, wash fluids, & neutralized corrosives liquids recovered during decon of emptied containers from the Site were consolidated into AST, Tank #3. Bringing total of AST, Tank #3 = 13ft. 8in / 8050 gal
4. Note: AST, Tank # 1 = 16ft 7in / 9800 gal
   AST, Tank # 2 = 14ft 6in liquid / 8500 gal.

1830 START/ERRS/OSC secure Site - Depart Site.

9/25/11
(SUNDAY)

0630 START/ERRS arrive on-Site
Combined H&S Meeting - Attendance: ERRS-9 | START-1
Topics discussed:
1- operations - continue to cut totes, decon to RCRA empty
- lab pack paint buckets; house keeping/cleaning.
2- Safety - dust protection, PPE, slip/trip/fall
3. START - air monitor, documentation
Weather forecast: Low 60 | High 85; SE winds @ 10-15mph; partly cloudy

0650 Meeting end. ERRS prep for today's activities - START prep air monitor.

0700 START air monitor around Site & inside warehouse. No significant readings

0710 ERRS begin to cut totes in Empty Container Storage Area, decon to "RCRA empty" condition. Level C. Face shield
ERRS begin packing paint containers, sealants, wood treatments, etc. into open top poly drums. Complete list @ end of day.

0731 Weather temp 65.7°F Wind from SE @ 3.1mph
Humidity 78% Partly Cloudy

0850 Site maintenance continues

1055 ERRS lunch break
1155 ERRS return. Continue with totes cut. Begin transfer of liquids layer on non-haz solids.



9/25/11
(SUNDAY)

1240 START air monitor around warehouse & Site. No significant readings

1342 Weather temp 84.4°F Wind from SE @ 13.0mph
Humidity 54% Sunny

1615 Site maintenance decon of Bulk truck pad, Drum pad, Fork lift pad, North pad, etc...
Cut grass, final check on Process Area Building.

1815 Meeting. List of completed tasks:
1- (10) poly, (4) steel 55-gal drums, 2(7) 275-gal totes previously emptied of haz substances decontaminated to "RCRA empty" condition & resized into smaller pieces.
Total deconned & resized to date:
(1,316) poly 55-gal (405) steel 55-gal
(12) 275-gal totes.

2- (9) open top 55-gal poly drums filled with small containers containing paint, sealants, wood treatment, etc.. in preparation for disposal.

3. General maintenance & clean up: Process Area, Bulk Truck pad, Fork lift path, Drum pad, North pad, etc...

1830 ERRS/START/OSC secure Site. Depart Site.

 9/26/11

0630 START/ERRS arrive on-Site.
Combined H&S meeting. Attendance: ERRS-9/START-1
Topics discussed:
1. operations - load HBr drums; solidify sludge; Site maintenance.
2. Safety - vapor pressure, slip/trip/fall, pinch points
3. START - air monitor, documentation.
Weather forecast: Low 60/High 75, wind from UNW @ 10 mph.

0650 Meeting end. ERRS prep for day's activities. START prep air monitor

0705 START air monitor around warehouse & Site. No significant readings.
0715 ERRS pump rain water from last night's rain (Drum Pad, Tank lift pad, N. Pad) into secondary containment in ~~North~~ New Tank Farm
0800 Craters & packers on site to do final packing on HBr drums; place braces inside container load. Sub from vendor Altiras.
0845 Weather temp 65.3°F Wind from W @ 2.2 mph
Humidity 86% Sunny.

0900 1st vendor box truck on-Site (Altiras) pics up (56) poly 55-gal HBr drums: "Truck #1 - Bill of Lading" HBr UN 1788

1012 2nd truck on-Site - "Truck #2 - Bill of Lading." (56) poly 55-gal HBr UN 1788 drums. Depart for Houston, TX
manifest

1120 ERRS lunch
1206 3rd truck on-Site - Manifest "Truck #3 - Bill of Lading" (56) poly 55-gal HBr UN 1788 drums.



9/26/11

1430 ERRS pump liquid layer that settled on top of sludge tales into AST. Level C. Solids that settled mixed with soil & staged @ Bulk truck pad.

1451 Weather temp 79.2°F Wind from W @ 7.6 mph
Humidity 39% Sunny

1500 RCRA empty containers (30 yd³) roll off box picked up. Manifest WMNA 11128229

1735 4th truck from Altiras on-Site. Picks up (52) HBr 55 gal poly Drum. "Truck #4 - Bill of Lading."

1740 ERRS/OSC checked sludge solidification not working. Plan is to place sludge in close top tales & drums → then dispose.

1815 Meeting - List of completed tasks:
1. Pump rain water in 2nd ary containment on New Tank Farm.
2. ERRS solidify sludge (attempted).
3. (220) HBr 55-gal poly picked picked up. Recycling Bill of lading Trucks 1-4
4. 30 yd³ (1) RCRA empty drum picked up.

1830 ERRS/START/OSC ~~depart~~ secure Site, depart Site

9/27/11

0630 EERS/START arrive on-Site.
Combined H&S meeting. Attendance: EERS-9/START-1
Topics discussed:
1. operations - load pallets on truck; load tanker truck
- sludge transfers; pack solids in drums
2. Safety - PPE, splash haz, slip/trip/fall
3. START - air monitor, documentation
Weather forecast: Low 60/High 83

0637 Meeting end. EERS prepare for day's activities. START prep monitors.
0650 START air monitor around warehouse & Site. No significant readings

0700 EERS begin consolidating sludge into close top tote - Level C. Face shield
PSC truck on-Site to pick up "misc" drums (ie. paint, waste aerosol, etc)
complete list @ later entry.

0730 Waste management picks up "RCRA empty" drums 30 yd³ (manifest # WM 11128230)

0742 PSC signs manifest (# 00874438 JJK), depart Site to a local weigh station w/ EERS
0800 EERS return to Site Loaded weight (50,740 lbs) - Tare (33,900 lbs) =
net weight = 16,840 lbs.

0827 Weather temp 68.4°F Wind from S @ 3.8 mph
humidity 70% Sunny.



09/27/11

0959 ~~PSC~~ Tradete (rep) tanker truck on-Site for bulk loading AST, tank #1
1115 most EERS crew @ lunch
1130 ~~PSC~~ Tradete (rep) signs manifest (# 00767 4409 JJK), depart Site with Approx. 5,572 gal
from AST, Tank #1 (methanol, toluene, per manifest)

1220 Back from lunch break. Continue consolidating sludge. level C.

1430 ~~PSC~~ Tradete (rep) reports AST 1 contents collected today contained water instead of flammable
(see manifest # 00767 4409 JJK). PSC will re-send new profile. Field Screen
1515 EPA signed memo sent to Tradete, regarding modification to waste
profile on contents of AST #1 collected today. Note: a replacement
manifest was sent: Contents (liquid Bromine), manifest
No. M12064.

1530 EERS begin to pack solids/sludge on 55-gal open top poly drums
1601 Weather temp 87.6°F Wind from W @ 12.1 mph
humidity 32% Sunny

1645 OSC, START, & EERS crew head to State Site Steel for use of weigh
machine. Weigh totes consolidated containing sludge (ie. MEKB, etc.),
a plastic visqueen placed over weigh scale. weighing for
disposal cost estimate.

1758 Alliance picks up loaded Hbr Cargo box containers loaded on 9/23/11.
1836 Cargo trucks depart Site (Bill of Lading Truck # 5 & #6)

9/27/11

1915 Combined meeting - Completed tasks today:

1. (1) 30 yd³ roll-off container containing drums prev. emptied of their haz-substance & deemed to "RCRA empty" condition shipped off.
2. (128) Palletized 55-gal poly HDPE corded to two cargo box shipping containers on 9/23/11 shipped off-site for recycling.
3. (42) misc. drums shipped off-site for disposal. Itemize (55-gal poly):

| | | | |
|---|---|---|---|
| Diazene ( | (2) | bromochlorobenzene | (1) |
| Anisole | (6) | DBFB (non DOT reg) | (1) |
| paint containers | (9) | Dibromobenzene | (3) |
| bromopyridine | (1) | 2-bromomethylbenzene | (1) |
| fluorobenzaldehyde | (1) | tribromobenzene | (1) |
| benzene | (4) | gear oil | (4) |
| mercury | (1) | sulfonic acid | (2) |
| bromophenol | (1) | caustic, hydrogen chloride (solid) | (3) |
| | | caustic, hydrogen chloride (liq) | (1) |

Note: this ~~came~~ was packaged in a 20 gal poly.

4. Non-haz water from AST, tank #1 shipped off-site for Bulk disposal.
   Note: liquids from AST, Tank #1 was labeled & documented as Flammable liquid when it left the site. However upon arrival to vendor facility, a field screen was performed & the facility classified it as non-haz water. A revision on manifests & profiles were documented & the facility will dispose of liq. appropriately.
5. (13) 275-gal totes transferred to shippable totes. Consist of (1) Bromobenzene, (5) dibromotoluene, & (7) DBFB sludge.
6. (20) Poly 55-gal solids/sludge were consolidated.

1930 EPCS/START/OSC secure site. Depart site.



09/28/11

0630 START/EPCS arrive on-site.

Combined H&S meeting. Attendance: EPCS - 9/START - 1

Topics discussed:

1. Operations - Bulk shipment, sludge consolidation, solids consolidation
2. Safety - Splash hazard, pitch points, vapor hazard.
3. START - air monitor, documentation.

Weather forecast: Low 60, High 83, Winds from NNW 0-5 mph, Sunny

0648 Meeting end. EPCS begin prep for day. START prep air monitor.

0655 START air monitor around warehouse & site. No significant readings.

0715 5000 gal tanker truck arrive on-site. Begins to collect contents of AST, Tank 1
- EPCS begin sludge transfer to close top tote. level C.
- EPCS begin sludge/solids consolidation to open top 55-gal poly from Bulk Truck pad.

0945 Tanker truck transfer from AST, Tank #1 completed, appx. 5,800 gal, methanol/toluene flammables, signo manifest # 007674410JJK.
Weather temp 78.8°F Wind from SW @ 2.2 mph
Humidity 63% Sunny

1145 Tanker truck #2 on site collects contents of AST, Tank #2 (non-haz liquids/fuel)

1250 Transfer to tanker truck #2 (from AST #2) completed; 4,500 gals appx, Signo manifest # M12065; depart site for Treatek disposal

9/28/11

1300 lunch Break

1330 Back from lunch: START air monitors around Site. No significant reading.
- EKRS continue sludge consolidation into close-top tote. Level C.
-
- Tanker Truck #3 enter Site to load Bulk AST #1 & #3 (Flammables)

1450 Tanker truck #3 completes transfer (from AST #1 & #3); appx. 5700 gal;
Note: AST #1 is now completely empty; signo manifest
# 007674405 JJK; depart Site for Teredeke disposal.

1603 EKRS begin Site maintenance
Weather temp 91.6°F Wind from SE @ 2.2mph
humidity 37% Sunny

1810 Combined meeting - List of completed tasks today.
1. AST liquids shipped for Bulk disposal:
AST Tank #1 (See 0945 hrs entry) manifest # 007674410 JJK
AST Tank #2 (See 1145 hrs. entry) manifest # M12065
AST Tank #1/#3 (See 1450 hrs entry) manifest # 007674405 JJK
2. (4) 275-gal totes used for temp. storage of sludge were transferred into shippable totes & prep for shipment. Total totes of sludge ready for shipment = 17 to date.
3. (10) 55-gal open top poly drums filled with solids obtained from sludge totes & containment areas. Total drums to date: 30.
4. Site maintenance.

1830 START/EKRS secure Site. OSC/START/EKRS depart Site



9/29/11

0630 EKRS/START arrive on-Site.
Combined H&S meeting. Attendance: EKRS-9/START-1
Topics discussed:
1. operations - decon all equipment, cut totes & decon, load contents of AST #2
2. safety - eyes on everybody occasionally. Stay focused & be aware of surroundings especially since demob is coming up.
3. START - documentation, air monitor.
Weather forecast: Low 55, High 85°F; Wind from S @ 0-5mph sunny

0650 meeting end. START prep air monitor. EKRS prep for day's activities.

0700 START air monitor around warehouse & Site. No significant readings.
Truck #1 on-Site to load contents of AST, Tank #2 in Bulk.

0720 EKRS begin general cleaning: Bulk Truck Pad, Drum Pad Area, etc...

0830 Tanker truck #1 loaded with contents of AST, Tank #2 (non haz, liquids/Bromine); appx. 4,600 gal; Signo manifest # M12066; depart Site for Teredeke disposal. AST #2 is now empty.

0954 Weather temp 80.8°F Wind from S @ 3.8mph
humidity 58% Sunny.

1100 Lunch break except for few EKRS

1129 Tanker truck #2 on-Site to load contents of AST, Tank #3 (Flamm.) in bulk

9/29/11

1140 Back from lunch Break - START air monitor around site - No significant readings
- ERRS continue to Re-drum non-haz solids; iron filter cake
- ERRS decon drums to RCRA empty status; cut into smaller pieces

1337 Weather temp 91.4°F Wind from SE @ 7.6mph
Humidity 35% Sunny

1415 Tanker truck #2 loaded with contents of AST #3 (flammables),
Note: AST, Tank #3 is now empty; approx. 4,900 gal loaded;
signs Manifest # 007674419JJK, depart site for Tradebe disposal.

1430 ERRS securing non-haz iron filter cakes (55-gal drums) on-site in one of the storage containers. Sampled profile not available to landfill to date. waiting on landfill to reply if they will accept the non-haz solids

1500 ERRS weigh totes & drums of sludge ~~prior~~ not for disposal purposes.
weigh scale @ State Site wire facility accross the street from Diaz

1605 All ASTs (empty) in Old & New Tank Farm are "capped" & "Blinded" (solid 1-piece gasket) that prevents flow through of liquids.

1739 meeting - Summary of completed tasks ⟶
next page.



9/29/11

1739 meeting - Summary of day's completed tasks.
1. Bulk shipment for disposal:
AST Tank #2 (See 0830 hrs. entry) manifest # M12066.
AST Tank #3 (See 1415 hrs. entry) manifest # 007674419JJK

2. Drums & totes previously emptied of haz. substance decontaminated to "RCRA empty" condition & resized to smaller pieces:

| | Today | Total to date |
|---|---|---|
| 55-gal poly drums | 65 | 1,381 |
| 55-gal steel drums | Ø | 405 |
| 275-gal totes | 6 | 18 |

3. General maintenance & clean-up throughout site

1800 ERRS secure site. START / OSC / ERRS depart site.

Note tomorrow's load 1 = (11) DBFB totes, (1) XBT totes (sludge)
load 2 = (4) XBT totes, (1) BB, (30) DBFB drums

0630 ERRS / START arrive on-Site.
Combined H&S meeting. Attendance: ERRS-9/START-1
Topics discussed:
1. operations - load trucks, clean entire site, prep RCRA box for transport
2. Safety - last work day, don't get complacent, stay focused.
3. START - documentation
Weather forecast: Low 56/High 74, Wind from NNE @ 10-15 mph; Sunny

0644 Meeting end. ERRS prep for day. No air monitor, unit sent back yesterday

0649 - ERRS begin general site maintenance.
- PSC Truck #1 enter site,
0745 - Truck #1 loaded (11 - DBFB/DBT (sludge) totes; 1 - BT tote), signs manifest # 008944327 JJK; Net weight: 42,040 lbs (tare - loaded weight); depart Site for PSC disposal. (weight ticket)

0749 Weather temp 59.9°F Wind from West @ 3.8 mph
Humidity 65% Sunny.

0755 - PSC Truck #2 enter Site.
0815 - Truck #2 loaded (30 - poly DBFB (DBT) sludge; 4 - BTolueue totes; 1 - Brombenzene tote), signs manifest # 008944328 JJK; Net weight: 41,400 lbs (loaded - net weight); depart Site for PSC disposal.



0830 Waste Management picks up "RCRA empty" containers for disposal. 30 yd³, Manifest # WMNA 11128231

0845 West Memphis Fire Dept. Jeff Jones on-Site to meet with FOSC. Tours Site with FOSC, notified Remaining PPE & empty drums will be donated to the FD. FD stated they will pick up donated drums & PPE by noon.

0900 FD depart Site

1000 The following items being delivered to State Side Wire (for recycling). NO bill of lading was issued per ERRS rep. State Side Wire is directly SW of Diaz @ 304 Wyanoke Road, West Memphis, AR 72301:
- (40 bags) activated carbon Appx 2,000 lbs
- (80 bags) Sodium thiosulfate Appx. 4,000 lbs.
- (3) 300-gal totes with 50% Caustic soda / 50% water solution, appx 750 gals total.

1010 EPA courtesy call / notifies mayor of West Memphis regarding completion of removal activities & planned demo by EPA & contractors today.

1045 ADEQ Clyde Rhodes & Michael Gates on-Site. Site tour with FOSC, START-3, & ERRS Rep.

1130 ADEQ Rep. depart Site.

9/30/11

1130 Lunch Break

1200 Back from lunch. EERS continue general clean-up.

1300 OSC demobilizes from Diaz.

1330 Port-a-Poty & rental equipment gets picked up.

1333 "RCRA empty" containers picked up by waste management.
Manifest # WMNA 111 28232; 30 yd$^3$ for disposal.

1400 "RCRA empty" containers picked up by waste management.
manifest # WMNA 111 28233, 30yd$^3$ for disposal.

