CLOSURE REPORT ADDENDUM

FACILITY ID. NO. 9-089044 UST #238

APRIL 9, 1998

NOTE: PLEASE INSERT THIS ADDENDUM INTO THE CLOSURE REPORT SUBMITTED TO THE USTMP IN NOVEMBER 1996

U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT CONTRACT DACA21-92-D-0002, DELIVERY ORDER #0101

CLOSURE REPORT

WASTE OIL TANK BUILDING 4586, TANK 238 FACILITY ID NUMBER: 9-089044 FT. STEWART, GEORGIA

PREPARED BY:

ANDERSON COLUMBIA ENVIRONMENTAL, INC.

NOVEMBER 1996

P.O. Box 1386, Lake City, Florida 32056-1386 Phone: (904) 755-1196 Fax: (904) 758-9050

US Army Corps of Engineers Delivery Order 0101

Delivery Order 0101

Ft. Stewart, Hinesville, Georiga

Underground Storage Tank Removal and Closure

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Prepared by

Anderson Columbia Enviornmental, Inc.

GEORGIA CLOSURE REPORT FORMS

Georgia Department of Natural Resources

Environmental Protection Division
Underground Storage Tank Management Program
4244 International Parkeay, Suite 104, Atlanta, Georgia 30354
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
(404) 362-2687



CLOSURE REPORT FORM

Please complete the following form, include the listed items and check all of the boxes that apply. This form can be used as a Closure Report, provided documentation is attached when specified, to substantiate the information on this form, as outlined in the guidance document "So You Want to Close an UST?" (GUST-9). If one of the items does not apply to your tank closure, please provide a written explanation for the omission. If soil was excavated and disposed of, be sure to complete the applicable sections and attach the proper disposal documents.

| Owner of UST S | | | | | |
|-------------------------|------------------------|------------------------------|---|--|-------------|
| Nam | | US Army/Ft. Stew | | | |
| | e Number: | (912) 767-2010/12 | :34 | | |
| | pany: | US Army | | | |
| Addr | ess: | | | : AFZP-DEV, Bldg. 1139 | |
| | | Ft. Stewart | GA | 31314-5000 | |
| | | (city) | (state) | (zip code) | |
| I hereby certify that t | the information co | ontained in this Closure Rev | oort and in all th | e attachments is true, accurate, and | |
| | | | | 91-3-1509 of the Georgia Rules for | |
| Underground Storag | | | | or to the sy the deer grantines you | |
| | • | | | | |
| Sign | ature: | | | Date: | |
| FICT Creations City | Lanction | | *************************************** | | |
| UST System Site | Location: ty Name: | Th Character CA T | 14.0 4507 | | |
| | ty Name: t Address: | Ft. Stewart, GA F | AU 4586 | | |
| 31166 | i Address: | FAC 4586 Ft. Stewart | | 21214 5000 | |
| | | | GA (state) | 31314-5000 | |
| Facili | ty ID# | (city) 9-089044 | (state) | (zip code) | |
| t doin | ty ID# | J-00 JUTT | | | |
| Contract Certifica | ation: | | | | |
| with the information s | submitted in this a | md all attached documents. | The submitted i | t, and have examined and am familiar nformation is, to the best of knowledge, and Storage Tank Management, revised | |
| Name | - | David F. Black | | | • |
| Addre | ess: | PO Box 1386 | Lake City | , Florida 32056 | |
| | | 10 ; | | | |
| Siona | ture: | 1 \d _ X / | (/ | Date: 11/1/01 | |
| Signa Closure for | ture: | 1)456 | (T of 3) | Date: 11 6 96 | |

| | Depth to Groundwater ft. if encountered | |
|----|--|---|
| | X Not Applicable | |
| 5. | Site Map: Include the following items on an attached site map: | REFER TO TAB 5 |
| | Tank Pit Area Sewer Lines (if present) Water Lines Sample Locations (with sample numbers and depths) Scale: See Tab 5 North Arrow | Dispensers Tanks with thier ID#s, corresponding to the Notification Form 7530-1 |
| 5. | Tank Removal | |
| | Date of Removal: 5-Aug-96 Tank Information: Tank # Tank Size (gallons) 238 1000 | <u>Tank Contents</u> Waste Oil |
| | REFER TO TAB 6 | |
| | Laboratory Analytical Data: The following items must be included on at | tached copies REFER TO TAB |
| | Laboratory Method Dectection Limits Date of Sampling Signed Chain of Custody | Date of Analysis Quality Control Data |
| - | Regulated Substance Released: Check the applicable box(es). | |
| | | |
| | Gasoline Diesel Kerosene Used Oil | Other No release |
| | Gasoline Diesel Kerosene Used Oil Excavation and Treatment/Disposal of Contaminated Soil: | Other No release |
|). | | |

| 10, | Local Water Resources: | Attach documentation only if Table B So Stream Water Quality Standards are prop Further Action Required status. Check the | posed for soil disposal, or No |
|-----|--------------------------|---|--------------------------------|
| | Drinking water supplied | | |
| | | ndwater pollution susceptibility area*: | |
| | Public water systems v | | |
| | Non-public water system | ans within 0.5 mile | |
| | | OR | |
| | | ution susceptibility area*: | |
| | Public water systems v | | |
| | Non-public water syste | ems within 0.25 mile | |
| | Streams, Lakes, and Po | water Pollution Susceptibility Map of Georgends: face water body: mile(s) or | |
| | X Not Applicable | | SEE TAB 7, 10 |
| 1. | Conclusions or Recommend | ations: Choose one. | |
| | X Clean Closure, thus No | Further Action is Required. | |
| | | he Limits Specified in Question 7 (GUST-9 | <u>-</u> |
| | | | |

SITE PHOTOGRAPHS



Photo 1. Concrete broken over Tank 238,

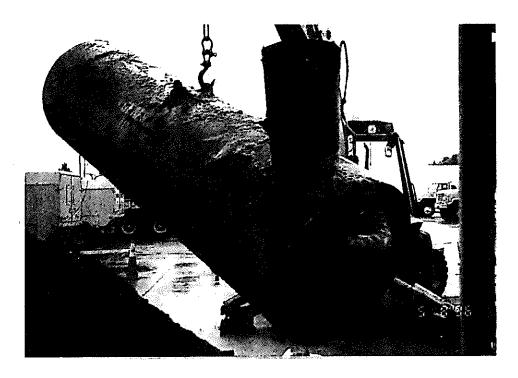


Photo 2. Tank being removed from the tank pit.

CLOSURE REPORT ADDENDUM UST #238, FACILITY ID. NO. 9-089044

SITE MAP

A general site map that includes the location of the tank, associated piping, sewer lines, water lines, approximate sampling location, north arrow, and tank identification number is provided as Map 1. A typical detail for the 1000 gallon waste oil tank is provided as Map 2.

In addition, sketches of the sampling location previously submitted with the Closure Report have been revised to include the sample identification and approximate depth are provided as Maps 3a and 3b.