1415 START-3 completes photo & video documentation of site conditions.

1430 EERS / START-3 secure site. Locks gate. Demobilizes from Diaz.



START-3

START-3



START-3

START-3



START-3

SPAM 3



SPAM 3

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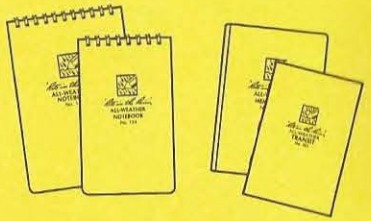
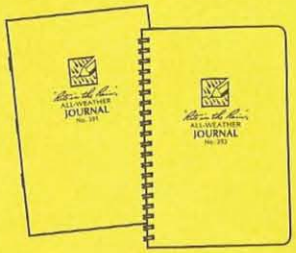


Memo Books

All-Weather Pens




Notebooks

**www.RiteintheRain.com**

# Appendix C

# Photo Documentation*

**Note: the corresponding photos for the photo logbook are located in a separate folder, titled "Photos," in the CD deliverable.*



This document was prepared by Dynamac Corporation, expressly for EPA. It shall not be released or disclosed in whole or in part without the express, written permission of EPA.

# Photo logbook



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# Appendix C - Photo Documentation Log*



** = Notes: (1) The corresponding photos for this Photo Documentation Log are located in a separate folder, titled "Photos", in the CD deliverable.*
*(2) Camera used = Kodak Easy Share C613*

| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-2998 | 7/14/2011 | 0824 | N | NB / PM | View of the Dock Area - Pre-removal conditions |
| 103-2999 | 7/14/2011 | 0825 | W | NB / PM | View of the Warehouse - Pre-removal conditions |
| 103-3002 | 7/14/2011 | 0825 | E | NB / PM | View of the Office Lab - Pre-removal conditions |
| 103-3003 | 7/14/2011 | 0825 | NE | NB / PM | View of the Process Area - Pre-removal conditions |
| 103-3004 | 7/14/2011 | 0826 | NE | NB / PM | View of the Dock and Process Area - Pre-removal conditions |
| 103-3005 | 7/14/2011 | 0826 | NW | NB / PM | View of the Old Tank Farm - Pre-removal conditions |
| 103-3006 | 7/14/2011 | 0826 | N | NB / PM | View of the Fork Lift Path - Pre-removal conditions |
| 103-3007 | 7/14/2011 | 0827 | NW | NB / PM | View of the Old Tank Farm - Pre-removal conditions |
| 103-3009 | 7/14/2011 | 0828 | W | NB / PM | View of the Warehouse (sign) - Pre-removal conditions |
| 103-3010 | 7/14/2011 | 0830 | NW | NB / PM | View of the Drum Pad Area - Pre-removal conditions |
| 103-3011 | 7/14/2011 | 0831 | S | NB / PM | View of the Drum Pad and New Tank Farm - Pre-removal conditions |
| 103-3012 | 7/14/2011 | 0831 | NW | NB / PM | View of the Drum Pad Area - Pre-removal conditions |
| 103-3013 | 7/14/2011 | 0831 | SE | NB / PM | View of the Process Area - Pre-removal conditions |
| 103-3014 | 7/14/2011 | 0832 | NE | NB / PM | View of the North Pad Sump - Pre-removal conditions |
| 103-3015 | 7/14/2011 | 0832 | S | NB / PM | View of the Bulk Truck Loading Pad - Pre-removal conditions |
| 103-3016 | 7/14/2011 | 0833 | NE | NB / PM | View of the Empty Container Storage Area - Pre-removal conditions |
| 103-3017 | 7/14/2011 | 0833 | NE | NB / PM | View of the Empty Container Storage Area - Pre-removal conditions |
| 103-3018 | 7/14/2011 | 0833 | NW | NB / PM | View of the North Pad - Pre-removal conditions |
| 103-3019 | 7/14/2011 | 0833 | SW | NB / PM | View of the East section of the Fork Lift Path - Pre-removal conditions |
| 103-3020 | 7/14/2011 | 0836 | SW | NB / PM | View of the East section of the Dock Area - Pre-removal conditions |
| 103-3021 | 7/14/2011 | 0853 | N | NB / PM | Panoramic View of Diaz Intermediates - Pre-removal conditions |
| 103-3022 | 7/14/2011 | 0853 | N | NB / PM | Panoramic View of Diaz Intermediates - Pre-removal conditions |
| 103-3023 | 7/14/2011 | 0854 | NE | NB / PM | Overgrown vegetation - Pre-removal conditions |
| 103-3024 | 7/14/2011 | 0854 | NE | NB / PM | Overgrown vegetation - Pre-removal conditions |
| 103-3025 | 7/14/2011 | 0859 | NE | NB / PM | View of Offices and Break Room - Pre-removal conditions |
| 103-3032 | 7/14/2011 | 0859 | NE | NB / PM | View of Offices and Break Room - Pre-removal conditions |
| 103-3033 | 7/14/2011 | 0900 | NW | NB / PM | View of Locker Room - Pre-removal conditions |
| 103-3036 | 7/14/2011 | 0900 | NW | NB / PM | View of Locker Room - Pre-removal conditions |
| 103-3037 | 7/14/2011 | 0902 | S | NB / PM | View of Laboratory - Pre-removal conditions |
| 103-3048 | 7/14/2011 | 0902 | S | NB / PM | View of Laboratory - Pre-removal conditions |
| 103-3049 | 7/14/2011 | 0902 | S | NB / PM | View of Laboratory - Pre-removal conditions |
| 103-3050 | 7/14/2011 | 1616 | NE | NB / PM | View of Water Utilities on-Site to turn on water meter |
| 103-3051 | 7/14/2011 | 1654 | NE | NB / PM | View of water over flowing as a result of water turned on-Site |
| 103-3052 | 7/14/2011 | 1654 | NE | NB / PM | View of water over flowing as a result of water turned on-Site |
| 103-3053 | 7/15/2011 | 0642 | SW | NB / PM | Storage tank - Pre-removal conditions |
| 103-3054 | 7/15/2011 | 0658 | N | NB / PM | View of Bulk Truck Loading Pad - Pre-removal conditions |
| 103-3055 | 7/15/2011 | 0658 | N | NB / PM | View of Bulk Truck Loading Pad - Pre-removal conditions |
| 103-3056 | 7/15/2011 | 0751 | S | NB / PM | View of Electric Company on-Site to turn on electricity |
| 103-3057 | 7/15/2011 | 0751 | S | NB / PM | View of Electric Company on-Site to turn on electricity |
| 103-3058 | 7/15/2011 | 1153 | SW | NB / PM | Temporary Lavatory Facilities delivered on-Site |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

Release of information only with written permission from EPA.

# Appendix C - Photo Documentation Log*



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*(2) Camera used = Kodak Easy Share C613*

| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3059 | 7/15/2011 | 1540 | SE | NB / PM | View of m-Bromoanisole [MBA] (labeled "X") identified by ERRS. |
| 103-3060 | 7/15/2011 | 1540 | SE | NB / PM | View of m-Bromoanisole [MBA] (labeled "X") identified by ERRS. |
| 103-3061 | 7/15/2011 | 1540 | SE | NB / PM | View of m-Bromoanisole [MBA] (labeled "X") identified by ERRS. |
| 103-3062 | 7/15/2011 | 1558 | S | NB / PM | View of Rail Car AARX 28446 on-Site |
| 103-3063 | 7/15/2011 | 1559 | N | NB / PM | View of Rail Car AARX 49181 on-Site |
| 103-3064 | 7/18/2011 | 0927 | NE | NB / PM | View of m-Bromoanisole (labeled "X") identified by ERRS. |
| 103-3065 | 7/19/2011 | 0933 | NW | DM / PM | View of ERRS & START-3 identifying m-Bromoanisole (MBA) drums |
| 103-3066 | 7/19/2011 | 0942 | SE | DM / PM | Fork lift delivered on-Site |
| 103-3067 | 7/19/2011 | 1003 | NE | DM / PM | View of general Site maintenance on-Site |
| 103-3068 | 7/19/2011 | 1249 | SW | NB / PM | Cold trash container delivered on-Site |
| 103-3069 | 7/19/2011 | 1423 | E | DM / NB | General Site maintenance |
| 103-3070 | 7/19/2011 | 1554 | SW | DM / NB | General Site maintenance |
| 103-3071 | 7/20/2011 | 0723 | SW | DM / NB | View of ERRS gauging contents of rail car AARX 28446 |
| 103-3072 | 7/20/2011 | 0723 | SW | DM / NB | View of ERRS gauging contents of rail car AARX 28446 |
| 103-3073 | 7/20/2011 | 0733 | N | NB / DM | View of ERRS gauging contents of rail car AARX 49181 |
| 103-3074 | 7/20/2011 | 1019 | NW | NB / DM | View of START-3 air monitoring using a multi-RAE |
| 103-3075 | 7/20/2011 | 1235 | Down | NB / DM | View of ERRS segregating MBA drums |
| 103-3076 | 7/20/2011 | 1427 | W | NB / DM | View of City of West Memphis utilities turning on fire hydrant water source. |
| 103-3077 | 7/20/2011 | 1427 | SW | NB / DM | View of City of West Memphis utilities turning on fire hydrant water source. |
| 103-3078 | 7/20/2011 | 1427 | SE | NB / DM | View of City of West Memphis utilities turning on fire hydrant water source. |
| 103-3079 | 7/20/2011 | 1433 | N | NB / DM | View of ERRS segregating drums |
| 103-3080 | 7/20/2011 | 1549 | N | NB / DM | View of ERRS obtaining pH at the Bulk Truck Loading Pad |
| 103-3081 | 7/20/2011 | 1550 | W | NB / DM | View of ERRS obtaining pH at secondary containment east of the Process Area. |
| 103-3082 | 7/20/2011 | 1656 | NE | NB / DM | View of ERRS pumping storm water off the Bulk Truck Loading Pad. |
| 103-3083 | 7/21/2011 | 0724 | Down | NB / DM | View of ERRS pumping storm water off the Bulk Truck Loading Pad. |
| 103-3084 | 7/21/2011 | 0740 | N | NB / DM | View of ERRS obtaining HBr samples from the Old Tank From AST |
| 103-3085 | 7/21/2011 | 0757 | N | NB / DM | View of ERRS obtaining HBr samples from the Old Tank From AST |
| 103-3086 | 7/21/2011 | 0807 | NW | NB / DM | View of ERRS obtaining HBr samples from the Old Tank From AST |
| 103-3087 | 7/21/2011 | 1019 | NE | NB / DM | View of ERRS staging MBA drums at the Bulk Truck Loading Pad |
| 103-3088 | 7/21/2011 | 1035 | NE | NB / DM | View of ERRS pumping storm water off the secondary containment system. |
| 103-3089 | 7/22/2011 | 0730 | Down | NB / NA | View of ERRS segregating drums by class |
| 103-3090 | 7/22/2011 | 1255 | S | NB / NA | View of pallets delivered on-Site |
| 103-3091 | 7/22/2011 | 1653 | NE | NB / NA | View of Emergency Water Source staged |
| 103-3092 | 7/22/2011 | 1700 | NW | NB / NA | View of ERRS segregating drums by class. |
| 103-3093 | 7/23/2011 | 0759 | NE | NB / NA | View of ERRS relocating drums from inside the 2nd floor of the Process Area |
| 103-3094 | 7/23/2011 | 0759 | NE | NB / NA | View of ERRS relocating drums from inside the 2nd floor of the Process Area |
| 103-3095 | 7/23/2011 | 0800 | NE | NB / NA | View of ERRS relocating drums from inside the 2nd floor of the Process Area |
| 103-3096 | 7/23/2011 | 0838 | NE | NB / NA | View of ERRS relocating drums from inside the 2nd floor of the Process Area |
| 103-3097 | 7/23/2011 | 1405 | N | NB / NA | View of ERRS segregating drums by class. |
| 103-3098 | 7/23/2011 | 1405 | SE | NB / NA | View of MBA drums segregated: red (brown MBA) vs. yellow mark (clear MBA) |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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# Appendix C - Photo Documentation Log*



** = Notes: (1) The corresponding photos for this Photo Documentation Log are located in a separate folder, titled "Photos", in the CD deliverable.*
*(2) Camera used = Kodak Easy Share C613*

| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3099 | 7/25/2011 | 0722 | SW | NB / ERRS | View of START-3 air monitoring solids on the second floor of the Process Area |
| 103-3100 | 7/25/2011 | 0723 | SW | NB / ERRS | View of START-3 air monitoring solids on the second floor of the Process Area |
| 103-3101 | 7/25/2011 | 0743 | SW | NB / ERRS | View of START-3 air monitoring solids on the second floor of the Process Area |
| 103-3102 | 7/25/2011 | 0743 | SW | NB / ERRS | View of START-3 air monitoring solids on the second floor of the Process Area |
| 103-3103 | 7/25/2011 | 1032 | NW | NB / ERRS | View of START-3 reading pH level on the New Tank Farm secondary containment |
| 103-3104 | 7/25/2011 | 1037 | SW | NB / ERRS | View of START-3 collecting water samples on the Old Tank Farm |
| 103-3105 | 7/25/2011 | 1106 | NE | NB / NA | View of ERRS segregating drums by class |
| 103-3106 | 7/25/2011 | 1526 | NW | NB / NA | View of segregated m-Bromoanisole drums packed for shipment |
| 103-3107 | 7/25/2011 | 1014 | Down | NB / NA | View of HazCat activities of collected samples. |
| 103-3108 | 7/25/2011 | 1022 | NW | NB / NA | View of ERRS sampling known samples. |
| 103-3109 | 7/27/2011 | 0724 | N | NB / NA | View of ERRS collecting MBA samples (clear MBA) |
| 103-3110 | 7/27/2011 | 0743 | NE | NB / NA | View of ERRS relocating 1 of 6 drums containing solids |
| 103-3111 | 7/27/2011 | 0743 | NE | NB / NA | View of ERRS relocating 1 of 6 drums containing solids |
| 103-3112 | 7/27/2011 | 1028 | N | NB / NA | View of the Site sign |
| 103-3113 | 7/27/2011 | 1413 | S | NB / NA | View of ERRS segregating drums by class |
| 103-3114 | 7/27/2011 | 1414 | S | NB / NA | View of ERRS collecting samples of known products |
| 103-3115 | 7/27/2011 | 1656 | S | NB / NA | Man lift returned to the rental facility |
| 103-3116 | 7/28/2011 | 0739 | SW | NB / NA | View of ERRS collecting samples for HazCat activities |
| 103-3117 | 7/28/2011 | 1516 | N | NB / NA | View of site conditions, to date. Drums separated by class. |
| 103-3118 | 7/28/2011 | 1516 | E | NB / NA | View of site conditions, to date. Drums separated by class. |
| 103-3119 | 7/29/2011 | 0841 | NE | NB / NA | View of ERRS Bulking totes. |
| 103-3120 | 7/29/2011 | 0841 | NE | NB / NA | View of ERRS Bulking totes. |
| 103-3121 | 7/29/2011 | 0851 | E | NB / NA | View of ERRS collecting samples for HazCatting. |
| 103-3122 | 7/29/2011 | 0854 | NW | NB / NA | View of ERRS collecting samples for HazCatting. |
| 103-3123 | 7/30/2011 | 0724 | NE | NB / NA | View of ERRS Bulking contents of totes. |
| 103-3124 | 7/30/2011 | 1300 | E | NB / NA | View of ERRS Bulking contents of drums. |
| 103-3125 | 7/30/2011 | 1303 | NW | NB / NA | View of ERRS segregating/transferring drums (benzene) |
| 103-3126 | 8/1/2011 | 0954 | NW | NB / NA | View of ERRS segregating drums inside the warehouse building. |
| 103-3127 | 8/1/2011 | 0954 | NW | NB / NA | View of ERRS segregating drums inside the warehouse building. |
| 103-3128 | 8/1/2011 | 0957 | N | NB / NA | View of ERRS conducting bulking activities using a compressor |
| 103-3129 | 8/1/2011 | 0957 | N | NB / NA | View of ERRS conducting bulking activities using a compressor |
| 103-3130 | 8/1/2011 | 1550 | NE | NB / NA | View of ERRS segregating drums from the warehouse. |
| 103-3131 | 8/1/2011 | 1550 | NE | NB / NA | View of ERRS segregating drums from the warehouse. |
| 103-3132 | 8/1/2011 | 1550 | N | NB / NA | View of current conditions at the Drum Pad area |
| 103-3133 | 8/1/2011 | 1556 | NW | NB / NA | View of ERRS measuring the tank contents of AST Tank #08. |
| 103-3134 | 8/1/2011 | 1610 | E | NB / NA | View of ERRS measuring the tank contents of AST Tank #05. |
| 103-3135 | 8/1/2011 | 1616 | SW | NB / NA | View of ERRS relocating/arranging totes from the warehouse. |
| 103-3136 | 8/2/2011 | 1616 | SW | NB / NA | View of ERRS relocating/arranging totes from the warehouse. |
| 103-3137 | 8/2/2011 | 1616 | SW | NB / NA | View of ERRS relocating/arranging totes from the warehouse. |
| 103-3138 | 8/2/2011 | 0953 | SW | NB / NA | View of ERRS relocating/re-arranging drums inside the warehouse. |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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# Appendix C - Photo Documentation Log*