Please replace the maps previously submitted with Maps 1 through 3b provided in this addendum into the Closure Report submitted to the USTMP in November 1996 under Tab 5.

SITE MAPS

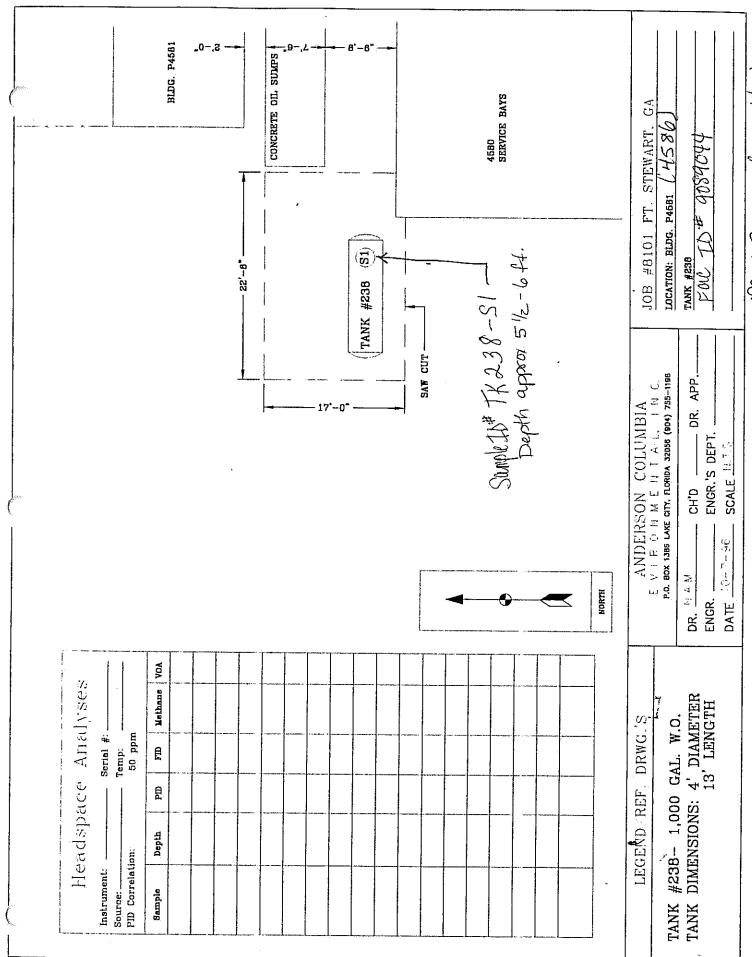
INFORMATION ON MAPS

MAP #1: Site plan, copied from Installation archives.

MAP #2: 1000 gallon UST typical detail, copied from Installation archives.

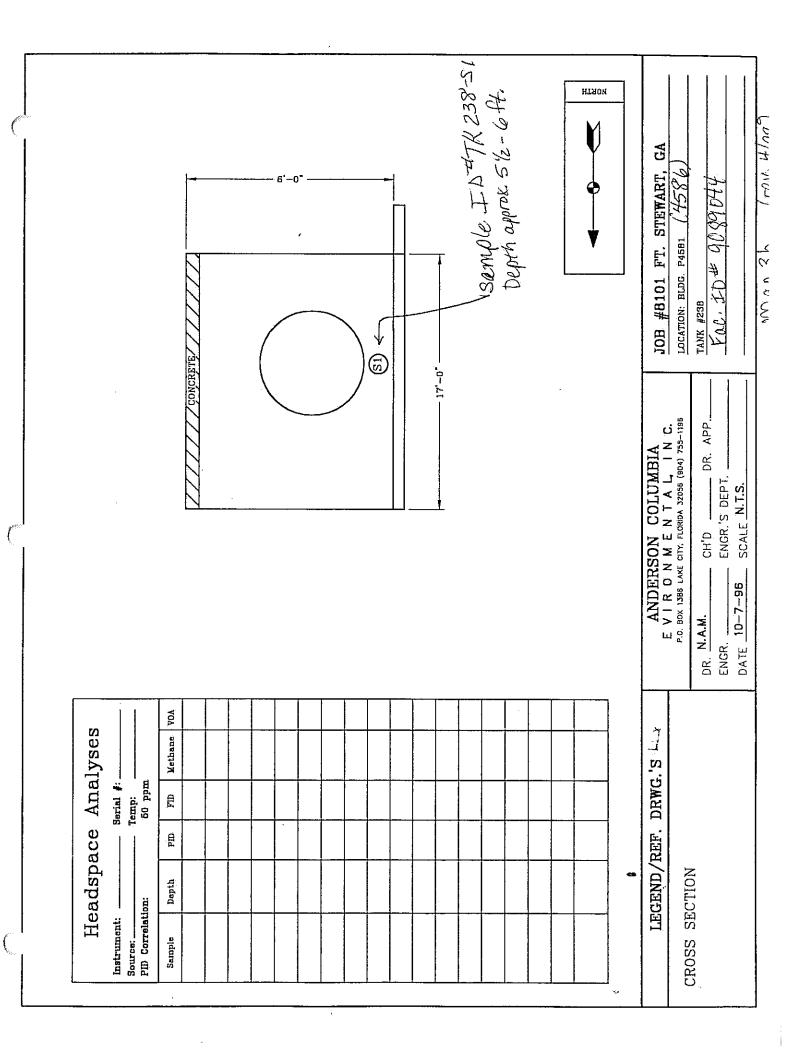
MAPS #3a and #3b: Provided to Installation by Anderson Columbia Environmental annotating sampling location.

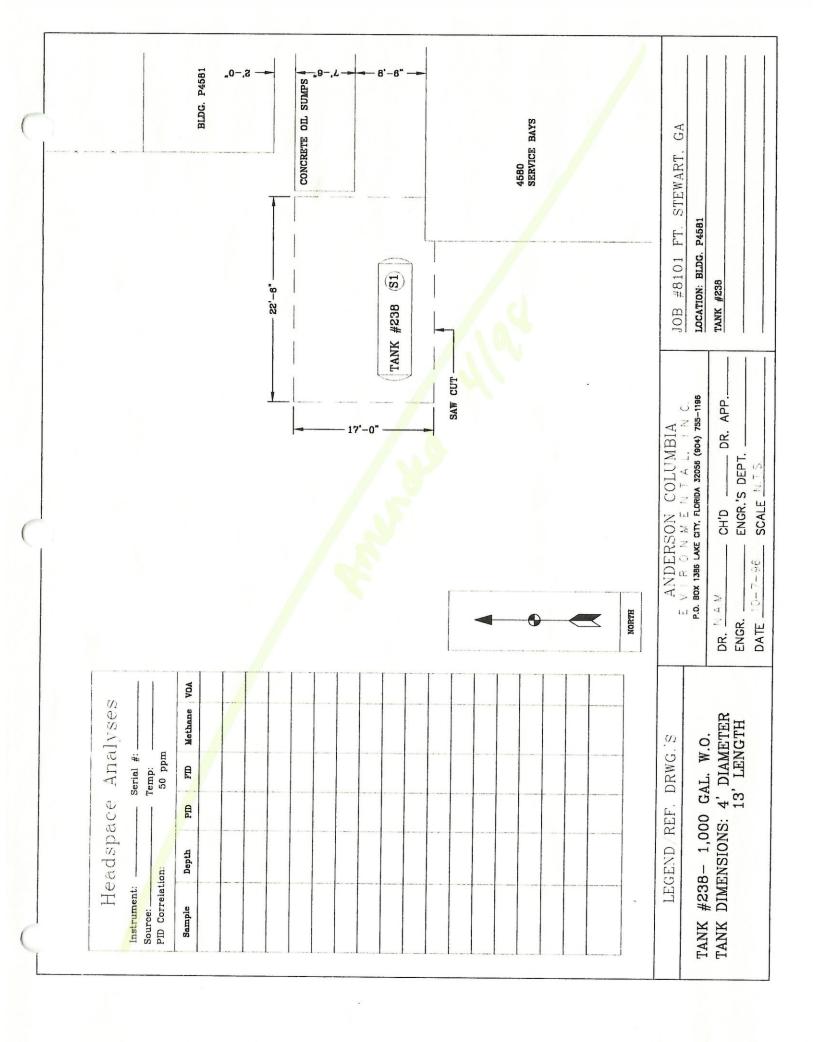
NOTE: This UST was for Waste oil storage and did NOT have dispensers, only a waste oil-draw-off.

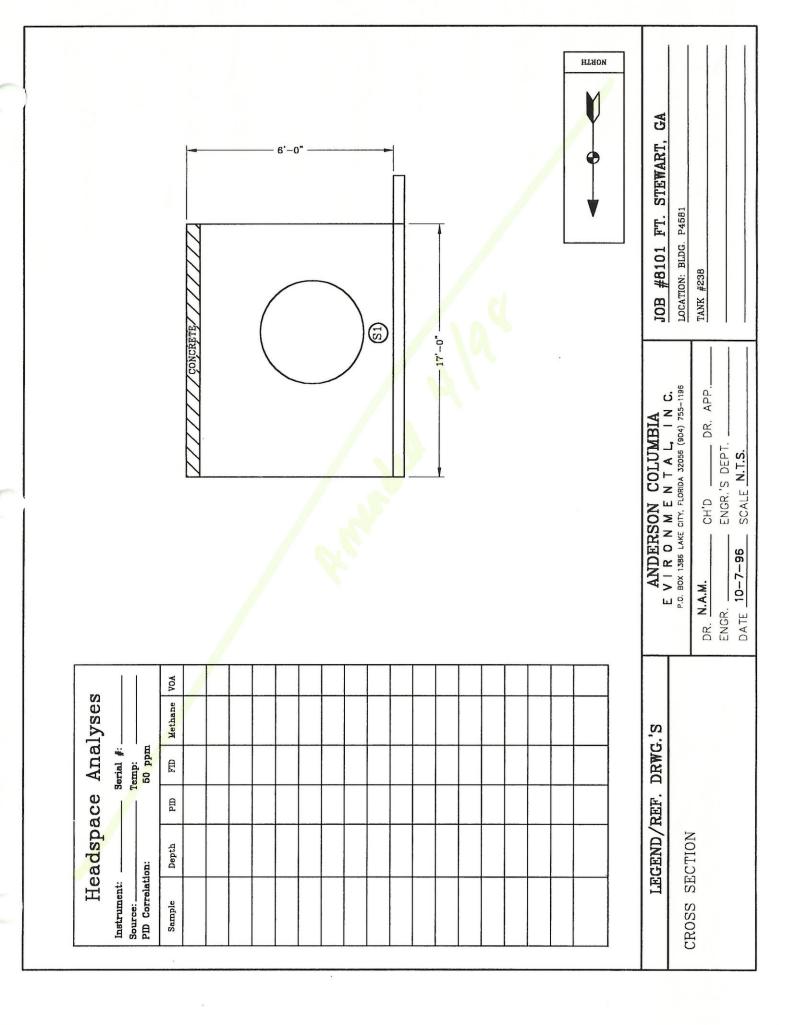


Mab 3a Pro

Prov. 4/00







EPA FORM 7530-1 & FIELD ASSESSMENT METHODS

| | state use only |
|---|--|
| Part I: Facility Data | |
| | |
| FACILITY ID NUMBER: 9-089044 | |
| OWNER'S ID: 197 | |
| INITIAL DATE RECEIVED: 12/18/92 | |
| DATE AMENDED LAST: | |
| NOTIFICATION TYPE: New Amended | Closure |
| OWNERSHIP OF TANK (S): | NUMBER OF TANK (S):1 |
| Name US ARMY/FT STEWART Mailing Address HQ 3RD INF DIV (M), AFZP-DEV/BLDG 1139 City FT STEWART State: GEORGIA Phone 912-767-1071 County: LIBERTY | Zip Code: 31314-5000 |
| LOCATION OF TANK (S): | |
| Name : FT STEWART/FAC 4586 Street Address : FAC 4586 City : FT STEWART State: GEORGIA County : LIBERTY Latitude: Phone : | Zip Code: 31314-5000 Longitude: |
| OWNER TYPE: X Federal State | Local Commercial Private |
| FACILITY TYPE (S): | |
| | Local Government State Government Fed Non-Military Fed Military Commercial Industrial Educational Contractor Truck/Transport Utilities Farm Residential Other |
| CONTACT PERSON IN CHARGE OF TANK (S): | |
| Address HQ 3RD INF DIV (M), AFZP-DEV/BLDG 1139 | Title: JOHN SPEAR/ENV ENG Zip Code: 31314-5000 |

Part I: Facility Data

| FINANCIAL RESPONSIBIL | LITY: FACILITY II | NUMBER: |
|--|--|--|
| Code of Geo | nancial responsibility requirements rgia Annotated by providing or parancial assurance mechanisms. | |
| Primary Financial Responsib | ility Mechanism (check one) | |
| GUST Trust Fu | nd | Insurance |
| Surety Bond | | Guarantee |
| Letter of Credit | | Trust Fund (other than GUST) |
| Risk Retention | Group | X Other Method |
| Self-insured | | None |
| | ge mechanism other than GUST Tr nation pursuant to GUST Rule 391 | |
| Financial Respons | ibility Provider (primary): | |
| Name: US A | Army | |
| Address: HQ 3rd | Int. Div. (M) AFZP-DEV/BLDG 1139 | City: Ft. Stewart State: GA |
| Mechanism Id Num | ber: | |
| Mechanism Annive | rsary Date: | |
| Deductible Financial Respons | ibility, if any: (check one) | |
| participation in the (Fees, as required un | ary Financial Responsibility Mechan GUST Trust Fund by payment of E der GUST Rule 391-3-1513, you icating how coverage for the GUS provided. | invironmental Assurance must also check one of the |
| Fund and it has a de | sponsibility Mechanism is other the ductible, you must also check one rage for the deductible is being pro- | of the following boxes |
| Surety Bond | | Insurance |
| Letter of Credit | | Guarantee |
| Risk Retention (| Group. | Trust Fund (other than GUST) |
| Self-insured | | Other Method |
| | d address of Financial Responsibil to GUST Rule 391-1512 (1): | ity Provider for |
| Financial Responsi | bility Provider (deductible): | |
| Name: | | |
| Address: | City: | State: |
| Mechanism Id Numb | | |
| Mechanism Annivers | | |