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| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3139 | 8/2/2011 | 1028 | NW | NB / NA | View of ERRS segregating 5-gallon drums from the warehouse building. |
| 103-3140 | 8/2/2011 | 1454 | SW | NB / NA | View of ERRS relocating MBA drums from the drum pad to the warehouse. |
| 103-3141 | 8/2/2011 | 1454 | SW | NB / NA | View of ERRS relocating MBA drums from the drum pad to the warehouse. |
| 103-3142 | 8/2/2011 | 1454 | NW | NB / NA | View of current conditions of the warehouse |
| 103-3143 | 8/2/2011 | 1455 | N | NB / NA | View of drums staged from the warehouse |
| 103-3144 | 8/2/2011 | 1455 | NW | KG / NA | View of drums staged from the warehouse. |
| 103-3145 | 8/3/2011 | 0801 | NW | KG / NA | View of ERRS bulking drums |
| 103-3146 | 8/3/2011 | 0901 | S | KG / NA | View of ERRS transporting drums to StateSide facility. |
| 103-3147 | 8/3/2011 | 1146 | SE | KG / NA | View of ERRS consolidating drums |
| 103-3148 | 8/3/2011 | 1329 | N | KG / NA | View of warning signs in the Drum Pad area. |
| 103-3149 | 8/4/2011 | 0740 | SW | KG / NA | View of water level in the old tank farm. |
| 103-3150 | 8/4/2011 | 0741 | E | KG / NA | View of ERRS putting solids in buckets. |
| 103-3151 | 8/4/2011 | 1028 | SW | KG / NA | View of Old Tank Farm after pumping the storm water |
| 103-3152 | 8/4/2011 | 1329 | E | KG / NA | View of Spill on Drum Pad |
| 103-3153 | 8/4/2011 | 1350 | NE | KG / NA | View of two totes that were leaking |
| 103-3154 | 8/4/2011 | 1350 | W | KG / NA | View of Drum Pad during the spill |
| 103-3155 | 8/4/2011 | 1354 | E | KG / NA | View of ERRS consolidating totes |
| 103-3156 | 8/4/2011 | 1357 | NE | KG / NA | View of crack on tote that was spilling |
| 103-3157 | 8/4/2011 | 1509 | W | KG / NA | View of Drum Pad after ERRS placed absorbent pads. |
| 103-3158 | 8/5/2011 | 0716 | W | KG / NA | View of ERRS taking a pH reading of storm water from the New Tank Farm |
| 103-3159 | 8/5/2011 | 0716 | W | KG / NA | View of ERRS taking a pH reading of storm water from the New Tank Farm |
| 103-3160 | 8/5/2011 | 0853 | N | KG / NA | View of ERRS transferring toluene from poly totes |
| 103-3161 | 8/5/2011 | 1355 | S | KG / NA | View of ERRS transferring toluene from poly totes |
| 103-3162 | 8/5/2011 | 1659 | W | KG / NA | View of roll off being dropped off. |
| 103-3163 | 8/5/2011 | 1703 | W | KG / NA | View of ERRS loading roll off containers |
| 103-3164 | 8/6/2011 | 0708 | NW | KG / NA | View New Tank farm before pumping water out. |
| 103-3165 | 8/6/2011 | 0713 | NW | KG / NA | View of ERRS sampling Toluene |
| 103-3166 | 8/6/2011 | 1033 | W | KG / NA | View of ERRS moving pallets |
| 103-3167 | 8/6/2011 | 1044 | W | KG / NA | View of ERRS checking viscosity in drums. |
| 103-3168 | 8/6/2011 | 1604 | NW | KG / NA | View of New Tank Farm pumped |
| 103-3169 | 8/6/2011 | 1624 | E | KG / NA | View of ERRS transferring Toluene |
| 103-3170 | 8/8/2011 | 0720 | E | KG / NA | View of ERRS sampling methanol |
| 103-3171 | 8/8/2011 | 0756 | SE | KG / NA | View of ERRS transferring methanol |
| 103-3172 | 8/8/2011 | 0917 | SW | KG / NA | View of ERRS preparing samples |
| 103-3173 | 8/8/2011 | 0921 | SW | KG / NA | View of ERRS packing samples |
| 103-3174 | 8/8/2011 | 1022 | SW | KG / NA | View of ERRS lab packing samples |
| 103-3175 | 8/8/2011 | 1058 | SE | KG / NA | View of samples packed and ready for shipment |
| 103-3176 | 8/9/2011 | 0905 | N | KG / NA | View of ERRS doing drum inventory |
| 103-3177 | 8/9/2011 | 1426 | W | KG / NA | View of Poly drums being unloaded. |
| 103-3178 | 8/9/2011 | 1643 | S | KG / NA | View of ERRS segregating drums |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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|---|---|---|---|---|---|
| 103-3179 | 8/9/2011 | 1644 | W | KG / NA | View of Poly drums stored in the warehouse. |
| 103-3180 | 8/9/2011 | 1655 | N | KG / NA | View of ERRS and START-3 doing inventory |
| 103-3181 | 8/9/2011 | 1658 | NE | KG / NA | View of ERRS segregating like drums. |
| 103-3182 | 8/9/2011 | 1658 | E | KG / NA | View of cracked poly drum found |
| 103-3183 | 8/10/2011 | 0652 | W | KG / NA | View of Level B equipment delivered. |
| 103-3184 | 8/10/2011 | 0739 | W | KG / NA | View of ERRS preparation |
| 103-3185 | 8/10/2011 | 0910 | N | KG / NA | View of ERRS unloading oxygen bottles |
| 103-3186 | 8/10/2011 | 0939 | W | KG / NA | View of ERRS relocating drums |
| 103-3187 | 8/10/2011 | 0939 | SE | KG / NA | View of Pallets being staged. |
| 103-3188 | 8/10/2011 | 1310 | S | KG / NA | View of Roll off box being delivered. |
| 103-3189 | 8/11/2011 | 0720 | N | KG / NA | View of 55-gallon poly staged |
| 103-3190 | 8/11/2011 | 0737 | N | KG / NA | View of poly drums that has been moved and staged. |
| 103-3191 | 8/11/2011 | 0753 | S | KG / NA | View of Roll off box being delivered. |
| 103-3192 | 8/11/2011 | 0956 | W | KG / NA | View of ERRS stacking steel drums |
| 103-3193 | 8/11/2011 | 0957 | W | KG / NA | View of ERRS stacking steel drums |
| 103-3194 | 8/11/2011 | 0959 | W | KG / NA | View of ERRS unloading poly drums |
| 103-3195 | 8/11/2011 | 1046 | S | KG / NA | View of ERRS dressing up in Level B |
| 103-3196 | 8/11/2011 | 1049 | W | KG / NA | View of ERRS transferring drum contents |
| 103-3197 | 8/11/2011 | 1049 | NW | KG / NA | View of ERRS manning the compressor |
| 103-3198 | 8/11/2011 | 1050 | W | KG / NA | View of ERRS transferring drum contents |
| 103-3199 | 8/11/2011 | 1051 | NW | KG / NA | View of ERRS transferring drum contents |
| 103-3200 | 8/11/2011 | 1056 | NW | KG / NA | View of ERRS transferring drum contents |
| 103-3201 | 8/11/2011 | 1143 | N | KG / NA | View of ERRS transferring drum contents |
| 103-3202 | 8/11/2011 | 1146 | NW | KG / NA | View of ERRS staging poly drums |
| 103-3203 | 8/11/2011 | 1214 | NE | KG / NA | View of ERRS placing sticker labels |
| 103-3204 | 8/11/2011 | 1229 | W | KG / NA | View of Polys on drum pad |
| 103-3205 | 8/11/2011 | 1510 | W | KG / NA | View of Poly drums |
| 103-3206 | 8/11/2011 | 1627 | W | KG / NA | View of ERRS transferring drum contents |
| 103-3207 | 8/12/2011 | 0706 | W | KG / NA | View of ERRS collecting samples of toluene |
| 103-3208 | 8/12/2011 | 0714 | NW | KG / NA | View of ERRS transferring acid to 55-gallon poly |
| 103-3209 | 8/12/2011 | 1003 | N | KG / NA | View of ERRS staging drums for shipping. |
| 103-3210 | 8/12/2011 | 1010 | N | KG / NA | View of ERRS transferring aluminum chloride |
| 103-3211 | 8/12/2011 | 1011 | N | KG / NA | View of ERRS transferring aluminum chloride |
| 103-3212 | 8/12/2011 | 1042 | SW | KG / NA | View of ERRS placing labels on polys |
| 103-3213 | 8/12/2011 | 1042 | S | KG / NA | View of ERRS unloading 100 poly drums |
| 103-3214 | 8/12/2011 | 1043 | W | KG / NA | View of 55-gallon poly of aluminum chloride |
| 103-3215 | 8/12/2011 | 1217 | SE | KG / NA | View of ERRS and FOSC loading samples |
| 103-3216 | 8/12/2011 | 1410 | N | KG / NA | View of ERRS transferring Hydrobromic Acid |
| 103-3217 | 8/13/2011 | 0845 | S | KG / NA | View of ERRS transferring Hydrobromic Acid |
| 103-3218 | 8/13/2011 | 0845 | W | KG / NA | View of a poly labeled Hydrobromic Acid |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3219 | 8/13/2011 | 0845 | SW | KG / NA | View of ERRS placing labels on polys |
| 103-3220 | 8/13/2011 | 0853 | S | KG / NA | View of ERRS transferring acid |
| 103-3221 | 8/13/2011 | 0854 | W | KG / NA | View of all HBr polys on the pad. |
| 103-3222 | 8/13/2011 | 0855 | SW | KG / NA | View of the North Pad conditions |
| 103-3223 | 8/13/2011 | 0858 | NW | KG / NA | View of polys on the fork lift path |
| 103-3224 | 8/13/2011 | 0859 | NW | KG / NA | View of polys on the fork lift path |
| 103-3225 | 8/13/2011 | 1127 | W | KG / NA | View of ERRS doing Site clean-up |
| 103-3226 | 8/13/2011 | 1128 | W | KG / NA | View of ERRS doing Site clean-up |
| 103-3227 | 8/13/2011 | 1341 | E | KG / NA | View of a can of p-Bromoanisole |
| 103-3228 | 8/13/2011 | 1341 | NE | KG / NA | View of ERRS transferring p-Bromoanisole |
| 103-3229 | 8/13/2011 | 1345 | NE | KG / NA | View of ERRS transferring p-Bromoanisole |
| 103-3230 | 8/13/2011 | 1357 | E | KG / NA | View of a can of m-fluoroanisole |
| 103-3231 | 8/13/2011 | 1400 | N | KG / NA | View of ERRS transferring m-fluoroanisole. |
| 103-3232 | 8/15/2011 | 0734 | NE | NB / NA | Transferring of 48% HBr from 275-gallon tote to a 55-gallon poly drum |
| 103-3233 | 8/15/2011 | 0840 | NE | NB / NA | x-bromotoluene being consolidated into 55-gallong poly drums |
| 103-3234 | 8/15/2011 | 1231 | W | NB / NA | Repacking HBr (Wet/Pure) for shipment from a 55-gal poly to a new 55-gal poly |
| 103-3235 | 8/16/2011 | 0724 | N | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 66-gallon poly drums |
| 103-3236 | 8/16/2011 | 0725 | N | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3237 | 8/16/2011 | 0729 | N | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3238 | 8/16/2011 | 1115 | Down | NB / NA | 55-gallon poly labeled "Hyrdrobromic Acid Lab Pack" contains various small jars. Drum was shipped off to an off-Site vendor, Tradebe. See waste manifests. |
| 103-3239 | 8/16/2011 | 1119 | Down | NB / NA | 55-gallon poly labeled "Hyrdrobromic Acid Lab Pack" contains various small jars. Drum was shipped off to an off-Site vendor, Tradebe. See waste manifests. |
| 103-3240 | 8/16/2011 | 1120 | Down | NB / NA | 55-gallon poly labeled "Hyrdrobromic Acid Lab Pack" contains various small jars. Drum was shipped off to an off-Site vendor, Tradebe. See waste manifests. |
| 103-3241 | 8/16/2011 | 1139 | Down | NB / NA | View of lab packing activities of small containers in lab. |
| 103-3242 | 8/16/2011 | 1139 | Down | NB / NA | View of lab packing activities of small containers in lab. |
| 103-3243 | 8/16/2011 | 1328 | NE | NB / NA | x-bromotoluene bulking in 55-gallon poly drums. |
| 103-3244 | 8/16/2011 | 1345 | SE | NB / NA | View of Tradebe vendor collecting lab packs and drums to ship off-Site. |
| 103-3245 | 8/16/2011 | 1345 | SE | NB / NA | View of Tradebe vendor collecting lab packs and drums to ship off-Site. |
| 103-3246 | 8/16/2011 | 1345 | SW | NB / NA | View of Tradebe vendor collecting lab packs and drums to ship off-Site. |
| 103-3247 | 8/16/2011 | 1500 | Down | NB / DE | View of Aboveground Storage Tank #06 label on tank. |
| 103-3248 | 8/16/2011 | 1501 | Down | NB / DE | View of Aboveground Storage Tank #05 label on tank. |
| 103-3249 | 8/16/2011 | 1501 | Down | NB / DE | View of Aboveground Storage Tank #07 label on tank. |
| 103-3250 | 8/16/2011 | 1502 | Down | NB / DE | View of Aboveground Storage Tank #08 label on tank. |
| 103-3251 | 8/16/2011 | 1502 | Down | NB / DE | View of Aboveground Storage Tank #08 label on tank. |
| 103-3252 | 8/16/2011 | 1505 | NE | NB / DE | View of Aboveground Storage Tank #07 (left) and #05 (right) labels on tank. |
| 103-3253 | 8/16/2011 | 1506 | SE | NB / DE | View of Aboveground Storage Tank #03 (left) and #01 (right) labels on tank. |
| 103-3254 | 8/16/2011 | 1506 | E | NB / DE | View of Aboveground Storage Tank #01, labeled Benzene. |
| 103-3255 | 8/16/2011 | 1508 | E | NB / DE | View of label inside from the inside of the secondary containment in AST, Tank #04 |
| 103-3256 | 8/16/2011 | 1508 | SE | NB / DE | AST, Tank #04 (foreground) and AST, Tank #02 (background) |

Key:
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KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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|---|---|---|---|---|---|
| 103-3257 | 8/16/2011 | 1508 | SE | NB / DE | AST, Tank #02 label taken from the secondary containment. |
| 103-3258 | 8/16/2011 | 1509 | NW | NB / DE | Label on AST, Tank #03 taken from inside the secondary containment. |
| 103-3259 | 8/16/2011 | 1510 | NW | NB / DE | Label on AST, Tank #01 |
| 103-3260 | 8/16/2011 | 1511 | NE | NB / DE | Label on AST, Tank #02 |
| 103-3261 | 8/16/2011 | 1511 | W | NB / DE | View of label on AST, TANK #03 from inside the secondary containment. |
| 103-3262 | 8/16/2011 | 1711 | W | NB / DE | View of cabinet inside the Warehouse after Tradebe collected the small containers. |
| 103-3263 | 8/16/2011 | 1722 | E | NB / DE | View of lab conditions after Tradebe lab packed the small containers. |
| 103-3264 | 8/16/2011 | 1722 | NE | NB / DE | View of lab conditions after Tradebe lab packed the small containers. |
| 103-3265 | 8/16/2011 | 1722 | NW | NB / DE | View of lab conditions after Tradebe lab packed the small containers. |
| 103-3266 | 8/17/2011 | 0856 | Down | NB / DE | Note: DBFB stands for dibromotoluene mix |
| 103-3267 | 8/17/2011 | 1052 | NW | NB / NA | Transferring of toluene (recycled) to a transportable 55-gallon steel drum |
| 103-3268 | 8/17/2011 | 1350 | Down | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3269 | 8/17/2011 | 1351 | SW | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3270 | 8/17/2011 | 0959 | W | NB / NA | Rainwater being pumped into the New Tank Farm |
| 103-3271 | 8/17/2011 | 0959 | Down | NB / NA | Rainwater being pumped into the New Tank Farm |
| 103-3272 | 8/17/2011 | 1358 | NW | NB / NA | Rainwater being pumped into the New Tank Farm |
| 103-3273 | 8/17/2011 | 1400 | NW | NB / NA | Rainwater being pumped into the New Tank Farm |
| 103-3274 | 8/17/2011 | 1508 | NW | NB / NA | Rainwater from the Process Area building, the Bulk Truck Loading Pad, Fork Lift Path, and the North Drum Pad sump pumped into the secondary containment in the Old Tank Farm. |
| 103-3275 | 8/19/2011 | 0718 | Down | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3276 | 8/19/2011 | 0720 | SW | NB / NA | Transferring of 99% HBr from the Aboveground Storage Tank (AST) #7 to 55-gallon poly drums |
| 103-3277 | 8/19/2011 | 0722 | N | NB / NA | View of Drum Pad conditions to date |
| 103-3278 | 8/19/2011 | 1027 | NE | NB / NA | View of bromopyridine-2 (wet/pure) Poison Label to be sampled and consolidated. |
| 103-3279 | 8/19/2011 | 1027 | NE | NB / NA | View of bromopyridine-2 (wet/pure) Poison Label to be sampled and consolidated. |
| 103-3280 | 8/19/2011 | 1040 | Down | NB / NA | View of ERRS consolidating bromopyridine-2 (wet/pure) |
| 103-3281 | 8/19/2011 | 1046 | Down | NB / NA | View of ERRS consolidating bromopyridine-2 (wet/pure) |
| 103-3282 | 8/20/2011 | 0711 | NW | NB / NA | Air monitoring activities in the Drum Pad area |
| 103-3283 | 8/20/2011 | 0724 | NW | NB / NA | ERRS preparing NaOH (caustic soda) mix for the New Tank Farm secondary containment |
| 103-3284 | 8/20/2011 | 0734 | NE | NB / NA | Sodium hydroxide (caustic soda) being circulated in the water in the secondary containment in the New Tank Farm. |
| 103-3285 | 8/20/2011 | 0939 | N | NB / NA | Methanol from 275-gallon totes being transferred to 55-gallon steel drums. |
| 103-3286 | 8/22/2011 | 0713 | Down | NB / NA | Checking pH of New Tank Farm storm water prior to discharge. (Note was pH 6.6) |
| 103-3287 | 8/22/2011 | 0713 | Down | NB / NA | Checking pH of New Tank Farm storm water prior to discharge. (Note was pH 6.6) |
| 103-3288 | 8/22/2011 | 0725 | SE | NB / NA | Water from the New Tank Farm being discharged to the city sanitary sewer via 50-micron filter bag. |
| 103-3289 | 8/22/2011 | 0731 | N | NB / NA | Water from the New Tank Farm being discharged to the city sanitary sewer via 50-micron filter bag. |
| 103-3290 | 8/22/2011 | 0809 | SE | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3291 | 8/22/2011 | 0810 | N | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3292 | 8/22/2011 | 1318 | E | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3293 | 8/22/2011 | 1321 | E | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3294 | 8/23/2011 | 0731 | NW | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3295 | 8/23/2011 | 0732 | SE | NB / NA | 275-gallon totes containing water mixture transferred into the empty AST, Tank #01. Air monitor in progress. |
| 103-3296 | 8/23/2011 | 1423 | NW | NB / NA | The methanol from 275-gallon totes being transferred to 55-gallon steel drums. |