Part III: Certifications

| OATH C | OF LATION: | I certify the information system, release detection specified in Part II-Taniand knowledge. | on, and spill/o | verflow protection | |
|------------|--------------------|---|--|--|-------------------|
| Installer: | : | | | | |
| , | Company | | | Company Address | |
| | Authorize | d Representative | | Signature | Date |
| | Title | | <u></u> | Telephone Number (i | nclude Area Code) |
| ERTIFI | CÁTION: | I certify under penalty of and am familiar with the attached documents, and individuals immediately information, I believe the accurate, and complete. | e information d that based o responsible | submitted in this ar on my inquiry of thos for obtaining the | nd all se |
| Owner: | John H Owner Na | . Spears me | <u>.</u> | Chief, Environmental I | Branch |
| | Owner's Si | IGINAL SIGNED | | | <u>Nov96</u> |

Part II: Tank Data

| | | II. Tank Data | | | |
|--|-----------------------------------|--|--|----------|--------------|
| FACILITY ID | | | | 1 | |
| TANK ID | | | | | |
| Status of Tank | | | | | |
| Currently in Use | * | Perotina Serimannia and Serimannia a | WALL STREET | | |
| Temp. Out of Use | | | | | · |
| Perm. Out of Use | × | | | | |
| Date of Installation | 01-01-1987 | | | | |
| Age | 9 | | | | |
| Est. Total Capacity | 2500 1000 | | | | |
| MATERIAL OF CONSTRUCTION | | | | | |
| Asphalt or Bare Steel | arashinin makatata ilika 1880 (18 | | | | |
| Cath. Protected Steel | | | | | |
| Epoxy Coated Steel | | | | | |
| Composite | | | - | | |
| Fiberglass Reinf. Plas. | X | | | | <u> </u> |
| Lined Interior | | | | | |
| Double Walled | Х | | | | |
| Poly. Tank Jacket | <u></u> | | | | |
| Concrete | | | | <u> </u> | |
| Excavation Liner | | | · | | |
| Unknown | | | | | |
| Other, Explanation | | | | | |
| Date Tank Repaired | | | | | |
| PIPING MATERIAL | | | | | |
| Bare Steel | | action to be a second and the second | | | |
| Galvanized Steel | X | | | | |
| Fiberglass | ^ | | | | |
| Copper | | <u> </u> | | | |
| Cathodically Protected | - | | | | <u> </u> |
| Double Walled | X * | | | <u> </u> | |
| Secondary Containment | | | | | |
| Unknown | | | | | |
| Other, Explanation | i | | | | |
| Date Piping Installed | | | | | |
| Piping Type | | | | | |
| Suction: No Valve | | | o recumplify the first of the f | | |
| Suction: Valve | 1 | | | | |
| Pressure | | | | | |
| Gravity Fed | | · | | | |
| Date Piping Renaired | | | | | |
| Date Piping Repaired Substance Stored in Tank Gasoline | | | | | |
| Substance Stored in Tank | | | | | |
| | | \ | | | |
| Diesel | | | | | |
| Gasohol | | | | | |
| Kerosene | | | | | |
| Heating Oil Used Oil | <u></u> | | | | |
| | <u>x</u> | | | | |
| Propane Empty | | | | | |
| Other, Explanation | | | | | |
| Other, Expianation | | | | ' | · |

Part II: Tank Data

| FACILITY II | | 9044 | | | - | | <u> </u> | | <u> </u> | |
|---|--|--------------------|--|--|---|--|--|------------------------|-----------------------------------|--|
| TANK II | 238 | | | (compressor | | urenen saksine | | ni asemanian | | ranganina. |
| Substance Stored in Tank | | | reighbeise | | aken ini | ai laki | Julian | | | |
| Hazardous Substance | ĺ., | | | | | | | | | |
| CERCLA Name | | | | | | | | | | |
| CAS Number | | | | | | | | | | |
| Mixture | 1 | | | | | | | | | |
| Mixture, Specification | | | | | | | | | | |
| Out of Use/Chg. Ser. | Tank | Piping | Tank | Piping | Tank | Piping | Tank | Piping | Tank | Pipin |
| Est. Date Last Used | | 7-30-96 | | 1P <u>.</u> | 1 4444 | i iping | 7,unk | i iping | Tank | 1.0 |
| Est. Date Closed | 8-5-96 | | | | | | | | | |
| Removed from Ground | × × | × /- | | | | | | | | |
| Closed in Ground | ^ | | | <u> </u> | | | <u> </u> | <u> </u> | | <u> </u> |
| Filled with Iner, Mat. | | | | | | | | | | |
| Change in Service | · · · · · · · · · · · · · · · · · · · | | | | 1 | | | <u> </u> | | 1 |
| Site Assessment Compl. | | | † | | 1 | | | - | | |
| Leak Detected | 1 | | 1 | | | | | | | · · · · · |
| | | | economic de la company | | | | | | | i i i Militari |
| Installation | Salat Barrier | and a s | allowed thems | | Lips Malacottes | i iliya da Maria da | allo de di di | | and the second | iskis till i i i |
| Certified by Manufac. | ļ | | | | | | | | | |
| Certified by Imple. Agn. | | | | | | | | · | | |
| Inspected by Engineer | | | | | | | | | | |
| Checklists Completed | | | | | <u> </u> | | | | | |
| Another Allowed Method | | | <u> </u> | | | | | | | |
| Method Description | - | .,, | | | | | ···· | | | |
| Certified by Imple, Agn. | <u> </u> | | | | <u> </u> | | | | ļ | |
| Inspected by Engineer | | | - | | <u> </u> | | ļ | | ļ | |
| Checklists Completed | | | ļ | | | | | | | |
| Another Allowed Method | <u> </u> | | - | | | , | | | | |
| Method Description | e se canada escapio e se con la contracti | (Carros) (Carros) | nicial construction | energy of the second | VALUE AND | en e | AND STREET, ST | Silver and the second | | Lack to Charles to a con- |
| Release Detection | Tank | Piping | Tank | Piping | Tank | Piping | Tank | Piping | Tank | Pipin |
| Tank Tightness Testing | | A PARTIE | | 70# #KK | | | | 12.00 | | incises. |
| Inventory Controls SIR | ļ | | | | <u> </u> | | | te igo sin il | | and the co |
| Automatic Tank Guaging | | ante di batta | | ing the same | | | | | | 10000 |
| Inter. Mon./Double Wall | | | | 76 5 X 3 X 3 X 3 X 3 X 3 X 3 X 3 X 3 X 3 X | | 10,000 10,000 1000 1000 | | | | |
| Groundwater Monitoring | 1 | | | | | | | | | |
| Manual Tank Guaging | | | | | | | | | | 8 19 19 |
| Vapor Monitoring | | | | | | | | | | |
| Inter, Mon./Sec. Cont. Auto. Line Leak Detect. | | | | | | | legentise is not | | Select residence | |
| Line Tightness Testing | | | 46.4 | | | | | | | |
| Other Method | 333-343-333-33 | | e de contracto de la contracto | | NIRESPONDENCE | | THE RESIDENCE | | adicale rations a state of Prince | |
| Other Description | | | | | | | | i | | |
| Spill and Overfill | | | | | | | | | | |
| Date Overfill Device | and the state of t | nemati sampasi (18 | seriteritishine | | | | | ere mar killeda | | |
| Date Spill Device | <u> </u> | | | | | | | | | |
| estimikouhidh Ecitari centrici, kaj kaj kalimitan | | | e son et hiele i | | DÜBBÜMÜR | | gagrandzarasta | | udigo (1996) | |
| Installer Certification | | | | | | | | | | |
| Name Position | ļ | | | | | | | | | |
| Company | | | | | | | | | | <u></u> |
| Date | T | | | | | | | | sion 11/9 | |