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P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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# Appendix C - Photo Documentation Log*



** = Notes: (1) The corresponding photos for this Photo Documentation Log are located in a separate folder, titled "Photos", in the CD deliverable.*
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| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3297 | 8/23/2011 | 1423 | NE | NB / NA | The methanol from 275-gallon totes being transferred to 55-gallon steel drums. |
| 103-3298 | 8/23/2011 | 1428 | N | NB / NA | View of current conditions of the Drum Pad Area. |
| 103-3299 | 8/24/2011 | 1305 | E | NB / NA | The collection of one, 1-quart, composite sample of 99% HBr as requested by the vendor. |
| 103-3300 | 8/24/2011 | 1308 | N | NB / NA | The methanol from 275-gallon totes being transferred to 55-gallon steel drums. |
| 103-3301 | 8/24/2011 | 1309 | NE | NB / NA | The collection of one, 1-quart, composite sample of 99% HBr as requested by the vendor. |
| 103-3302 | 8/25/2011 | 0857 | SE | NB / NA | Content of a 55-gallon poly drum containing an acid mixture being transferred to the AST, Tank #04. |
| 103-3303 | 8/26/2011 | 0658 | Down | NB / NA | View of m-bromoasnisoles collected for sampling. Samples will be shipped off to vendor Tradebe. |
| 103-3304 | 8/26/2011 | 0658 | Down | NB / NA | View of m-bromoasnisoles collected for sampling. Samples will be shipped off to vendor Tradebe. |
| 103-3305 | 8/26/2011 | 0735 | Down | NB / NA | Label on dibromoanisoles (crude) drums to be consolidated. |
| 103-3306 | 8/26/2011 | 0735 | Down | NB / NA | Label on dibromoanisoles (crude) drums to be consolidated. |
| 103-3307 | 8/26/2011 | 0737 | NE | NB / NA | Contents of a 55-gallon poly drum containing a di-bromoanisole being transferred to a ne 55-gallon steel drum. |
| 103-3308 | 8/26/2011 | 0739 | SW | NB / NA | ERRS transferring acidic mixture drums to AST, Tank #04. |
| 103-3309 | 8/26/2011 | 1338 | NE | NB / NA | The contents of an over pack drum being transferred to a new 55-gallon drum. |
| 103-3310 | 8/26/2011 | 1638 | NE | NB / NA | The contents of an over pack drum being transferred to a new 55-gallon drum. |
| 103-3311 | 8/27/2011 | 0748 | SE | NB / NA | Transferring of drum contents to a new/shippable drum |
| 103-3312 | 8/27/2011 | 0918 | E | NB / NA | Transferring of sludge/solids to an over pack drum. |
| 103-3313 | 8/29/2011 | 0821 | N | NB / NA | Consolidating of partially full 55-gallon poly drum. |
| 103-3314 | 8/29/2011 | 0959 | SW | NB / NA | Transferring of drum contents into AST, Tank #04. |
| 103-3315 | 8/29/2011 | 1500 | E | NB / NA | Transferring of water mixture from 275-gallon tote into AST, Tank #01. |
| 103-3316 | 8/29/2011 | 1505 | Down | NB / NA | 3,5 di-bromoanisole to be consolidated. |
| 103-3317 | 8/29/2011 | 1505 | Down | NB / NA | 3,5 di-bromoanisole to be consolidated. |
| 103-3318 | 8/29/2011 | 1655 | N | NB / NA | View of site conditions by end of the work day. |
| 103-3319 | 8/29/2011 | 1656 | NW | NB / NA | View of site conditions by end of the work day. |
| 103-3320 | 8/30/2011 | 0744 | NE | NB / NA | Consolidation of Canning TC762L-3 from 5-gallon buckets to 55-gallon poly. |
| 103-3321 | 8/30/2011 | 0744 | N | NB / NA | Consolidation of Canning TC762L-3 from 5-gallon buckets to 55-gallon poly. |
| 103-3322 | 8/30/2011 | 0800 | Down | NB / NA | Consolidation of Canning TC762L-3 from 5-gallon buckets to 55-gallon poly. |
| 103-3323 | 8/30/2011 | 1015 | NE | NB / NA | Empty drums staged in staging yard. |
| 103-3324 | 8/30/2011 | 1350 | S | NB / NA | Consolidating contents of small containers into shippable 55-gallon poly drum. |
| 103-3325 | 8/30/2011 | 1351 | SE | NB / NA | Consolidating contents of small containers into shippable 55-gallon poly drum. |
| 103-3326 | 8/31/2011 | 0722 | SW | NB / NA | Consolidating of partially full 55-gallon poly drum containing MBA. |
| 103-3327 | 8/31/2011 | 1031 | SW | NB / NA | HBr drums being prepared for shipment |
| 103-3328 | 8/31/2011 | 1031 | SW | NB / NA | HBr drums being prepared for shipment |
| 103-3329 | 8/31/2011 | 1036 | NW | NB / NA | HBr drums being prepared for shipment |
| 103-3330 | 9/7/2011 | 1057 | S | NB / NA | Transfer of drum contents (mixed organics) into AST, Tank #03 |
| 103-3331 | 9/7/2011 | 1058 | W | NB / NA | Transfer of drum contents (mixed organics) into AST, Tank #03 |
| 103-3332 | 9/7/2011 | 1542 | E | NB / NA | Toluene (recycle) sampling for disposal profiling. |
| 103-3333 | 9/8/2011 | 0838 | Down | NB / NA | Contents of AST, Tank #04 being loaded into a 5,000-gallon tanker truck |
| 103-3334 | 9/8/2011 | 0840 | S | NB / NA | Contents of AST, Tank #04 being loaded into a 5,000-gallon tanker truck |
| 103-3335 | 9/8/2011 | 1420 | SW | NB / NA | Consolidating drum contents |
| 103-3336 | 9/8/2011 | 1435 | E | NB / NA | Bulking of partially full drums of like materials. |
| 103-3337 | 9/9/2011 | 0758 | E | NB / NA | 55-gallon drum containing sludge being consolidated into a 275-gallon tote |
| 103-3338 | 9/9/2011 | 0805 | E | NB / NA | 55-gallon drum containing sludge being consolidated into a 275-gallon tote |
| 103-3339 | 9/9/2011 | 0805 | N | NB / NA | View of Drum Pad to date |
| 103-3340 | 9/9/2011 | 0809 | NE | NB / NA | Cutting of drums prior to consolidation |

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KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3341 | 9/10/2011 | 0725 | S | NB / NA | Filtering of liquids from 55-gallon poly containing x-bromotoluene, using a 50-micron filter bag, in preparation for shipment for disposal. |
| 103-3342 | 9/10/2011 | 0726 | S | NB / NA | Filtering of liquids from 55-gallon poly containing x-bromotoluene, using a 50-micron filter bag, in preparation for shipment for disposal. |
| 103-3343 | 9/10/2011 | 0735 | NE | NB / NA | Filtering of liquids from 55-gallon poly containing x-bromotoluene, using a 50-micron filter bag, in preparation for shipment for disposal. |
| 103-3344 | 9/10/2011 | 1130 | NE | NB / NA | Filtering of liquids from 55-gallon poly containing x-bromotoluene, using a 50-micron filter bag, in preparation for shipment for disposal. |
| 103-3345 | 9/11/2011 | 0738 | NE | NB / NA | Filtration of x-bromotoluene, using a 50-micron filter |
| 103-3346 | 9/12/2011 | 0729 | N | NB / NA | Filtration of x-bromotoluene, using a 50-micron filter |
| 103-3347 | 9/12/2011 | 0730 | N | NB / NA | Filtration of x-bromotoluene, using a 50-micron filter |
| 103-3348 | 9/12/2011 | 0843 | SE | NB / NA | Sludge consolidation for disposal. |
| 103-3349 | 9/12/2011 | 1237 | SE | NB / NA | Sludge consolidation for disposal. |
| 103-3350 | 9/13/2011 | 0755 | NE | NB / NA | Filtration of DBFB/dibromotoluene mix, using a 50-micron filter |
| 103-3351 | 9/13/2011 | 0756 | N | NB / NA | Filtration of DBFB/dibromotoluene mix, using a 50-micron filter |
| 103-3352 | 9/13/2011 | 0758 | Down | NB / NA | Filtration of DBFB/dibromotoluene mix, using a 50-micron filter |
| 103-3353 | 9/14/2011 | 0754 | W | NB / NA | Sample collection of sludge for waste profiling. |
| 103-3354 | 9/14/2011 | 0904 | NE | NB / NA | Drum preparation for shipping. |
| 103-3355 | 9/14/2011 | 0905 | NE | NB / NA | Drum preparation for shipping. |
| 103-3356 | 9/14/2011 | 1259 | NW | NB / NA | Filtration of bromobenzene, using a 50-micron filter |
| 103-3357 | 9/14/2011 | 1338 | SW | NB / NA | x-bromotoluene being loaded for transport to a disposal facility. |
| 103-3358 | 9/14/2011 | 1338 | Down | NB / NA | x-bromotoluene being loaded for transport to a disposal facility. |
| 103-3359 | 9/14/2011 | 1406 | NW | NB / NA | x-bromotoluene being loaded for transport to a disposal facility. |
| 103-3360 | 9/15/2011 | 0720 | S | NB / NA | Filtration of DBFB/dibromotoluene mix, using a 50-micron filter |
| 103-3361 | 9/15/2011 | 0722 | N | NB / NA | Current condition of the Drum Pad Area. |
| 103-3362 | 9/15/2011 | 0736 | Down | NB / NA | Contents of the AST, Tank #04 being loaded into a tanker truck for disposal. |
| 103-3365 | 9/16/2011 | 0803 | SE | NB / NA | Consolidation of DBFB/dibromotoluene mix (sludge) into totes. |
| 103-3366 | 9/16/2011 | 1342 | NW | NB / NA | Consolidation of m-bromoanisole drums. |
| 103-3367 | 9/16/2011 | 1600 | SE | NB / NA | Consolidation of dibromoanisole (solids) into totes. |
| 103-3368 | 9/17/2011 | 0810 | SE | NB / NA | Consolidation of DBFB/dibromotoluene mix (sludge) into totes. |
| 103-3369 | 9/17/2011 | 0810 | SE | NB / NA | Consolidation of DBFB/dibromotoluene mix (sludge) into totes. |
| 103-3370 | 9/17/2011 | 1644 | Down | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3371 | 9/17/2011 | 1644 | Down | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3372 | 9/17/2011 | 1645 | Down | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3373 | 9/17/2011 | 1646 | N | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3374 | 9/17/2011 | 1646 | N | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3375 | 9/17/2011 | 1647 | Down | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3376 | 9/17/2011 | 1647 | NW | NB / NA | Decontaminated New Tank Farm secondary containment system. |
| 103-3377 | 9/17/2011 | 1722 | N | NB / NA | Decontaminated Old Tank Farm secondary containment system. |
| 103-3378 | 9/17/2011 | 1722 | N | NB / NA | Decontaminated Old Tank Farm secondary containment system. |
| 103-3379 | 9/17/2011 | 1722 | N | NB / NA | Decontaminated Old Tank Farm secondary containment system. |
| 103-3380 | 9/17/2011 | 1723 | W | NB / NA | Decontaminated Old Tank Farm secondary containment system. |
| 103-3381 | 9/19/2011 | 1003 | N | NB / NA | Emptied drum decontamination |
| 103-3382 | 9/19/2011 | 1003 | N | NB / NA | Emptied drum decontamination |

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|---|---|---|---|---|---|
| 103-3383 | 9/19/2011 | 1005 | N | NB / NA | Emptied drum decontamination |
| 103-3384 | 9/19/2011 | 1604 | Down | NB / NA | Miscellaneous containers found inside the Boiler Room |
| 103-3385 | 9/19/2011 | 1604 | Down | NB / NA | Miscellaneous containers found inside the Boiler Room |
| 103-3386 | 9/19/2011 | 1606 | NA | NB / NA | Drums (MBA) labeled and shrink wrapped in preparation for shipment |
| 103-3387 | 9/19/2011 | 1606 | W | NB / NA | Drums (MBA) labeled and shrink wrapped in preparation for shipment |
| 103-3388 | 9/20/2011 | 0804 | SE | NB / NA | Emptied drum being cut prior to decontamination |
| 103-3389 | 9/20/2011 | 0804 | SE | NB / NA | Emptied drum being cut prior to decontamination |
| 103-3390 | 9/20/2011 | 0809 | S | NB / NA | Loading of drums for disposal. |
| 103-3391 | 9/20/2011 | 1344 | NW | NB / NA | Consolidation drum containing diazene-42 |
| 103-3392 | 9/20/2011 | 1345 | N | NB / NA | Current conditions of the Drum Pad Area. |
| 103-3393 | 9/20/2011 | 1541 | E | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3394 | 9/20/2011 | 1550 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3395 | 9/20/2011 | 1726 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3396 | 9/21/2011 | 0740 | NA | NB / NA | Drums labeled. |
| 103-3397 | 9/21/2011 | 0740 | NA | NB / NA | Drums labeled. |
| 103-3398 | 9/21/2011 | 0740 | W | NB / NA | Drums labeled and ready for shipping. |
| 103-3399 | 9/21/2011 | 0743 | N | NB / NA | Current conditions of the Drum Pad Area. |
| 103-3400 | 9/21/2011 | 0745 | SE | NB / NA | Resizing of decontaminated drums |
| 103-3401 | 9/21/2011 | 1706 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3402 | 9/22/2011 | 0824 | SW | NB / NA | Loading of totes for transport to a disposal facility |
| 103-3403 | 9/22/2011 | 0826 | S | NB / NA | Drums labeled and ready for shipment. HCl pure. |
| 103-3404 | 9/22/2011 | 0826 | S | NB / NA | Drums labeled and ready for shipment. HCl pure. |
| 103-3405 | 9/22/2011 | 0827 | NE | NB / NA | Drum consolidation |
| 103-3406 | 9/22/2011 | 0827 | W | NB / NA | MBFB drums labeled and ready for shipment. |
| 103-3407 | 9/22/2011 | 0827 | W | NB / NA | MBFB drums labeled and ready for shipment. |
| 103-3408 | 9/22/2011 | 0829 | NE | NB / NA | Drum consolidation |
| 103-3409 | 9/22/2011 | 0829 | NE | NB / NA | Drum consolidation |
| 103-3410 | 9/22/2011 | 0830 | N | NB / NA | Current conditions of the Drum Pad Area. |
| 103-3411 | 9/22/2011 | 0830 | E | NB / NA | Drum consolidation |
| 103-3412 | 9/22/2011 | 0918 | S | NB / NA | Totes being loaded. Truck placard placed on truck. |
| 103-3413 | 9/22/2011 | 1006 | Down | NB / NA | Methanol drums labeled and being loaded to box truck for disposal. |
| 103-3414 | 9/22/2011 | 1007 | Down | NB / NA | Methanol drums labeled and being loaded to box truck for disposal. |
| 103-3415 | 9/22/2011 | 1008 | Down | NB / NA | Methanol drums labeled and being loaded to box truck for disposal. |
| 103-3416 | 9/22/2011 | 1009 | Down | NB / NA | Methanol drums labeled and being loaded to box truck for disposal. |
| 103-3417 | 9/22/2011 | 1319 | SW | NB / NA | Methanol drums labeled and being loaded to box truck for disposal. |
| 103-3418 | 9/22/2011 | 1322 | NE | NB / NA | Resizing of emptied drums for disposal shipment. |
| 103-3419 | 9/22/2011 | 1816 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3420 | 9/22/2011 | 1817 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3421 | 9/23/2011 | 0859 | NW | NB / NA | Consolidation of drums containing residual liquids |
| 103-3422 | 9/23/2011 | 1451 | SW | NB / NA | Neutralizing drums containing corrosive (low) pH liquids |
| 103-3423 | 9/23/2011 | 1451 | SW | NB / NA | Neutralizing drums containing corrosive (low) pH liquids |
| 103-3424 | 9/23/2011 | 1453 | NA | NB / NA | View of HCl20BE label. |
| 103-3425 | 9/23/2011 | 1605 | NW | NB / NA | Packing of drums in preparation for shipment. |
| 103-3426 | 9/23/2011 | 1605 | W | NB / NA | Packing of drums in preparation for shipment. |

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|---|---|---|---|---|---|
| 103-3427 | 9/23/2011 | 1606 | E | NB / NA | Resizing of emptied drums for disposal shipment. |
| 103-3428 | 9/23/2011 | 1703 | S | NB / NA | Packaging of emptied drums for shipment. HCl drums |
| 103-3429 | 9/23/2011 | 1704 | NW | NB / NA | Packaging of emptied drums for shipment. HCl drums |
| 103-3430 | 9/23/2011 | 1711 | SW | NB / NA | Loading of shipment for transport and recycling |
| 103-3431 | 9/23/2011 | 1711 | SW | NB / NA | Loading of shipment for transport and recycling |
| 103-3432 | 9/23/2011 | 1750 | S | NB / NA | Drums labeled and ready for shipment |
| 103-3433 | 9/23/2011 | 1813 | SW | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3434 | 9/24/2011 | 0800 | W | NB / NA | Transferring of liquids into AST, Tank #03 |
| 103-3435 | 9/24/2011 | 0801 | NE | NB / NA | Resizing of emptied drums for disposal shipment. |
| 103-3436 | 9/24/2011 | 1757 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3437 | 9/25/2011 | 0722 | Down | NB / NA | Lab-packed paints |
| 103-3438 | 9/25/2011 | 0722 | Down | NB / NA | Lab-packed paints |
| 103-3439 | 9/25/2011 | 0722 | Down | NB / NA | Lab-packed paints |
| 103-3440 | 9/25/2011 | 0801 | NE | NB / NA | Resizing emptied totes |
| 103-3445 | 9/26/2011 | 0917 | SW | NB / NA | Loading of drums. |
| 103-3446 | 9/26/2011 | 0919 | SW | NB / NA | Loading of drums. |
| 103-3447 | 9/26/2011 | 0946 | S | NB / NA | Drums loaded and ready for shipment |
| 103-3448 | 9/26/2011 | 1052 | SW | NB / NA | Placard placed on container prior to departure from the Site. |
| 103-3449 | 9/27/2011 | 0721 | S | NB / NA | Loading of Miscellaneous drums |
| 103-3450 | 9/27/2011 | 0722 | S | NB / NA | Loading of Miscellaneous drums |
| 103-3451 | 9/27/2011 | 0727 | Down | NB / NA | Shipping label for the miscellaneous drums |
| 103-3452 | 9/27/2011 | 0730 | Down | NB / NA | Drums loaded and ready for shipment |
| 103-3453 | 9/27/2011 | 0808 | S | NB / NA | Placard placed on container prior to departure from the Site. |
| 103-3454 | 9/27/2011 | 0953 | S | NB / NA | Transferring of sludge into closed-top tote. |
| 103-3455 | 9/27/2011 | 1019 | Down | NB / NA | Transferring of non-hazardous liquids from AST, Tank #01 to tanker truck. |
| 103-3456 | 9/27/2011 | 1644 | NE | NB / NA | Weighing totes containing sludge at StateSide Wire. |
| 103-3457 | 9/27/2011 | 1645 | NE | NB / NA | Weighing totes containing sludge at StateSide Wire. |
| 103-3458 | 9/27/2011 | 1711 | NE | NB / NA | Solids from sludge consolidated into 55-gallon poly for disposal. |
| 103-3459 | 9/28/2011 | 0733 | Down | NB / NA | Solids from sludge consolidated into 55-gallon poly for disposal. |
| 103-3460 | 9/28/2011 | 1033 | W | NB / NA | Consolidation of sludge. |
| 103-3461 | 9/29/2011 | 0721 | SW | NB / NA | AST, Tank #02 liquids loaded into tanker for shipment. |
| 103-3462 | 9/29/2011 | 1607 | S | NB / NA | RCRA empty drum pieces ready for transport. |
| 103-3463 | 9/29/2011 | 1608 | N | NB / NA | Current condition of the Drum Pad Area. |
| 103-3464 | 9/30/2011 | 0713 | NE | NB / NA | Bromotoluene totes loaded and labeled. Ready for shipment. |
| 103-3465 | 9/30/2011 | 0720 | S | NB / NA | Bromotoluene totes loaded and labeled. Ready for shipment. |
| 103-3466 | 9/30/2011 | 0804 | Down | NB / NA | Rainwater from the North Tank Farm being discharged. |
| 103-3467 | 9/30/2011 | 0805 | N/A | NB / NA | Drum labeled and shrink wrapped prior to shipment. |
| 103-3468 | 9/30/2011 | 0809 | N | NB / NA | Non-hazardous iron filter cake stored in one of the on-Site containers. |
| 103-3469 | 9/30/2011 | 0820 | S | NB / NA | Drums and totes containing sludge and solids, and ready for disposal. |
| 103-3470 | 9/30/2011 | 1001 | NA | NB / NA | Unused labels ripped and discarded. |
| 103-3471 | 9/30/2011 | 1050 | N | NB / NA | Final Site walk with OSC, ADEQ Reps (x2), ERRS & START-3 (photographer) |
| 103-3472 | 9/30/2011 | 1051 | W | NB / NA | Final Site walk with OSC, ADEQ Reps (x2), ERRS & START-3 (photographer) |
| 103-3473 | 9/30/2011 | 1253 | S | NB / NA | Drums (non-hazardous) remaining in warehouse. To be given to StateSide. |
| 103-3474 | 9/30/2011 | 1254 | S | NB / NA | Drums (non-hazardous) remaining in warehouse. To be given to StateSide. |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

Release of information only with written permission from EPA.

# Appendix C - Photo Documentation Log*



** = Notes: (1) The corresponding photos for this Photo Documentation Log are located in a separate folder, titled "Photos", in the CD deliverable.*
*(2) Camera used = Kodak Easy Share C613*

| Photo Number | Date | Time (hours) | Direction | P / W | Description |
|---|---|---|---|---|---|
| 103-3475 | 9/30/2011 | 1254 | S | NB / NA | Empty drums left inside the Warehouse. To be donated to the West Memphis Fire Department. |
| 103-3476 | 9/30/2011 | 1254 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Warehouse |
| 103-3477 | 9/30/2011 | 1256 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Maintenance Room/Shop |
| 103-3478 | 9/30/2011 | 1257 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Boiler Room |
| 103-3479 | 9/30/2011 | 1257 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Boiler Room |
| 103-3480 | 9/30/2011 | 1257 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Boiler Room |
| 103-3481 | 9/30/2011 | 1257 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Boiler Room |
| 103-3482 | 9/30/2011 | 1302 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Process Area |
| 103-3483 | 9/30/2011 | 1302 | NE | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Process Area |
| 103-3484 | 9/30/2011 | 1302 | NE | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Process Area |
| 103-3485 | 9/30/2011 | 1303 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Bulk Truck Loading Pad. |
| 103-3486 | 9/30/2011 | 1309 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Connex Box with non-hazardous filter cakes solids. |
| 103-3487 | 9/30/2011 | 1311 | SW | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Drum Pad Area |
| 103-3488 | 9/30/2011 | 1315 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Drum Pad Area |
| 103-3489 | 9/30/2011 | 1315 | NE | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Connex Boxes & Empty Container Storage Area. |
| 103-3490 | 9/30/2011 | 1315 | SE | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the North Pad, Bulk Truck Loading Pad, & Fork Lift Path |
| 103-3491 | 9/30/2011 | 1315 | E | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the North Pad, Bulk Truck Loading Pad, & Fork Lift Path |
| 103-3492 | 9/30/2011 | 1315 | NE | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Connex Boxes & Empty Container Storage Area. |
| 103-3493 | 9/30/2011 | 1317 | S | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Dock. |
| 103-3494 | 9/30/2011 | 1317 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Dock. |
| 103-3495 | 9/30/2011 | 1551 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Offices. |
| 103-3496 | 9/30/2011 | 1552 | NW | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Offices. |
| 103-3497 | 9/30/2011 | 1552 | W | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the Break Room |
| 103-3498 | 9/30/2011 | 1617 | NW | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the front entrance Panoramic View |
| 103-3499 | 9/30/2011 | 1617 | N | NB / NA | Conditions at Diaz Site at the completion of the removal activities. Final Site walk at the front entrance Panoramic View |
| 103-3500 | 9/30/2011 | 1640 | NE | NB / NA | Locked gate/Main entrance fence (demobilization) |

Key:
P / W - Photographer / Witness; NB - START-3 N. Biscocho; PM - START-3 P. Moissan;
KG - START-3 K. Gibson; DM - ERRS D. Edgington; NA - Not applicable

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Photo log #1 of 2

IF FOUND PLEASE RETURN TO:

NAME _____

COMPANY _____

STREET _____

CITY _____ STATE _____ ZIP _____

PHONE _____ _____

# JOB BOOK

PROJECT NAME Diaz Intermediate Corp. REMOVAL

~~PROJECT~~ TDD NUMBER TO-0001-11-06-03

~~CREW~~ CERCLIS # ARR 000005843

DATE ~~August~~ July 14, 2011 to August 22, 2011 BOOK # 1 OF 2

~~WEATHER~~ SS ID # A6C4


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## CURVE FORMULAS

$T = R \tan \frac{1}{2} I$

$T = \frac{50 \tan \frac{1}{2} I}{\text{Sin. } \frac{1}{2} D}$

$\text{Sin. } \frac{1}{2} D = \frac{50}{R}$

$\text{Sin. } \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$

$R = T \cot. \frac{1}{2} I$

$R = \frac{50}{\text{Sin. } \frac{1}{2} D}$

$E = R \text{ ex. sec } \frac{1}{2} I$

$E = T \tan \frac{1}{4} I$

$\text{Chord def.} = \frac{\text{chord}^2}{R}$

$\text{No. chords} = \frac{I}{D}$

$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve. very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

## GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10.10^2 \div 200 = .5$. $100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25.25^2 \div 200 = 3.125$; $100 - 3.125 = 96.875$ = Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574\,d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{2}{3}d^2$. The combined correction is negative.

PROBABLE ERROR. If $d_1, d_2, d_3$, etc. are the discrepancies of various results from the mean, and if $\Sigma d^2$ = the sum of the squares of these differences and n = the number of observations, then the probable error of the mean = $\pm 0.6745 \sqrt{\frac{\Sigma d^2}{n(n-1)}}$

### MINUTES IN DECIMALS OF A DEGREE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1′ | .0167 | 11′ | .1833 | 21′ | .3500 | 31′ | .5167 | 41′ | .6833 | 51′ | .8500 |
| 2 | .0333 | 12 | .2000 | 22 | .3667 | 32 | .5333 | 42 | .7000 | 52 | .8667 |
| 3 | .0500 | 13 | .2167 | 23 | .3833 | 33 | .5500 | 43 | .7167 | 53 | .8833 |
| 4 | .0667 | 14 | .2333 | 24 | .4000 | 34 | .5667 | 44 | .7333 | 54 | .9000 |
| 5 | .0833 | 15 | .2500 | 25 | .4167 | 35 | .5833 | 45 | .7500 | 55 | .9167 |
| 6 | .1000 | 16 | .2667 | 26 | .4333 | 36 | .6000 | 46 | .7667 | 56 | .9333 |
| 7 | .1167 | 17 | .2833 | 27 | .4500 | 37 | .6167 | 47 | .7833 | 57 | .9500 |
| 8 | .1333 | 18 | .3000 | 28 | .4667 | 38 | .6333 | 48 | .8000 | 58 | .9667 |
| 9 | .1500 | 19 | .3167 | 29 | .4833 | 39 | .6500 | 49 | .8167 | 59 | .9833 |
| 10 | .1667 | 20 | .3333 | 30 | .5000 | 40 | .6667 | 50 | .8333 | 60 | 1.0000 |

### INCHES IN DECIMALS OF A FOOT

| 1-16 | 3-32 | ⅛ | 3-16 | ¼ | 5-16 | ⅜ | ½ | ⅝ | ¾ | ⅞ |
|---|---|---|---|---|---|---|---|---|---|---|
| .0052 | .0078 | .0104 | .0156 | .0208 | .0260 | .0313 | .0417 | .0521 | .0625 | .0729 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| .0833 | .1667 | .2500 | .3333 | .4167 | .5000 | .5833 | .6667 | .7500 | .8333 | .9167 |

(1)

Site Name: Diaz Intermediates Corp. - Removal

Type of Activity: Removal

Site Location: 301 Wyanoke Drive
West Memphis (Crittenden County), AR 72301
Latitude 35.107083° North
Longitude 90.193000° West

CERCLIS No: ARR000005843

SSID No: A6CA

EPA On-Scene Coordinator: Adam Adams

ADEQ Field Team Leader: Michael Gates

START TDD No: TD-0001-11-06-03

Logbook No: 1

Type of Documentation: Photo documentation Log

Diaz Intermediates Corp. REMOVAL; Photo Log; TOR# = TO-0001-11-06-03

Photo # Date Time DIR. P/W = Photographer/Witness NB = START-3 Noel Biscocho
Camera = Kodak EasyShare C613 → Direction DM = START-3 David Miller KG = START-3 Kenny Gibson PM = START-3 Paul Madsen

(2)

| Photo # | Date | Time | DIR. | P/W | Description |
|---|---|---|---|---|---|
| 103-2998 | 7/14/11 | 0824 | N | NB/PM | View of Dock Area - PRE-Removal Conditions |
| 103-2999 to 103-3001 | 7/14/11 | 0825 | W | " " | View of Warehouse Pre-Removal Conditions |
| 103-3002 | " | 0825 | E | " " | " " Office & Lab " " " |
| 103-3003 | " | 0825 | NE | " " | " " Process Area " " " |
| 103-3004 | " | 0826 | NE | " " | " " Dock & Process Area " " " |
| 103-3005 | " | 0826 | NW | " " | " " Old Tank Farm " " " |
| 103-3006 | " | 0826 | N | " " | " " Fork Lift Path " " " |
| 103-3007 to 103-3008 | " | 0827 | NW | " " | " " Old Tank Farm " " " |
| 103-3009 | " | 0828 | W | " " | " " Warehouse I sign " " " |
| 103-3010 | " | 0830 | NW | " " | " " Drum Pad Area " " " |
| 103-3011 | " | 0831 | S | " " | " " Drum Pad & New Tank Farm " " " |
| 103-3012 | " | 0831 | NW | " " | " " Drum Pad Area " " " |
| 103-3013 | " | 0831 | SE | " " | " " Process Area " " " |
| 103-3014 | " | 0832 | NE | " " | " " North Pad Sump " " " |
| 103-3015 | " | 0832 | S | " " | " " Bulk Truck Loading Pad " " " |
| 103-3016 to 103-3017 | " | 0833 | NE | " " | " " Empty Container Storage Area " " " |
| 103-3018 | " | 0833 | NW | " " | " " North Pad " " " |
| 103-3019 | 7/14/11 | 0833 | SW | " " | View of E section of Fork Lift Path Pre-Removal Conditions |
| 103-3020 | " | 0836 | SW | " " | " " E section of Dock Area " " " |
| 103-3021 to 103-3022 | " | 0853 | N | " " | Panoramic View of Diaz Int. Pre removal conditions |
| 103-3023 to 103-3024 | " | 0854 | NE | " " | Overgrown vegetation, Pre Removal conditions. |
| 103-3025 to 103-3032 | " | 0859 | NE | " " | View of offices & Break Room, pre Removal Conditions |
| 103-3033 to 103-3036 | " | 0900 | NW | " " | View of Locker Room, Pre-Removal conditions |
| 103-3037 to 103-3039 | " | 0902 | S | " " | View of Laboratory, Pre-Removal Conditions |
| 103-3050 | " | 1616 | NE | " " | View of Water Utilities on site to turn on water meter |
| 103-3051 to 103-3052 | " | 1654 | NE | " " | View of water overflowing as a result of water turned on site |
| 103-3053 | 7/15/11 | 0642 | SW | " " | Storage tank, Pre-Removal conditions. |
| 103-3054 to 103-3057 | 7/15/11 | 0658 | N | " " | View of Bulk Truck Loading Pad, Pre-Removal Conditions |
| 103-3056 to 103-3057 | " | 0751 | S | " " | View of Electric company on-site to turn on electricity |
| 103-3058 | " | 1153 | SW | " " | Temporary Lavatory facilities delivered on-site |
| 103-3059 to 103-3061 | " | 1540 | SE | " " | View of m-bromobenzoate (labeled "X") identified by EMRS |
| 103-3062 | " | 1558 | S | " " | View of Rail Car AARX 28446 on-site |
| 103-3063 | " | 1559 | N | " " | View of Rail Car AARX 49181 on-site |
| 103-3064 | 7/18/11 | 0927 | NE | " " | View of m-bromobenzoate (labeled "X") identified by EMRS |

(3)

Dicks Intermediates Corp. Removal, Photo Log ; TDD # TD1-0001-11-06-03

| Photo # | Date | Time | Dir | P/W | Description |
|---|---|---|---|---|---|
| 103-3065 | 7/19/11 | 0933 | NW | am/pm | View of ERRS & START identifying m-Bromo aniline (MBA) drums |
| 103-3066 | " | 0942 | SE | am/pm | Fork lift delivered on site. |
| 103-3067 | " | 1003 | NE | am/pm | View of general site maintenance on-site. |
| 103-3068 | " | 1249 | SW | NB/am | Cold patch dump delivered on-site. |
| 103-3069 to 103-3070 | " | 1423/1554 | E & W | am/NB | General site maintenance |
| 103-3071 to 103-3072 | 7/20/11 | 0723 | SW | NB/am | View of ERRS gauging contents of Rail Car AARX 28446 |
| 103-3073 | " | 0733 | N | NB/am | View of ERRS gauging contents of Rail Car AARX 49181 |
| 103-3074 | " | 1019 | NW | NB/am | View of START air monitoring using multi RAE |
| 103-3075 | " | 1235 | Down | NB/am | View of ERRS segregating MBA drums |
| 103-3076 to 3078 | " | 1427 | W SW SE | NB/am | View of City of West Memphis Utilities turning on Fire Hydrant water service |
| 103-3079 | " | 1433 | N | NB/am | View of ERRS segregating MBA drums |
| 103-3080 | " | 1549 | N | NB/am | View of ERRS obtaining pH @ Bulk truck loading Pad |
| 103-3081 | " | 1550 | W | NB/am | " " " " " " secondary cont. E of Process Area |
| 103-3082 | " | 1656 | NE | NB/am | View of ERRS pumping water off Bulk truck loading Pad. |
| 103-3083 | 7/21/11 | 0724 | Down | NB/am | View of ERRS pumping water off Bulk truck loading Pad. |
| 103-3084<br>103-3085<br>103-3086 | 7/21/11 | 0740<br>0757<br>0807 | N<br>N<br>NW | NB/am | View of ERRS obtaining sample (HBr) from Old Tank Farm. |
| 103-3087 | 7/21/11 | 1019 | NE | NB/am | View of ERRS staging MBA drums @ Bulk Truck loading |
| 103-3088 | 7/21/11 | 1035 | NE | NB/am | View of ERRS pumping water off secondary containment |
| 103-3089 | 7/22/11 | 0730 | Down | NB/NA | View of ERRS segregating drums by class |
| 103-3090 | 7/22/11 | 1255 | S | NB/NA | View of pallets delivered on-site. |
| 103-3091 | " | 1653 | NE | NB/NA | View of Emergency water station stayed. |
| 103-3092 | " | 1700 | NW | NB/NA | View of ERRS segregating drums by class |
| 103-3093 to 103-3096 | 7/23/11 | 0759 to 0838 | NE | NB/NA | View of ERRS relocating drum contents from drums on the Process Area |
| 103-3097 | 7/23/11 | 1405 | N | NB/NA | View of ERRS segregating drums by class. |
| 103-3098 | 7/23/11 | 1405 | SE | NB/NA | View of MBA drums segregated red (from MBA)/yellow (not MBA) (clean MBA) |
| 103-3099 to 103-3102 | 7/25/11 | 0723<br>0743 | SW | NB/ERRS | View of START air monitoring solids on second floor of Process Area |
| 103-3103 | 7/25/11 | 1032 | NW | NB/ERRS | View of START ~~collecting~~ reading pH level on New Tank Farm and citing |
| 103-3104 | 7/25/11 | 1037 | SW | NB/ERRS | View of START collecting water samples on the Old Tank Farm. |
| 103-3105 | 7/25/11 | 1106 | NE | NB/NA | View of ERRS segregating drums by class. |
| 103-3106 | 7/25/11 | 1526 | NW | NB/NA | View of segregated m-Bromoaniline drums, packaged for shipment. |
| 103-3107 | 7/26/11 | 1014 | Down | NB/ERRS | View of haz Cat activities of collected samples. |
| 103-3108 | 7/26/11 | 1022 | NW | NB/NA | View of ERRS sampling drums samples. |