CLOSURE REPORT ADDENDUM UST #238, FACILITY ID. NO. 9-089044

TANK REMOVAL (CLOSURE OF PIPING) TAB 6

The undersigned certifies that the piping associated with former Tank #238, located at Building 4586, Fort Stewart, Georgia, was purged, cleaned, and removed by our contractor, Anderson Columbia Environmental. The piping connection at the oil/water separator, which is located approximately five feet from the former UST, was capped at the oil/water separator.

The undersigned also certifies that the piping at this facility was associated with Tank #238, which was used for storage of waste oil. The piping was not greater than 25 feet (i.e., piping from tank to oil/water separator was 5 feet), and in accordance with GUST Rules, sampling is not required.

Name: <u>Dale F. Kiefer</u> Title: <u>Chief, Environmental</u>

<u>Natural Resources Division</u>

Signature: Wale 1. Kiefer Date: 4/13/98

CLOSURE REPORT ADDENDUM UST #238, FACILITY ID. NO. 9-089044

TANK REMOVAL (FIELD ASSESSMENT METHODS) TAB 6

Please replace the Field Assessment Methods included under Tab 6 of the previously submitted Closure Report with the attached methodology. The previous methodology enclosed with the report was in error. Only one soil sample was taken at this site.

CLOSURE REPORT ADDENDUM UST #238, FACILITY ID. NO. 9-089044

FIELD ASSESSMENT METHODS

SOÎL SAMPLES

TANK #238: Removed August 5, 1996

One (1) soil sample for analytical testing was collected by Anderson Columbia Environmental, Inc. (ACE) personnel approximately two (2) feet below the center of the excavated tank pit in accordance with GUST-9 requirements for a 1000 gallon UST (i.e., GUST-9 Section 7) I.). The soil sample was collected into a precleaned, labeled laboratory sample bottles and immediately placed on ice. The sample was shipped under Chain of Custody to the South Atlantic Division, Corps of Engineers laboratory (contracted to Analytical Services, Inc.), located in Norcross, Georgia.

FIELD ASSESSMENT METHODS

SOIL SAMPLES

Soil samples for analytical testing were collected by Anderson Columbia Environmental. Inc. (ACE) personnel two (2) feet below both end of the excavated tanks and from the side walls of the excavation. Soil samples were collected into precleaned, labeled laboratory sample bottles and immediately placed on ice. The samples were shipped under Chain of Custody to the Corps of Engineers contract laboratory, Ecosys Laboratory Services.

Soil samples for field screening were collected by ACE personnel from each side and bottom of the tank pit. Soil samples were collected at various intervals and soil vapors were withdrawn for volatile organic compounds (VOCs) with a Heath PORTA-FID II, Model No. 8000 Flame Ionization Detector (FID) fitted with a methane filter. Calibration was performed prior to field sampling with a 100 ppm methane/air mixture.

FID readings of soil samples were collected by filling a clean glass jar one-half full with soil, capping the jar with clean aluminum foil and allowing conditions in the jar to equilibrate for approximately 60 minutes. The tip of the FID was then carefully inserted through the aluminum foil and an air sample from the jar's headspace was analyzed for total VOCs.

GROUNDWATER SAMPLES

Groundwater samples were collected from the bottom of the tank pits only when groundwater invaded the excavation. Groundwater samples were collected from the excavation site with a disposable Teflon bailer and immediately placed in precleaned, labeled laboratory sample containers. Following collection, samples were immediately placed in a sample cooler with ice and were delivered, under Chain of Custody, to Ecosys Laboratory Services.

CLOSURE REPORT ADDENDUM UST #238, FACILITY ID. NO. 9-089044

LABORATORY ANALYTICAL DATA TAB 7

Lab data previously submitted in the Closure Report included all samples listed on a single chain-of-custody, which included multiple sites. Please replace the laboratory data sheets contained in the Closure Report submitted in November 1996 (Tab 7) with those provided in this addendum which are specific to UST #238.

A written explanation from the laboratory director, Mr. Blaise Willis, concerning the exceedence of the detection limits for BTEX and TPH is also provided for clarification.

ANALYTICAL DATA

TAB 7 - Laboratory Analytical Data

Delivery Order #101
Fort Stewart, Georgia
Tank Number 238
Building Number 4581

| Method | 9073 | 418.1 | 8020 | 8270 | | | | |
|------------------------------------|------|-------|------|------------------------|--|--|--|--|
| Sample ID | TRPH | TPH | BTEX | Semi-Volatile Organics | | | | |
| unit | ppm | ppm | ppb | ppb | | | | |
| TK238-S1 | | bdl | bdl | Kil . | | | | |
| bdl= below method detection limits | | | | | | | | |

^{**}Fort Stewart is in an area of 'High or Average Groundwater pollution susceptibility' and this tank is approximately 1900 feet from a withdrawal point. Comparisons with Table A (which follows) reveals that the site is clean with respect to BTEX, TPH and PAH constituents.