Diaz Intermediates Corp. Removal; photo log; TOD # TO-0001-11-06-03

| Photo # | Date | Time | Dir | P/W | Description |
|---|---|---|---|---|---|
| 103-3109 | 7/27/11 | 0724 | N | NB/NA | View of ERRS collecting MBA samples (clear MBA) |
| 103-3110 to 103-3111 | 7/27/11 | 0743 | NE | NB/NA | View of ERRS relocating 1 of 6 drums containing solids. |
| 103-3112 | 7/27/11 | 1028 | N | NB/NA | View of site sign |
| 103-3113 | 7/27/11 | 1413 | S | NB/NA | View of ERRS segregating drums by class. |
| 103-3114 | 7/27/11 | 1414 | S | NB/NA | View of ERRS collecting samples of known products. |
| 103-3115 | 7/27/11 | 1656 | S | NB/NA | Man lift being returned to rental facility. |
| 103-3116 | 7/28/11 | 0739 | SW | NB/NA | View of ERRS collecting samples for HazCat activities |
| 103-3117 to 103-3118 | 7/28/11 | 1516 | N/E | NB/NA | View of site conditions, to date. Drums separated by class |
| 103-3119 to 103-3120 | 7/29/11 | 0841 | NE | NB/NA | View of ERRS bulking totes. |
| 103-3121 | 7/29/11 | 0851 | E | NB/NA | View of ERRS collecting samples for HazCatting. |
| 103-3122 | 7/29/11 | 0854 | NW | NB/NA | View of ERRS collecting samples for HazCatting. |
| 103-3123 | 7/30/11 | 0724 | NE | NB/NA | View of ERRS bulking contents of totes. |
| 103-3124 | 7/30/11 | 1300 | E | NB/NA | View of ERRS bulking contents of drums |
| 103-3125 | 7/30/11 | 1303 | NW | NB/NA | View of ERRS segregating / transfering drums (BENZENE) |
| 103-3126 to 103-3127 | 8/1/11 | 0954 | NW | NB/NA | View of ERRS segregating drums inside the warehouse building. |
| 103-3128 to 103-3129 | 8/1/11 | 0957 | N | NB/NA | View of ERRS conducting bulking activities using a compressor. |
| 103-3130 / 103-3131 | 8/1/11 | 1550 | NE | NB/NA | View of ERRS segregating drums from the warehouse. |
| 103-3132 | 8/1/11 | 1550 | N | NB/NA | View of current conditions @ the Drum Pad Area. |
| 103-3133 | 8/1/11 | 1556 | NW | NB/NA | View of ERRS measuring the ~~drum~~ TANK contents on Tank 08 |
| 103-3134 | 8/1/11 | 1610 | E | NB/NA | View of ERRS measuring tank contents on Tank 05 |
| 103-3135 to 103-3137 | 8/1/11 | 1616 | SW | NB/NA | View of ERRS relocating/arranging totes from the warehouse |
| 103-3138 | 8/2/11 | 0953 | SW | NB/NA | View of ERRS relocating/rearranging drums inside the warehouse |
| 103-3139 | 8/2/11 | 1028 | NW | NB/NA | View of ERRS segregating 5 gal drums from the warehouse build |
| 103-3140 / 103-3141 | 8/2/11 | 1454 | SW | NB/NA | View of ERRS relocating MBA drums from the drumpad to the warehouse |
| 103-3142 | 8/2/11 | 1454 | NW | NB/NA | View of current conditions of the warehouse. |
| 103-3143 | 8/2/11 | 1455 | N | NB/NA | View of drums staged from the warehouse |
| 103-3144 | 8/2/11 | 1455 | NW | NB/NA | View of drums staged from the warehouse. |
| 103-3145 | 8/3/11 | 0801 | NW | ~~NB/NA~~ KG/NA | View of ERRS bulking contents and drums |
| 103-3146 | 8/3/11 | 0901 | S | ~~NB/NA~~ KG/NA | View of ERRS Transporting Drums to STATE Stud |
| 103-3147 | 8/3/11 | 1146 | SE | ~~NB/NA~~ | View of ERRS Consading Drums |
| 103-3148 | 8/3/11 | 1329 | N | ~~NB/NA~~ KG/NA | View of waring signs ERRS put up |
| 103-3149 | 8/4/11 | ~~0750~~ 0740 | SW | ~~NB/NA~~ KG/NA | View of water level in old tank farm |
| 103-3150 | 8/4/11 | ~~[illegible]~~ 0741 | E | ~~NB/NA~~ KG/NA | View of ERRS putting steel in bulk |

Diaz Intermediates Corp. Removal; Photolog; TDD # TO-0001-11-06-03

(8)

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| 103-3151 | 8/9/11 | 1028 ~~0900~~ | SW | KG ~~NB~~/NA | View of old Tank farm after pump out |
| 103-3152 | 8/9/11 | ~~1300~~ 1329 | E | KG ~~NB~~/NA | View of Spill on Drum Pad |
| 103-3153 | 8/9/11 | 1350 | NE | KG ~~NB~~/NA | View of the Two Totes That were liking |
| 103-3154 | 8/9/11 | 13:50 | W | ~~NB~~/NA KG | View of Drum pad during spill |
| 103-3155 | 8/9/11 | 1354 | E | KG ~~NB~~/NA | View of ERRS consolidating Totes |
| 103-3156 | 8/9/11 | 1357 | NE | KG ~~NB~~/NA | View of Crack on Tote that was spilling |
| 103-3157 | 8/9/11 | 1509 | W | KG ~~NB~~/NA | View of Drum pad after ERRS Put Asbent |
| 103-3159 | 8/5/11 | 0710 | W | KG ~~NB~~/NA | View of PH reading from the old Tank |
| 103-3160 | 8/5/11 | 0853 | N | KG ~~NB~~/NA | View of ERRS Transferring Toluene from Tote stone |
| 103-3161 | 8/5/11 | 13:55 | S | KG ~~NB~~/NA | View of ERRS Transferring Toluene from polytone |
| 103-3162 | 8/5/11 | ~~1700~~ 1659 | W | KG ~~NB~~/NA | View of Roll off box being drawn |
| 103-3163 | 8/5/11 | 1703 | W | KG ~~NB~~/NA | View of ERRS Loaded Roll off box |
| 103-3164 | 8/6/11 | 0708 | NW | ~~NB~~/NA KG | View of New Tank farm before pump out |
| 103-3165 | 8/6/11 | 0713 ~~1038~~ | NW | KG ~~NB~~/NA | View of ERR Sampling Toluene |
| 103-3166 | 8/6/11 | 1033 | W | KG ~~NB~~/NA | View of ERR moving pallets |
| 103-3167 | 8/6/11 | 1044 | W | KG ~~NB~~/NA | View of ERRS check Bunding |
| 103-3168 | 8/6/11 | 1604 ~~1450~~ | NW | KG ~~NB~~/NA | View of New Tank farm pump out |
| 103-3169 | 8/6/11 | 1624 ~~1600~~ | E | KG ~~NB~~/NA | View of ERRS transferring Toluene |
| 103-3170 | 8/8/11 | 0720 | E | KG ~~NB~~/NA | View of ERR sampling Menthane |
| 103-3171 | 8/8/11 | 0756 ~~1020~~ | SE | KG ~~NB~~/NA | View of ERRS Transferring Menthane |
| 103-3172 | 8/8/11 | 0917 ~~1100~~ | SW | KG ~~NB~~/NA | View of ERR pre-paint samples |
| 103-3173 | 8/8/11 | 0921 ~~1105~~ | SW | KG ~~NB~~/NA | View of ERR packing samples |
| 103-3174 | 8/8/11 | 1022 ~~1300~~ | SW | KG ~~NB~~/NA | View of ERR labling samples |
| 103-3175 | 8/8/11 | 1058 ~~1500~~ | SE | KG ~~NB~~/NA | View of Samples packed near for Shm |
| 103-3176 | 8/9/11 | 0905 | N | KG ~~NB~~/NA | View of ERRS doing Inventory |
| 103-3177 | 8/9/11 | 1426 | W | KG ~~NB~~/NA | View of Poly being unloaded |
| 103-3178 | 8/9/11 | 1643 | S | KG ~~NB~~/NA | View of ERRS Segregating drum |
| 103-3179 | 8/9/11 | 1649 | W | KG ~~NB~~/NA | View of Poly in warehouse |
| 103-3180 | 8/9/11 | 1655 | N | KG ~~NB~~/NA | View of ERRS and Start Inventory |
| 103-3181 | 8/9/11 | 1658 | NE | KG ~~NB~~/NA | View of ERR Segregating alleles |

(9)

Diaz Intermediate Corp. Removal; Photolog; TOD # TO-0001-11-06-03

(10)

| Photo # | Date | Time | DIR. | P/W | Description |
|---|---|---|---|---|---|
| 103-3182 | 8/6/11 | 1658 | E | KG NB/NA | View of crack poly found |
| 103-3183 | 8/10/11 | 0652 | W | KG NB/NA | View of Level B equipment |
| 103-3184 | 8/10/11 | 0739 | W | KG NB/NA | View of Level B equipment |
| 103-3185 | 8/10/11 | 0910 | N | KG NB/NA | View of ERRS Prepair |
| 103-3186 | 8/10/11 | 0939 | W | KG NB/NA | View of ERRS unloading Bigger bottle |
| 103-3187 | 8/10/11 | 0939 | SE | KG NB/NA | View of Rollets being stacked |
| 103-3188 | 8/10/11 | 1310 | S | KG NB/NA | View of Rolloff box being drawn |
| 103-3189 | 8/11/11 | 0720 | N | KG NB/NA | View of 50 gallon Pollys |
| 103-3190 | 8/11/11 | 0737 | N | KG NB/NA | View of Poly drum that been [illegible] |
| 103-3191 | 8/11/11 | 0753 | S | KG NB/NA | View of Rolloff box being [illegible] |
| 103-3192 | 8/11/11 | 0936 | W | KG NB/NA | View of ERRS stacking Bottle drum |
| 103-3193 | 8/11/11 | 0957 | W | KG NB/NA | View of ERRS stacking steel drum |
| 103-3194 | 8/11/11 | 0959 | W | KG NB/NA | View of ERRS unloading of Poly drum |
| 103-3195 | 8/11/11 | 1046 | S | KG NB/NA | View of ERRS dressing up in Level B |
| 103-3196 | 8/11/11 | 1049 | W | KG NB/NA | View of ERR Transfer |
| 103-3197 | 8/11/11 | 1049 | NW | KG NB/NA | View of ERR moving [illegible] |
| 103-3198 | 8/11/11 | 1050 | W | KG NB/NA | View of EES transfer |
| 103-3199 | 8/11/11 | 1051 | NW | KG NB/NA | View of EERS transfer |
| 103-3200 | 8/11/11 | 1056 | NW | KG NB/NA | View of ERRS transfering |
| 103-3201 | 8/11/11 | 1143 | N | KG NB/NA | View of ERR transfer |
| 103-3202 | 8/11/11 | 1146 | NW | KG NB/NA | View of ERRS staging poly |
| 103-3203 | 8/11/11 | 1214 | NE | KG NB/NA | View of ERRS placing stickers |
| 103-3204 | 8/11/11 | 1229 | W | KG NB/NA | View of Polys on Drum Pad |
| 103-3205 | 8/11/11 | 1510 | W | KG NB/NA | View of Poly Drums |
| 103-3206 | 8/11/11 | 1627 | W | KG NB/NA | View of ERRS transfer |
| 103-3207 | 8/12/11 | 0706 | W | KG NB/NA | View of ERRS collecting samples of Tanks |
| 103-3208 | 8/12/11 | 0716 | NW | KG NB/NA | View of ERRS transfering Acid to 55 poly |
| 103-3209 | 8/12/11 | 1003 | N | KG NB/NA | View of ERRS staging drums for skin |

(11)

Diaz Intermediate Corp. REMOVAL; Photolog; TDD#TO-0001-11-06-03

(2)

| Photo # | Date | Time | DIR. | P/W | Description |
|---|---|---|---|---|---|
| 103_3210 | 8/12/11 | 1010 | N | KG/NA | View of ERR transfering Aluminum. |
| 103_3211 | 8/12/11 | 1011 | N | KG/NA | View of ERRS transfering Aluminum chloride |
| 103_3212 | 8/12/11 | 1042 | SW | KG/NA | View of ERRS placing lables on polys |
| _3213 | 8/12/11 | 1042 | S | KG/NA | View of ERRS unloading 100 poly drums |
| 103_3214 | 8/12/11 | 1043 | W | KG/NA | View of 55 gallon poly o Aluminum chloride |
| 105_3215 | 8/12/11 | 1217 | SE | KG/NA | View of ERRS and OSC loading sample |
| 103_3216 | 8/12/11 | 1410 | N | KG/NA | View of ERRS transfering Hydro Acid |
| 103_3217 | 8/13/11 | 0845 | S | KG/NA | View of ERRS transfering Hydro Acid |
| 103_3218 | 8/13/11 | 0845 | W | KG/NA | View of Poly of Hydrobromic Acid |
| 103_3219 | 8/13/11 | 0845 | SW | KG/NA | View of ERRS placing Lables on polys |
| 103_3220 | 8/13/11 | 0853 | S | KG/NA | View of ERRS transfering Acid |
| 103_3221 | 8/13/11 | 0854 | W | KG/NA | View of all of the polys on Pad |
| 103_3222 | 8/13/11 | 0855 | SW | KG/NA | View of ~~Drum~~ north Pad |
| 103_3223 | 8/13/11 | 0858 | NW | KG/NA | View of Poly staining |
| 103_3224 | 8/13/11 | 0859 | NW | KG/NA | View of Polys on Pad |
| 103_3225 | 8/13/11 | 1127 | W | KG/NA | View of ERRS doing site clean |
| 103_3226 | 8/13/11 | 1128 | W | KG/NA | View of ERRS conducting site clean |
| 103_3227 | 8/13/11 | 1341 | E | KG/NA | View of can of p-Bromoanisole |
| 103_3228 | 8/13/11 | 1341 | NE | KG/NA | View of ERRS transfering p-Brom |
| 103_3229 | 8/13/11 | 1349 | NE | KG/NA | View of ERRS transfering p-Bromonol |
| 103_3230 | 8/13/11 | 1357 | E | KG/NA | View of two can of Blue 1 |
| 103_3231 | 8/13/11 | 1400 | N | KG/NA | View of ERRS transfering p-Brom |
| 103-3232 | 8/15/11 | 0734 | NE | NB/NA | Transferring of 48% HBr from 275 gal tote to 55 gal polydrum |
| 103-3233 | 8/15/11 | 0840 | NE | NB/NA | X-Bromotoluene being consolidated into 55 gal polydrums |
| 103-3234 | 8/15/11 | 1231 | W | NB/NA | View of ERRS repackaging HBr (Wet/Pure) for shipment from a 55 gal poly to a new 55-gal poly. |

START

START-3

START-3

(3)

Diaz Intermediates Corp. Removal; Photolog; TDP# TO-0001-11-06-03 (14)

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| | | | | | NB = Noel Biscaho / DE = Don Edgington ERRS RM / NA = Not Applicable |
| 103-3235<br>103-3236<br>103-3237 | 8/16/11<br>"<br>" | 0724<br>0725<br>0729 | N | NB/NA | Transferring of 99% HBr from AST Tank 7 to 55-gallon poly drums. |
| 103-3238<br>103-3239<br>103-3240 | 8/16/11 | 1115<br>1119<br>1120 | Down | NB/NA | 55-gallon poly labeled "Hydrobromic acid lab pack" contains various small Jars. Drum was shipped off to an off-site vendor Tradebe. See waste manifests |
| 103-3241 to 42 | 8/16/11 | 1139 | Down | NB/NA | View of lab packing activities of small containers in lab. |
| 103-3243 | 8/16/11 | 1328 | NE | NB/NA | X-bromotoluene bulking in 55-gal-poly drums |
| 103-3244 to 46 | 8/16/11 | 1345 | SE/SW | NB/NA | View of Tradebe Vendor collecting lab packs & drums to ship off site. |
| 103-3247 | 8/16/11 | 1500 | Down | NB/DE | View of Above Ground Storage Tank # 06 label on tank |
| 103-3248 | 8/16/11 | 1501 | Down | NB/DE | " " " " " " # 05 label on tank. |
| 103-3249 | 8/16/11 | 1501 | Down | NB/DE | " " " " " " # 07 " " " |
| 103-3250/51 | 8/16/11 | 1502 | Down | NB/DE | " " " " " " # 08 " " " |
| 103-3052 | 8/16/11 | 1505 | NE | NB/DE | " " " " " " # 07 (Left) & # 05 (Right) |
| 103-3053 | 8/16/11 | 1506 | SE | NB/DE | " " " " " " #3 (Left) & # 01 (Right) |
| 103-3254 | 8/16/11 | 1506 | E | NB/DE | View of Above Ground Storage Tank # 1 labeled Benzene |
| 103-3255 | 8/16/11 | 1508 | E | NB/DE | View of label inside 2ndary containment in Tank # 4 |
| 103-3256 | 8/16/11 | 1508 | SE | NB/DE | AST tank #4 (Foreground) & Tank #1 (Background) |
| 103-3257 | 8/16/11 | 1508 | SE | NB/DE | AST Tank # 2 label ~~from~~ taken from the 2ndary containment |
| 103-3258 | 8/16/11 | 1509 | NW | NB/DE | Label on AST Tank # 03 taken from inside the 2ndary containment |
| 103-3259 | 8/16/11 | 1510 | NW | NB/DE | Label on AST Tank # 1 |
| 103-3260 | 8/16/11 | 1511 | NE | NB/DE | View of AST Tank # 2 |
| 103-3261 | 8/16/11 | 1511 | W | NB/DE | View of Label on AST Tank # 3 from inside the 2ndary containment |
| 103-3262 | 8/16/11 | 1711 | W | NB/DE | View of Cabinet inside warehouse after Tradebe collected the small containers |
| 103-3263 to 3265 | 8/16/11 | 1722 | E<br>NE<br>NW | NB/DE | View of Lab conditions after Tradebe Lab packed small containers |
| 103-3266 | 8/17/11 | 0856 | Down | NB/DE | Note: DBFB stands for Dibromotoluene mix |
| 103-3267 | 8/17/11 | 1052 | NW | NB/NA | Transferring of toluene (recycled) to a transportable 55-gal steel drum |
| 103-3268<br>103-3269 | 8/17/11 | 1350<br>1351 | Down<br>SW | NB/NA | Transferring of 99% HBR from AST, Tank #7 to 55-gal poly drums |
| 103-3270<br>103-3271<br>103-3272<br>103-3273 | 8/18/11 | 0959<br>0959<br>1358<br>1400 | W<br>Down<br>NW<br>NW | NB/NA | Rainwater being pumped into the New Tank Farm. |
| 103-3274 | 8/18/11 | 1508 | NW | NB/NA | Rainwater from the process area building, bulk truck loading pad, fork lift pad, & north drum pad sump pumped into the secondary containment in the old Tank Farm |

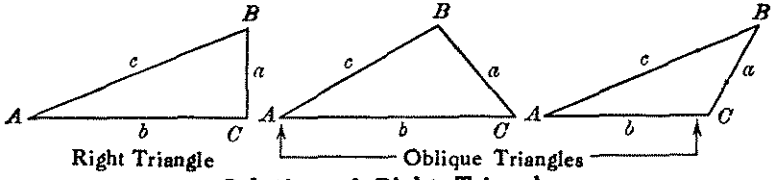
(47)

Diaz Intermediates Corp. Remedial; Photology; TMA # TD-0001-11-06-03

(16)

| Photo # | Date | Time | Dir | P/N | Description |
|---|---|---|---|---|---|
| 103-3275 | 8/19/11 | 07 18 | Down | NB/NA | transferring of 90 lbs HBr from AST Tank-7 to 55-gal |
| 103-3276 | | 07 20 | SW | | poly drums |
| 103-3277 | 8/19/11 | 07 22 | Down/N | NB/NA | Views of Drum Pad conditions, to date |
| 103-3278 | 8/19/11 | 10 27 | NE | NB/NA | Views of Bromopyridine-2 (wet/free) Poison bottle |
| 103-3279 | | | NE | | to be sampled / consolidated, |
| 103-3280 | 8/19/11 | 10 40 | Down | NB/NA | Views of EPS collecting Bromopyridine-2 (wet/free) |
| 103-3281 | 8/19/11 | 10 46 | Down | NB/NA | Views of EPS consolidating Bromopyridine-2 (wet/free) |
| 103-3282 | 8/20/11 | 07 11 | NW | NB/NA | Air monitoring activities in the Drum Pad Area |
| 103-3283 | 8/20/11 | 07 24 | NW | NB/NA | EPS preparing NaOH (caustic soda) for use in New Tank Farm. |
| 103-3284 | 8/20/11 | 07 34 | NE | NB/NA | Sodium hydroxide (caustic soda) being circulated in the water in the |
| | | | | | Secondary containment on the New Tank Farm. |
| 103-3285 | 8/20/11 | 09 39 | North | NB/NA | material from 275 gal totes being transferred to 55-gal steel drums. |
| 103-3286th 3287 | 8/22/11 | 07 13 | down | NB/NA | Checking pH of New Tank Farm water to discharge. (pH 6.6) |
| 103-3288 | 8/22/11 | 07 25 | SE | NB/NA | Water from New Tank Farm being discharged to the city |
| 103-3289 | | 07 31 | N | | sanitary sewer via a 10 micron filter |
| 103-3290 | 8/22/11 | 08 09 | SE | NB/NA | 275-gallon tote containing water mixture transported |
| 103-3291 | 8/22/11 | 08 10 | N | NB/NA | into the empty AST, Tank 1, Air monitoring (Benzene) |
| 103-3292 | 8/22/11 | 13 18 | E | NB/NA | |
| 103-3293 | 8/22/11 | 13 21 | E | NB/NA | |

# TRIGONOMETRIC FORMULAS




## Solution of Right Triangles

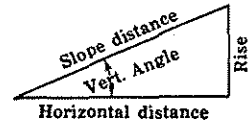
For Angle $A$. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

| Given | Required | |
|---|---|---|
| $a, b$ | $A, B, c$ | $\tan A = \frac{a}{b} = \cot B,\ c = \sqrt{a^2+b^2} = a\sqrt{1+\frac{b^2}{a^2}}$ |
| $a, c$ | $A, B, b$ | $\sin A = \frac{a}{c} = \cos B,\ b = \sqrt{(c+a)(c-a)} = c\sqrt{1-\frac{a^2}{c^2}}$ |
| $A, a$ | $B, b, c$ | $B = 90° - A,\ b = a \cot A,\ c = \frac{a}{\sin A}$ |
| $A, b$ | $B, a, c$ | $B = 90° - A,\ a = b \tan A,\ c = \frac{b}{\cos A}$ |
| $A, c$ | $B, a, b$ | $B = 90° - A,\ a = c \sin A,\ b = c \cos A$ |

## Solution of Oblique Triangles

| Given | Required | |
|---|---|---|
| $A, B, a$ | $b, c, C$ | $b = \frac{a \sin B}{\sin A},\ C = 180° - (A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $A, a, b$ | $B, c, C$ | $\sin B = \frac{b \sin A}{a},\ C = 180° - (A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $a, b, C$ | $A, B, c$ | $A+B = 180° - C,\ \tan \frac{1}{2}(A-B) = \frac{(a-b)\tan\frac{1}{2}(A+B)}{a+b},\ c = \frac{a \sin C}{\sin A}$ |
| $a, b, c$ | $A, B, C$ | $s = \frac{a+b+c}{2},\ \sin\frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}},\ \sin\frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}},\ C = 180° - (A+B)$ |
| $a, b, c$ | Area | $s = \frac{a+b+c}{2}$, area $= \sqrt{s(s-a)(s-b)(s-c)}$ |
| $A, b, c$ | Area | area $= \frac{b\,c \sin A}{2}$ |
| $A, B, C, a$ | Area | area $= \frac{a^2 \sin B \sin C}{2 \sin A}$ |

# REDUCTION TO HORIZONTAL




Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10′. Since cos 5° 10′ = .9959, horizontal distance = 319.4 × .9959 = 318.09 ft.

Horizontal distance also = Slope distance minus slope distance times (1 − cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine 5° 10′ = .9959. 1 − .9959 = .0041. 319.4 × .0041 = 1.31. 319.4 − 1.31 = 318.09 ft.

When the rise is known, the horizontal distance is approximately the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance $= 302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

Photolog # 2 of 2

IF FOUND PLEASE RETURN TO:

NAME _____

COMPANY _____

STREET _____

CITY _____ STATE ____ ZIP ____

PHONE ____ _____

# JOB BOOK

PROJECT NAME Diaz Intermediates Corp - REMOVAL

~~PROJECT~~ TOO NUMBER TO-0001-11-06-03

~~CREW~~ CERCLIS # ARR 000005843

DATE August 23, 2011 to BOOK # 2 OF 2

~~WEATHER~~ SSIO # A6 C4

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## CURVE FORMULAS

$T = R \tan \frac{1}{2} I$

$T = \frac{50 \tan \frac{1}{2} I}{\text{Sin.} \frac{1}{2} D}$

$\text{Sin.} \frac{1}{2} D = \frac{50}{R}$

$\text{Sin.} \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$

$R = T \cot. \frac{1}{2} I$

$R = \frac{50}{\text{Sin.} \frac{1}{2} D}$

$E = R \text{ ex. sec } \frac{1}{2} I$

$E = T \tan \frac{1}{4} I$

$\text{Chord def.} = \frac{\text{chord}^2}{R}$

$\text{No. chords} = \frac{I}{D}$

$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve. very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

## GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10.10^2 \div 200 = .5$. $100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25.25^2 \div 200 = 3.125$. $100 - 3.125 = 96.875 =$ Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574 d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{2}{3} d^2$. The combined correction is negative.

PROBABLE ERROR. If $d_1, d_2, d_3$, etc. are the discrepancies of various results from the mean, and if $\Sigma d^2$ = the sum of the squares of these differences and n = the number of observations, then the probable error of the mean = $\pm 0.6745 \sqrt{\frac{\Sigma d^2}{n(n-1)}}$

### MINUTES IN DECIMALS OF A DEGREE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1′ | .0167 | 11′ | .1833 | 21′ | .3500 | 31′ | .5167 | 41′ | .6833 | 51′ | .8500 |
| 2 | .0333 | 12 | .2000 | 22 | .3667 | 32 | .5333 | 42 | .7000 | 52 | .8667 |
| 3 | .0500 | 13 | .2167 | 23 | .3833 | 33 | .5500 | 43 | .7167 | 53 | .8833 |
| 4 | .0667 | 14 | .2333 | 24 | .4000 | 34 | .5667 | 44 | .7333 | 54 | .9000 |
| 5 | .0833 | 15 | .2500 | 25 | .4167 | 35 | .5833 | 45 | .7500 | 55 | .9167 |
| 6 | .1000 | 16 | .2667 | 26 | .4333 | 36 | .6000 | 46 | .7667 | 56 | .9333 |
| 7 | .1167 | 17 | .2833 | 27 | .4500 | 37 | .6167 | 47 | .7833 | 57 | .9500 |
| 8 | .1333 | 18 | .3000 | 28 | .4667 | 38 | .6333 | 48 | .8000 | 58 | .9667 |
| 9 | .1500 | 19 | .3167 | 29 | .4833 | 39 | .6500 | 49 | .8167 | 59 | .9833 |
| 10 | .1667 | 20 | .3333 | 30 | .5000 | 40 | .6667 | 50 | .8333 | 60 | 1.0000 |

### INCHES IN DECIMALS OF A FOOT

| 1-16 | 3-32 | ⅛ | 3-16 | ¼ | 5-16 | ⅜ | ½ | ⅝ | ¾ | ⅞ |
|---|---|---|---|---|---|---|---|---|---|---|
| .0052 | .0078 | .0104 | .0156 | .0208 | .0260 | .0313 | .0417 | .0521 | .0625 | .0729 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| .0833 | .1667 | .2500 | .3333 | .4167 | .5000 | .5833 | .6667 | .7500 | .8333 | .9167 |



Site Name: Diaz Intermediate Corp - REMOVAL

Type of Activity: REMOVAL

Site Location: 301 Wyanoke Drive
West Memphis (Crittenden County), AR 72301
Latitude 35.107083° North
Longitude 90.193000° West

CERCLIS No: ARR000005843

SSID No: A6C4

EPA On-Scene Coordinator: Adam Adams
ADEQ Field Team Leader: Michael Gates

START TDD No: TO-0001-11-06-03

Logbook No: 2

Type of Documentation: Photodocumentation Log

Diaz Intermediates Corp. REMOVAL - Photo Log ; TDD # TO-0001-11-06-03

Camera : Kodak Easyshare C613
DIR = Direction
P/W = Photographer/Witness

NB = START-3 Noel Biscocho
NA = Not Applicable
DE = ERRS RM Don Edgington

(2)

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| 103-3294<br>103-3295 | 8/23/11 | 0731<br>0732 | NW<br>SE | NB/NA<br>NB/NA | 275-gallon totes containing water mixture transferred into the AST, Tank 1. |
| 103-3296<br>103-3297 | 8/23/11 | 1423<br>1423 | NW<br>NE | NB/NA | The methanol from 275-gallon totes being transferred to 55-gallon steel drums. |
| 103-3298 | 8/23/11 | 14 28 | N | NB/NA | View of current conditions of the Drum Pad Area. |
| 103-3299 | 8/24/11 | 13 05 | E | NB/NA | The collection of one, 1 quart composite sample of 99% HBr as requested by the Vendor. |
| 103-~~3300~~ 3300 | 8/24/11 | 13 08 | N | NB/NA | The methanol from a 275-gallon tote being transferred to a 55-gal steel drum |
| 103-3301 | 8/24/11 | 13 09 | N E | NB/NA | See description on Photo 103-3299 |
| 103-3302 | 8/25/11 | 08 57 | S E | NB/NA | Content of a 55-gal poly drum containing an acid mixture being transferred to the AST, Tank #4. |
| 103-3303 to 3304 | 8/26/11 | 06 58 | Down | NB/NA | View of m-Bromoanisoles collected for sampling. Samples will be shipped off to vendor Tradebe |
| 103-3305 to 3306 | 8/26/11 | 0735 | Down | NB/NA | Label on di Bromoanisoles (Crude). Drums to be consolidated. |
| 103-3307 | 8/26/11 | 07 37 | NE | NB/NA | Contents of a 55-gal poly drum containing a di-bromoanisole being transferred to a new 55-gal steel drum |
| 103-3308 | 8/26/11 | 0739 | SW | NB/NA | ERRS transferring acidic mixture drums to tank #4 |
| 103-3309/3310 | 8/26/11 | 1338<br>1638 | NE | NB/NA | The contents of an overpack drum being transferred to a new 55-gal drum. |
| 103-3311 | 8/27/11 | 0748 | SE | NB/NA | Transferring of drum contents to a new/shippable drum |
| 103-3312 | 8/27/11 | 0918 | E | NB/NA | Transfering of sludge/solids to an overpack drum. |
| 103-3313 | 8/29/11 | 08 21 | N | NB/NA | Consolidating of partially full 55-gal poly drum. |
| 103-3314 | 8/29/11 | 0959 | SW | NB/NA | Transferring of drum contents into AST, Tank #4 |
| 103-3315 | 8/29/11 | 15 00 | E | NB/NA | Transferring of water mixture from 275-gal tote into AST, tank #1 |
| 103-3316 to 3317 | 8/29/11 | 15 05 | Down | NB/NA | 3,5 dibromoanisole to be consolidated. |
| 103-3318<br>103-3319 | 8/29/11 | 16 55<br>16 56 | N<br>NW | NB/NA | View of site conditions by end of the work day. |
| 103-3320<br>103-3321<br>103-3322 | 8/30/11 | 07 44<br>07 44<br>08 00 | NE<br>N<br>Down | NB/NA | Consolidation of Canning TC762L-3 from 5 gal buckets to 55-gal poly. |
| 103-3323 | 8/30/11 | 10 15 | NE | NB/NA | Empty drums staged in staging yard. |
| 103-3324<br>103-3325 | 8/30/11 | 13 50<br>13 51 | S<br>SE | NB/NA | Consolidating contents of small containers into shippable 55-gal poly drum |
| 103-3326 | 8/31/11 | 07 22 | SW | NB/NA | Consolidating of partially full 55-gal poly drum containing MBA. |
| 103-3327<br>103-3328<br>103-3329 | 8/31/11 | 10 31<br>10 31<br>10 36 | SW<br>SW<br>NW | NB/NA | HBr drums being prepared for shipment. |
| 103-3330<br>103-3331 | 9/7/11 | 10 57<br>10 58 | S<br>W | NB/NA | Transfer of drum contents (mixed oranics) into AST, tank #3 |
| 103-3332 | 9/7/11 | 15 42 | E | NB/NA | Toluene (Recycle) sampling for disposal profiling |

(3)

Diaz Intermediate Corp-Removal - Photo Log ; TDD # TO-0001-11-06-03

(A)