Complete Data Package Follows

Petroleum Constituents and Soil Threshold Levels*

At UST corrective action sites where withdrawal points for public and non-public water supplies exist within distances defined in GUST Rule 391-3-15-.09(3):

| CONSTITUENT | GROUNDWAT SUSCEPTIE (Where public wa within 2.0 miles a | OR HIGHER ER POLLUTION HILTY AREA ^b ater supplies exist and/or non-public within 0.5 miles) | GROUNDWATE SUSCEPTIE (Where public we within 1.0 mile a | WER ER POLLUTION ULITY AREA* ater supplies exist nd/or non-public within 0.25 mile) |
|--------------------------------------|--|--|--|---|
| VOLATILE ORGANIC COMPOUNDS | ≤500 feet to withdrawal point | | | >500 feet to withdrawal point |
| Benzene ^g | 0.005 mg/kg ^d | 0.008 mg/kg | 0.005 mg/kg ⁴ | 0.71 mg/kg |
| Toluene | 0.400 mg/kg | 6.00 mg/kg | 0.400 mg/kg | 500.00 mg/kg |
| Ethylbenzene | 0.370 mg/kg | 10.00 mg/kg | 0.500 mg/kg | 140.00 mg/kg |
| Xylenes (total) | 20.00 mg/kg | 700.00 mg/kg | 27.00 mg/kg | 700.00 mg/kg |
| POLYNUCLEAR AROMATIC HYDROCARBONS | • | | | |
| Acenaphthene | N/A* | N/A* | N/A* | N/A* |
| Anthracene | N/A* | N/A* | N/A* | N/A* |
| Benz(a)anthracene | N/A* | N/A* | N/A* | N/A* |
| Benzo(a)pyrene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Benzo(b)fluoranthene | 0.820 mg/kg ^{d,f} | N/A* | N/A* | N/A* |
| Benzo(g,h,i)perylene | N/A* | N/A* | N/A* | N/A* |
| Benzo(k)fluoranthene | 1.60 mg/kg ^{d,f} | N/A* | N/A* | N/A* |
| Chrysene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Dibenz(a,h)anthracene | 1.50 mg/kg ^{d,f} | N/A* | N/A* | → N/A* |
| Fluoranthene | N/A* | N/A* | N/A* | N/A* |
| Fluorene | N/A* | N/A* | N/A* | N/A* |
| indeno(1,2,3-c,d)pyrene | 0.660 mg/kg ⁴ | N/A* | 0.660 mg/kg ^d | N/A* |
| Naphthalene | N/A* | N/A* | N/A* | N/A* |
| Phenanthrene | N/A* | N/A* | N/A* | N/A* |
| Рутепе | N/A* | N/A* | N/A* | N/A* |

Based on worst-case assumptions for one-dimensional vadose zone and groundwater contaminant late and transport models.

Based on an assumed distance of 0.5 feet between contaminated soils and the water table.

⁻ Based on an assumed distance of 5.0 feet between contaminated soils and the water table.

d - Estimated Quantitation Limit. The health-based threshold level is less than the laboratory method limit of detection.

^{4 -} Not applicable. The health-based threshold level exceeds the expected soll concentration under free product condition.

f - In order to protect surface waters, the soil threshold level in Table B may supersede that found in Table A.

g - in the presence of other petroleum contaminants in concentrations exceeding 1.0 mg/kg, the Estimated Quantitation Limit, and hence the soil threshold level, may be substantially greater, as approved by EPD.

Petroleum Constituents and Soil Threshold* Levels

ther UST corrective action sites where withdrawal points for public and non-public water supplies do not exist within ulstances defined in GUST Rule 391-3-15-.09(3):

| CONSTITUENT | GROUNDWAT | OR HIGHER ER POLLUTION BILITY AREA [®] | GROUNDWAT | WER ER POLLUTION BILITY AREA® |
|--------------------------------------|--------------------------------------|---|--------------------------------------|--------------------------------------|
| VOLATILE ORGANIC COMPOUNDS | ≤500 feet to sur- face water body | >500 feet to sur- face water body | ≤500 feet to sur- face water body | >500 feet to sur- face water body |
| Benzene ^t :- | 0.017 mg/kg | 0.120 mg/kg | 0.020 mg/kg | 11.30 mg/kg |
| Toluene | 115.00 mg/kg | 500.00 mg/kg | 135.00 mg/kg | 500.00 mg/kg |
| Ethylbenzene | 18.00 mg/kg | 140.00 mg/kg | 28.00 mg/kg | 140.00 mg/kg |
| Xylenes (total) | 700.00 mg/kg | 700.00 mg/kg | 700.00 mg/kg | 700.00 mg/kg |
| POLYNUCLEAR AROMATIC HYDROCARBONS | | , | 3, 3 | reside mg/kg |
| Acenaphthene | N/A* | N/A* | N/A* | N/A* |
| Anthracene | N/A* | N/A* | N/A* | N/A* |
| Benz(a)anthracene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Benzo(a)pyrene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Benzo(b)fluoranthene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Benzo(g,h,i)perylene | N/A* | N/A* | N/A* | N/A* |
| Benzo(k)fluoranthene | 0.660 mg/kg ^d | N/A* | N/Ä* | N/A* |
| Chrysene | 0.660 mg/kg ^d | N/A* | N/A* | N/A* |
| Diberiz(a,h)anthracene | 0.660 mg/kg ^d | N/A* | N/A* | N/A° |
| Fluoranthene | N/A* | N/A* | N/A* | ☐ N/A* |
| Fluorene | N/A* | N/A* | N/A* | N/A* |
| Indeno(1,2,3-c,d)pyrene | 0,660 mg/kg ^d | N/A* | 0.660 mg/kg ^d | N/A* |
| Naphthalene | N/A* | N/A* | N/A* | N/A* |
| Phenanthrene | N/A* | N/A* | N/A* | N/A* |
| Ругеле | N/A* | N/A* | N/A* | -⁄N/A* |

assed on worst-case assumptions for one-dimensional vadose zone and groundwater contaminant fate and transport models.

ased on an assumed distance of 0.5 feet between contaminated soils and the water table.

assed on an assumed distance of 5.0 feet between contaminated soils and the water table.

estimated Cuantitation Limit. The health-based threshold level is less than the laboratory method limit of detection.

Not applicable. The health-based threshold level exceeds the expected soil concentration under free product condition.

in the presence of other petroleum contaminants in concentrations exceeding 1.0 mg/kg, the Estimated Quantitation Umit, and hence the soil threshold level, may be substantially greater, as approved by EPD.

TRANSMITTAL OF SAD LABORATORY REPORT(S)

TO: Commander, Savannah District

US Army Corps of Engineers

ATTN: CESAS-PM-H Mr. Brent Rose

Savannah, GA 31402-0889

FROM: Director (CESAD-ET-EL)

SAD Laboratory

USACE

611 South Cobb Drive

Marietta, GA 30060-3112

PROJECT: Ft. Stewart

REQN NO: PMS-96-109

W.O. NO: 7996

SUBJECT: Analytical Testing Results

1. Enclosed is our report of analytical test results and chain of custody forms for samples collected on 5 August 1996 from Ft. Stewart.

2. If you have any questions, please call Mr. Blaise Willis at 770-919-5295 or me at 770-919-3990.

) (1

JUBMITTED BY:

WILLIAM L. TISON, P.E. Director, SAD Laboratory

SIGNATURE

DATE:

6 Sep 1996

South Atlantic Division Laboratory U. S. Army Corps of Engineers 611 South Cobb Drive Marietta, Georgia 30060-3112

Ltrict - SAVANNAH Date Received - 96/08/09 Date Received - 96/08/09 Requisition - PMS-96-109
Date Reported - 96/08/28 07:24:56 Work Order - 7996 Job Number - 4068

FT. STEWART ARMY AF

| Lab # Field ID | | | Time Sampled | |
|---|---------------------------|------------|--------------------------|--|
| Test Performed | Result | Units | Tested By | Test Date |
| TOTAL SOLIDS, % OF WET AROMATIC VOLATILE ORGANICS SEMIVOLATILE ORGANICS GC/MS TRPH | 90.00 * * < 11.0 | % MG/KG | ASI ASI ASI ASI | 96/08/13 96/08/16 96/08/18 96/08/14 |

*NOTE: See Attached

Sampled by District Personnel

Checked by: 13

et lof 3

Signed by:

Blaise Willis

Chemist

| Lab # | Field ID | Date S | Sampled | 7 |
|--------|------------|----------|---------|----|
| | | | | • |
| (=39 | TRIP BLANK | 96/08/05 | | |
| Test P | erformed | Result | Units | Te |

Time Sampled

Test

Result Units By Date

* ASI 96/08/14

*NOTE: See Attached

Sampled by District Personnel

AROMATIC VOLATILE ORGANICS

Checked by: 13.

(%t 3 of 3

Signed by:

Blaise Willis

Chemist

| | hed by: Date / Time Date | Project No. Project Name Samplers (Signature) Sample Number Number L216-4-W 8/5/16 1530 V dd 4 Tr. 6 13/6-W 1530 V dd 2 Tr. 6 13/6-W 8/5/16 1530 V dd 2 Tr. 6 13/6-W 8/5/16 1530 V dd 2 | SADD Lads ANDER |
|----------|---|---|--|
| * | Relinguished by: | 3863 | ANDERSON COLUMBIA ENVIRONMENTAL, INC. CHIMNOF CUSTODY RECOFD |
| | Received by: Remarks: | Remarks: Remarks: TOAFTA Soil Do for VOR'S NISSUMM | Page of L |

SOUTH ATLANTIC DIVISION LABORATORY
SAMPLE RECEIVING AND COOLER RECEIPT DATA SHEET
CHEMICAL SECTION - Sample London

| January Court Sample Eng-in | DATE: SAGO |
|---|-------------------------|
| Number of coolers 1 Returned cooler(s) to: Ada San Cus | MAA |
| PROJECT: +1. STEWAET W.O.# | JOB# 4068 |
| Coolers(s) opened by (print name) Tack Me Cordence (sign) | Sed |
| | |
| 1. Did cooler come with shipping slip? #471686883 | Nyes [] no |
| 2. Were custody seals on out side of cooler? How many? Date on seal(s) 1/1 Name on seal(s) | (1) yes () no |
| 3. Were custody seals unbroken upon receipt? | [[]yes]no |
| 4. Did you screen sample(s) for "Radioactivity"? | [[]Yes [] no |
| 5. Were custody papers filled out properly? (ink,signed,etc.,) | lj Ves no |
| 6. Temperature of sample(s) upon receipt: 5e | |
| 7. Describe cooler packing: TUBHE RAS & RUBBLOOKING | |
| 8. Did all sample containers arrive unbroken? | []yes []no |
| 9. Were the sample containers sealed in separate plastic bags? | [] 7ES [] NO |
| 10. Were labels on containers in good condition and agree with Custody paper? | Lives [] no |
| 11. Were correct containers used for the test(s) indicated? | [[]] es [] no |
| 12. Were correct preservatives added to sample(s)? | [] Yes [] no [] uni |
| 13. Was a sufficient amount of sample sent for test? | lilyes no |
| 14. Were bubbles absent in Volatile sample(s)? If no, list field ID# | [] Yes [] no [] N/A |
| 15. Numbers of days from sample date, samples received in Lab | \mathcal{J} |
| 16. Number of Samples: 3 Sample Type: [/soil 2 water lother | : / |
| SAMPLE ANALYSIS PERFORMED BY: TAT | 1 Cleys |
| COMMENTS: CAMPLE CAL # J9738 (D) LCT CHIL BE BLIKEW | -Vie Sheat |
| FOR MASON TEST | .* |
| 17. Did you aim anatody pages in the appropriate -12 | illedon I lan |
| 17. Did you sign custody papers in the appropriate place? | (P t.App 1 un |
| AB NUMBER(S): | Н ~ |



ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS

110 TECHNOLOGY PARKWAY • NORCROSS, GA 30092 (770) 734-4200 • FAX (770) 734-4201

South Atlantic Division Laboratory U.S. Army Corps of Engineers 611 South Cobb Drive

Marietta, GA 30060

Attn: Mr. Blaise Willis

SAD Lab #: 29737 Field ID: TK238-S1

Date Collected: 08/05/96 Time Collected: 13:25 August 22, 1996

P.O. No. DACW01-96-A-0001

ASI Lab No. 75055-1

Date Received: 08/12/96 Time Received: 11:00

Sample Type: Soil

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|------------------------------|--------|-----------|-------|----------|------|---------|--------|
| Total Solids | 90 | 0.04 | % | 08/13/96 | 0950 | AB/ | 160.3 |
| Dilution Factor | 1 | | | | | | |
| Total Petroleum Hydrocarbons | BDL. | 11 | mg/kg | 08/14/96 | 1330 | SEH | 418.1M |
| Dilution Factor | 1 | | | | | | |
| Prepared/Extracted | | | | 08/14/96 | 1000 | SEH | |



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South Atlantic Division Laboratory

U.S. Army Corps of Engineers

611 South Cobb Drive Marietta, GA 30060

Attn: Mr. Blaise Willis

SAD Lab #: 29737 Field ID: TK238-S1

Date Collected: 08/05/96 Time Collected: 13:25 August 22, 1996

P.O. No. DACW01-96-A-0001

ASI Lab No. 75055-1

Date Received: 08/12/96

Time Received: 11:00

Sample Type: Soil

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|-------------------------------|--------|-----------|-------|----------|------|---------|--------|
| BTEX (EPA 8020) - Georgia UST | | | | v. • | | | 8020 |
| Dilution Factor | 1 | | | | | | |
| Benzene: | BDL | 6 | ug/kg | 08/16/96 | 1730 | BDL | 8020 |
| Ethylbenzene | 8DL | 6 | ug/kg | 08/16/96 | 1730 | BDL. | 8020 |
| Toluene | BDL | 6 | ug/kg | 08/16/96 | 1730 | BDL | 8020 |
| Xylenes | BDL. | 6 | ug/kg | 08/16/96 | 1730 | BDL. | 8020 |
| Total BTEX | BDL | 6 | ug/kg | 08/16/96 | 1730 | BDL | 8020 |



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South Atlantic Division Laboratory U.S. Army Corps of Engineers 611 South Cobb Drive Marietta, GA 30060 Attn: Mr. Blaise Willis