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| 103-3333<br>103-3334 | 09/08/11 | 0838<br>0840 | Down<br>South | NB/NA | Contents of AST, Tank #4 being loaded into a 5,000 gal tanker truck |
| 103-3335 | 9/8/11 | 1420 | SW | NB/NA | Consolidating of drum contents. |
| 103-3336 | 9/8/11 | 1435 | E | NB/NA | Bulking of partially full drums of like materials. |
| 103-3337<br>103-3338 | 9/9/11 | 0758<br>0805 | E | NB/NA | 55-gal drum containing sludge being consolidated into a 275-gal tote |
| 103-3339 | 9/9/11 | 0805 | N | NB/NA | View of Drum Pad to date. |
| 103-3340 | 9/9/11 | 0809 | NE | NB/NA | Cutting of drums prior to consolidation. |
| 103-3341 | 9/10/11 | 0725 | S | NB/NA | Filtering of liquids from 55-gal poly containing x-bromotoluene, using a 50-micron filter, in preparation for shipment for disposal. |
| 103-3342<br>103-3343<br>103-3344 | | 0726<br>0735<br>0730 | S<br>NE<br>NE | | |
| 103-3345 | 9/11/11 | 0738 | NE | NB/NA | Filtration of x-bromotoluene using a 50-micron filter. |
| 103-3346<br>103-3347 | 9/12/11 | 0729<br>0730 | N | NB/NA | Filtration of x-bromotoluene using a 50-micron filter. |
| 103-3348<br>103-3349 | 9/12/11 | 0843<br>1237 | SE | NB/NA | Sludge consolidation for disposal. |
| 103-3350<br>103-3351<br>103-3352 | 9/13/11 | 0755<br>0756<br>0758 | NE<br>N<br>Down | NB/NA | Filtration of DBFB/dibromotoluene mix, using a 50 micron filter. |
| 103-3353 | 9/14/11 | 0754 | W | NB/NA | Sample collection of sludge for waste profiling. |
| 103-3354<br>103-3355 | 9/14/11 | 0904<br>0905 | NE | NB/NA | Drum preparation for shipping |
| 103-3356 | 9/14/11 | 1259 | NW | NB/NA | Filtration of bromobenzene, using a 50-micron filter. |
| 103-3357<br>103-3358<br>103-3359 | 9/14/11 | 1338<br>1338<br>1406 | SW<br>Down<br>NW | NB/NA | x-bromotoluene being loaded for transport to a disposal facility. |
| 103-3360 | 9/15/11 | 0720 | S | NB/NA | Filtration of DBFB/Dibromotoluene mix, using a 50-micron filter. |
| 103-3361 | 9/15/11 | 0722 | N | NB/NA | Current condition of the Drum Pad Area |
| 103-3362 | 9/15/11 | 0736 | Down | NB/NA | Contents of AST, Tank #4 being loaded into a tanker truck for disposal |
| 103-3365 | 9/16/11 | 0803 | SE | NB/NA | Consolidation of DBFB/dibromotoluene mix (sludge) into totes |
| 103-3366 | 9/16/11 | 1342 | NW | NB/NA | Consolidation of m-bromoaniline drums |
| 103-3367 | 9/16/11 | 1600 | SE | NB/NA | Consolidation of dibromoaniline (solids) into totes. |
| 103-3368<br>103-3369 | 9/17/11 | 0810<br>0810 | SE | NB/NA | Consolidation of DBFB/dibromotoluene mix (sludge) into totes. |
| 103-3370<br>103-3371<br>103-3372<br>103-3373<br>103-3374<br>103-3375<br>103-3376 | 9/17/11 | 1644<br>1646<br>1645<br>1646<br>1646<br>1647<br>1647 | Down<br>Down<br>Down<br>North<br>North<br>Down<br>NW | NB/NA | Decontaminated New Tank Farm Secondary Containment. |

(VI)

Diaz Intermediate Corp. Removal - Photolog; TOD # TO-0001-11-06-03

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| ~~103-3376~~ | | ~~1047~~ | | | |
| 103-3377 | 9/7/11 | 1722 | N | NB/NA | Decontaminated Old Tank Farm Secondary Containment. |
| 103-3378 | | 1722 | N | | |
| 103-3379 | | 1722 | N | | |
| 103-3380 | | 1723 | W | | |
| 103-3381 | 9/19/11 | 1003 | N | NB/NA | Emptied Drum decontamination |
| 103-3382 | | 1003 | | | |
| 103-3383 | | 1005 | | | |
| 103-3384 | 9/19/11 | 1604 | Down | NB/NA | Misc. containers found inside Boiler Room. |
| 103-3385 | | 1604 | | | |
| 103-3386 | 9/19/11 | 1606 | N/A | NB/NA | Drums (MBA) labeled & shrink wrapped in preparation for shipment |
| 103-3387 | | | W | | |
| 103-3388 | 9/20/11 | 0804 | SE | NB/NA | Emptied drum being cut prior to decontamination. |
| 103-3389 | | | | | |
| 103-3390 | 9/20/11 | 0809 | S | NB/NA | Loading of drums for disposal. |
| 103-3391 | 9/20/11 | 1344 | NW | NB/NA | Consolidating of drum containing diazene-42. |
| 103-3392 | 9/20/11 | 1345 | N | NB/NA | Current conditions of Drum Pod area. |
| 103-3393 | 9/20/11 | 1541 | E | NB/NA | RCRA empty drum pieces ready for transport. |
| 103-3394 | | 1550 | S | | |
| 103-3395 | | 1726 | S | | |
| 103-3396 | 9/21/11 | 0740 | N/A | NB/NA | Drums labeled |
| 103-3397 | | | | | |
| 103-3398 | 9/21/11 | 0740 | W | NB/NA | Drums labeled & staged for shipping. |
| 103-3399 | 9/21/11 | 0743 | N | NB/NA | Current condition of the Drum Pod Area |
| 103-3400 | 9/21/11 | 0745 | SE | NB/NA | Resizing of decontaminated drums. |
| 103-3401 | 9/21/11 | 1706 | S | NB/NA | RCRA empty drum pieces ready for transport |
| 103-3402 | 9/22/11 | 0824 | SW | NB/NA | Loading of totes for transport to a disposal facility. |
| 103-3403 | 9/22/11 | 0826 | S | NB/NA | Drums labeled & ready for shipment. HCl pure. |
| 103-3404 | | | | | |
| 103-3405 | 9/22/11 | 0827 | NE | NB/NA | Drum consolidation |
| 103-3406 | 9/22/11 | 0827 | W | NB/NA | MBA drums labeled & ready for shipment. |
| 103-3407 | | | | | |
| 103-3408 | 9/22/11 | 0829 | NE | NB/NB | Drum consolidation. |
| 103-3409 | | | | | |
| 103-3410 | 9/22/11 | 0830 | N | NB/NA | Current condition of Drum Pod Area. |
| 103-3411 | 9/22/11 | 0830 | E | NB/NA | Drum consolidation |
| 103-3412 | 9/22/11 | 0918 | S | NB/NA | Totes being loaded. Truck placard placed on truck. |
| 103-3413 | 9/22/11 | 1006 | Down | NB/NA | Methanol drums labeled & being loaded to box truck for disposal |
| 103-3414 | | 1007 | Down | | |
| 103-3415 | | 1008 | Down | | |
| 103-3416 | | 1009 | Down | | |
| 103-3417 | | 1319 | ~~SW~~ | | |
| 103-3418 | 9/22/11 | 1322 | NE | NB/NA | Resizing of emptied drums for disposal shipment |

Diaz Intermediates Corp Removal - Photolog; TDD# TO-0001-11-06-03

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| 103-3419<br>103-3420 | 9/22/11 | 18 16<br>18 17 | S | NB/NA | RCRA empty drum pieces ready for transport. |
| 103-3421 | 9/23/11 | 08 59 | NW | NB/NA | Consolidation of drums containing residual liquids. |
| 103-3422<br>103-3423 | 9/23/11 | 14 51 | SW | NB/NA | Neutralizing drums containing corrosive (low) pH liquids. |
| 103-3424 | 9/23/11 | 14 53 | N/A | NB/NA | View of HCl 20BE label. |
| 103-3425<br>103-3426 | 9/23/11 | 16 05<br>16 05 | NW<br>W | NB/NA | Packaging of drums in preparation for shipment. |
| 103-3427 | 9/23/11 | 16 06 | E | NB/NA | Resizing of emptied drums for disposal shipment. |
| 103-3428<br>103-3429 | 9/23/11 | 17 03<br>17 04 | S<br>NW | NB/NA | Packaging drums for shipment. (HCl drums) |
| 103-3430<br>103-3431 | 9/23/11 | 17 11 | SW | NB/NA | Loading of shipment for transportation & recycling. |
| 103-3432 | 9/23/11 | 17 50 | S | NB/NA | Drums loaded & ready for shipment. |
| 103-3433 | 9/23/11 | 18 13 | SW | NB/NA | RCRA empty drum pieces ready for shipment. |
| 103-3434 | 9/24/11 | 08 00 | W | NB/NA | Transferring of liquids into AST, Tank 3. |
| 103-3435 | 9/24/11 | 08 01 | NE | NB/NA | Resizing emptied drums |
| 103-3436 | 9/24/11 | 17 57 | S | NB/NA | RCRA empty drum pieces ready for transport |
| 103-3437<br>103-3438<br>103-3439 | 9/25/11 | 07 22 | Down | NB/NA | Lab-packed paints |
| 103-3440 | 9/25/11 | 08 01 | NE | NB/NA | Resizing emptied totes. |
| 103-3445<br>103-3446 | 9/26/11 | 09 17<br>09 19 | SW | NB/NA | Loading of drums. |
| 103-3447 | 9/26/11 | 09 46 | S | NB/NA | Drums loaded & ready for shipment. |
| 103-3448 | 9/26/11 | 10 52 | SW | NB/NA | Placard placed on container prior to departure from site. |
| 103-3449<br>103-3450 | 9/27/11 | 07 21<br>07 22 | S | NB/NA | Loading of misc. drums. |
| 103-3451 | 9/27/11 | 07 27 | Down | NB/NA | Shipping label for the misc. drums. |
| 103-3452 | 9/27/11 | 07 30 | Down | NB/NA | Drums loaded & ready for shipment. |
| 103-3453 | 9/27/11 | 08 08 | S | NB/NA | Placards placed on containers prior to departure from site |
| 103-3454 | 9/27/11 | 09 53 | S | NB/NA | Transferring of sludge into closed-top tote. |
| 103-3455 | 9/27/11 | 10 19 | Down | NB/NA | Transferring of non-haz liquids from AST, Tank #1 to tanker truck. |
| 103-3456<br>103-3457 | 9/27/11 | 16 44<br>16 45 | NE | NB/NA | Weighing totes containing sludge @ State Side Wire. |
| 103-3458 | 9/27/11 | 17 11 | NE | NB/NA | Solids from sludge consolidated into 55 gal poly for disposal. |
| 103-3459 | 9/28/11 | 07 33 | Down | NB/NA | AST, Tank #1 liquids loaded into tanker for shipment |
| 103-3460 | 9/28/11 | 10 33 | W | NB/NA | Consolidation of sludge |

Diaz Intermediates Corp. - REMOVAL - Photolog; TDD # TO-0001-11-06-03

| Photo # | Date | Time | Dir. | P/W | Description |
|---|---|---|---|---|---|
| 103-3461 | 9/29/11 | 0721 | SW | NB/NA | AST, Tank #2 liquids loaded into tanker for shipment. |
| 103-3462 | 9/29/11 | 1607 | S | NB/NA | RCRA empty drum pieces ready for transport. |
| 103-3463 | 9/29/11 | 1608 | N | NB/NA | Current condition of the Drum Pad Area. |
| 103-3464<br>103-3465 | 9/30/11 | 0713<br>0720 | NE<br>S | NB/NA | Bromotoluene totes loaded & labeled. Ready for shipment |
| 103-3466 | 9/30/11 | 0804 | DOWN | NB/NA | Rain water from North tank farm being discharged |
| 103-3467 | 9/30/11 | 0805 | NA | NB/NA | Drum label & shrink wrapped prior to shipment. |
| 103-3468 | 9/30/11 | 0809 | N | NB/NA | Non-haz iron filter cake stored in one of the on-site containers |
| 103-3469 | 9/30/11 | 0820 | S | NB/NA | Drums & totes containing sludge & solids loaded & ready for disposal. |
| 103-3470 | 9/30/11 | 1001 | N/A | NB/DE | Unused labels ripped & discarded. |
| 103-3471<br>103-3472 | 9/30/11 | 1050<br>1051 | N<br>W | NB/NA | Final site walk with OSC, ADEQ reps (x2), ERRS & SPART (photographer) |
| 103-3473<br>103-3474 | 9/30/11 | 1253<br>1254 | S<br>S | NB/NA | Drums (non-haz) remaining in warehouse. To be given to State Site |
| 103-3475 | 9/30/11 | 1254 | S | NB/NA | Empty Drums left inside ~~warehouse~~ warehouse. To be donated to um Fire Dept. |

Conditions at Diaz Site at the completion of Removal activities. Final Site walk at.

| | | | | | |
|---|---|---|---|---|---|
| 103-3476 | 9/30/11 | 1254 | W | NB/NA | ... Warehouse |
| 103-3477 | 9/30/11 | 1256 | W | NB/NA | ... maintenance room/shop |
| 103-3478<br>103-3479<br>103-3480<br>103-3481 | 9/30/11 | 1257 | W | NB/NA | ... Boiler Room |
| 103-3482<br>103-3483<br>103-3484 | 9/30/11 | 1302 | N<br>NE<br>NE | NB/NA | ... Process Area |
| 103-3485 | 9/30/11 | 1303 | N | NB/NA | ... Bulk truck loading Pad. |
| 103-3486 | 9/30/11 | 1309 | N | NB/NA | ... Connex Box w/ Non-haz iron filter cake solids. |
| 103-3487<br>103-3488 | 9/30/11 | 1311<br>1315 | SW<br>N | NB/NA | ... Drum Pad |
| 103-3489 | 9/30/11 | 1315 | NE | NB/NA | ... Connex Boxes & Empty Container Storage Area |
| 103-3490<br>103-3491 | 9/30/11 | 1315<br>1315 | SE<br>E | NB/NA | ... North Pad, Bulk Truck Loading Pad, & Fork lift Path |
| 103-3492 | 9/30/11 | 1315 | NE | NB/NA | ... Connex Boxes & Empty Container Storage Area |
| 103-3493<br>103-3494 | 9/30/11 | 1317 | S<br>N | NB/NA | ... DOCK |
| 103-3495<br>103-3496 | 9/30/11 | 1551<br>1552 | W<br>NW | NB/NA | ... Offices |
| 103-3497 | 9/30/11 | 1552 | W | NB/NA | ... Break Room |
| 103-3498<br>103-3499 | 9/30/11 | 1617 | NW<br>N | NB/NA | ... ~~Panoramic View~~ at Front entrance Panoramic View |
| 103-3500 | 9/30/11 | 1640 | NE | NB/NA | ~~Dr~~ Locked Gate / ~~Front Fence~~ at main entrance fence (Demobilization) |

Diaz Intermediates Corp. REMOVAL-Photolog ; TDD # TD-0001-11-06-03

12

| Photo # | Date | Time | DIR. | P/W | Description |
|---|---|---|---|---|---|
| | | | | | |

START-3
mgt

START-3
mgt

13

Diaz Intermediates Corp. REMOVAL Photolog; TDD # TO-0001-11-06-03

| Photo # | Date | Time | DIR | P/W | Description |
|---|---|---|---|---|---|
| | | | | | START-3 |

START-3

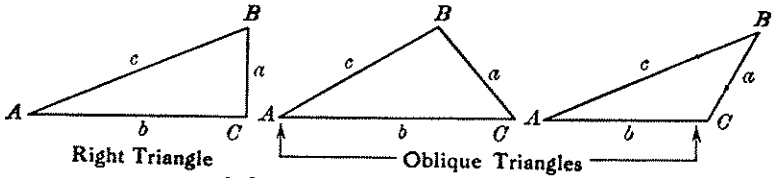
Diag. Intermediate Corp. Removal - Phoenix : TOO # TO-0001-11-06-03

16

| Photo # | Date | Time | Date | P/W | Description |
|---|---|---|---|---|---|
| | | | | | |

Stats

# TRIGONOMETRIC FORMULAS




## Solution of Right Triangles

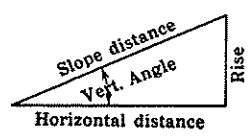
For Angle $A$. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

| Given | Required | |
|---|---|---|
| $a, b$ | $A, B, c$ | $\tan A = \frac{a}{b} = \cot B,\ c = \sqrt{a^2+b^2} = a\sqrt{1+\frac{b^2}{a^2}}$ |
| $a, c$ | $A, B, b$ | $\sin A = \frac{a}{c} = \cos B,\ b = \sqrt{(c+a)(c-a)} = c\sqrt{1-\frac{a^2}{c^2}}$ |
| $A, a$ | $B, b, c$ | $B = 90° - A,\ b = a \cot A,\ c = \frac{a}{\sin A}$ |
| $A, b$ | $B, a, c$ | $B = 90° - A,\ a = b \tan A,\ c = \frac{b}{\cos A}$ |
| $A, c$ | $B, a, b$ | $B = 90° - A,\ a = c \sin A,\ b = c \cos A$ |

## Solution of Oblique Triangles

| Given | Required | |
|---|---|---|
| $A, B, a$ | $b, c, C$ | $b = \frac{a \sin B}{\sin A},\ C = 180° - (A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $A, a, b$ | $B, c, C$ | $\sin B = \frac{b \sin A}{a},\ C = 180° - (A+B),\ c = \frac{a \sin C}{\sin A}$ |
| $a, b, C$ | $A, B, c$ | $A + B = 180° - C,\ \tan \frac{1}{2}(A-B) = \frac{(a-b)\tan\frac{1}{2}(A+B)}{a+b},\ c = \frac{a \sin C}{\sin A}$. |
| $a, b, c$ | $A, B, C$ | $s = \frac{a+b+c}{2},\ \sin\frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}},\ \sin\frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}},\ C = 180° - (A+B)$ |
| $a, b, c$ | Area | $s = \frac{a+b+c}{2}$, area $= \sqrt{s(s-a)(s-b)(s-c)}$ |
| $A, b, c$ | Area | area $= \frac{bc \sin A}{2}$ |
| $A, B, C, a$ | Area | area $= \frac{a^2 \sin B \sin C}{2 \sin A}$ |

# REDUCTION TO HORIZONTAL




Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10′. Since cos 5° 10′ = .9959, horizontal distance = 319.4 × .9959 = 318.09 ft.

Horizontal distance also = Slope distance minus slope distance times (1 − cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine 5° 10′ = .9959. 1 − .9959 = .0041. 319.4 × .0041 = 1.31. 319.4 − 1.31 = 318.09 ft.

When the rise is known, the horizontal distance is approximately the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance $= 302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.