August 22, 1996

P.O. No. DACW01-96-A-0001

SAD Lab #: 29737 Field ID: TK238-S1

ASI Lab No. 75055-1 Date Received: 08/12/96

Date Collected: 08/05/96

Time Received: 11:00

Time Collected: 13:25

Sample Type: Soil

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|--------------------------------------|--------|-----------|-------|----------|------|---------------------------------------|--------|
| Acid Extractable Organics (EPA 8270) | | | | 1.6 | | · · · · · · · · · · · · · · · · · · · | 8270 |
| Dilution Factor | . 1 | | | | | | |
| Prepared/Extracted | | | | 08/14/96 | 1400 | JQZ | |
| 4-Chloro-3-methylphenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Chlorophenol | BDL. | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4-Dichlorophenol | BDL | 37.0 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4-Dimethylphenol | BDL. | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4,6-Dinitro-2-methylphenol | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4-Dinitrophenol | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Methylphenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Methylphenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Nitrophenol | 8DL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Nitrophenol | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Pentachlorophenol | BDL. | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Phenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4,5-Trichlorophenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4,6-Trichlorophenol | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |



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South Atlantic Division Laboratory U.S. Army Corps of Engineers 611 South Cobb Drive Marietta, GA 30060

P.O. No. DACW01-96-A-0001

August 22, 1996

SAD Lab #: 29737 Field ID: TK238-S1

Attn: Mr. Blaise Willis

ASI Lab No. 75055-1 Date Received: 08/12/96 Time Received: 11:00 Sample Type: Soil

Date Collected: 08/05/96 Time Collected: 13:25

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|--|--------|-----------|-------|----------|-------|-------------|--------|
| Base/Neutral Extractable Organics (EPA 8270) | | | | *** | | | 8270 |
| Dilution Factor | 1 | | | | | | |
| Prepared/Extracted | | | | 08/14/96 | 1400 | JQZ | |
| Acenaphthene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Acenaphthylene | BDL. | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Anthracene | BDL | 370 | ug/kg | 08/18/96 | 1.554 | DMB | 8270 |
| Benzoic Acid | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzo(a)anthracene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzo(b)fluoranthene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzo(k)fluoranthene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzo(ghi)perylene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzo(a)pyrene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzyl Alcohol | BDL | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Bis(2-chloroethoxy)methane | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Bis(2-chloroethyl)ether | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Bis(2-chloroisopropyl)ether | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Bis(2-ethylhexyl)phthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Bromophenyl phenyl ether | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Benzyl butyl phthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Chloroaniline | BDL | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Chloronaphthalene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Chlorophenyl phenyl ether | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB 7 | 8270 |
| Chrysene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB - 🖟 | 8270 |
| Dibenzo(a,h)anthracene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Dibenzofuran | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Di-n-butylphthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 1,3-Dichlorobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 1,4-Dichlorobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 1,2-Dichlorobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 3,3'-Dichlorobenzidine | BDL | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |



ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS

110 TECHNOLOGY PARKWAY • NORCROSS, GA 30092 (770) 734-4200 • FAX (770) 734-4201

South Atlantic Division Laboratory

U.S. Army Corps of Engineers

611 South Cobb Drive Marietta, GA 30060

Attn: Mr. Blaise Willis

SAD Lab #: 29737 Field ID: TK238-S1

Date Collected: 08/05/96 Time Collected: 13:25

August 22, 1996

P.O. No. DACW01-96-A-0001

ASI Lab No. 75055-1 Date Received: 08/12/96 Time Received: 11:00

Sample Type: Soil

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|--|--------|-----------|---------------------------------------|---------------------------------------|------|---------|--------|
| Base/Neutral Extractable Organics (EPA 8270) | | | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | | | |
| Diethylphthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Dimethylphthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,4-Dinitrotoluene | BDL | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2,6-Dinitrotoluene | BDL | 740 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Di-n-octylphthalate | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Fluoranthene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Fluorene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Hexachlorobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Hexachlorobutadiene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Hexachlorocyclopentadiene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Hexachloroethane | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Indeno(1,2,3-cd)pyrene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Isophorone | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Methylnaphthalene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Naphthalene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 2-Nitroaniline | 8DL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 3-Nitroaniline | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 4-Nitroaniline | BDL | 1900 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Nitrobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| N-Nitrosodimethylamine | BDL. | 370 | ug/kg | 08/18/96 | 1554 | DMB > | 8270 |
| N-Nitrosodiphenylamine | 8DL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| N-Nitrosodi-n-propylamine | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Phenanthrene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| Pyrene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |
| 1,2,4-Trichlorobenzene | BDL | 370 | ug/kg | 08/18/96 | 1554 | DMB | 8270 |

Respectfully Submitted,

Project Manager



ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS

110 TECHNOLOGY PARKWAY • NORCROSS, GA 30092 (770) 734-4200 • FAX (770) 734-4201

South Atlantic Division Laboratory U.S. Army Corps of Engineers 611 South Cobb Drive Marietta, GA 30060 Attn: Mr. Blaise Willis

August 22, 1996

P.O. No. DACW01-96-A-0001

SAD Lab #: 29739 Field ID: Trip Blank

ASI Lab No. 75055-3

Date Received: 08/12/96
Date Collected: 08/05/96
Time Received: 11:00

Sample Type: Water

| Analyte | Result | Det Limit | Units | Date | Time | Analyst | Method |
|-------------------------------|--------|-----------|-------|----------|------|---------|--------|
| BTEX (EPA 8020) - Georgia UST | | | | | | | 8020 |
| Dilution Factor | ì | | | , | | | |
| Benzene | BDL | , · · 2 | ug/l | 08/14/96 | 1915 | BDL | 8020° |
| Ethylbenzene | BDL | 4 | ug/l | 08/14/96 | 1915 | BDL | 8020 |
| Toluene | BDL. | 2 | ug/l | 08/14/96 | 1915 | BDL | 8020 |
| Xylenes | BDL | 5 | ug/l | 08/14/96 | 1915 | BDL | 8020 |
| Total BTEX | BDL | 2 | ug/l | 08/14/96 | 1915 | BDL | 8020 |

Respectfully Submitted,

BDL - Below Detection Limit

Project Manager

Analytical Services Inc. Batch QC For Report Number :75055 Base Neutrals / Acids

Matrix : Aqueous

Batch # 23565 Method : EPA 8270

| Lab Control Information Analyte | LC %Rec | LCD %Rec | LC RPD | %Recovery Range | RPD Range |
|-------------------------------------|------------|-------------|-----------|--------------------|--------------|
| Phenol | 30 | 33 | 9 | 12 - 89 | 0 - 42 |
| 2-Chlorophenol | 70 | 69 | ī | 27 - 123 | 0 - 40 |
| 1,4-Dichlorobenzene | 63 | 62 | 2 | 36 - 97 | 0 - 28 |
| N-Nitrosodipropylamine | 83 | 82 | 1 | 41 - 116 | 0 - 38 |
| 1,2,4-Trichlorobenzene | 72 | 71 | 2 | 44 - 142 | 0 - 28 |
| 4-Chloro-3-methylphenol | 88 | 90 | 2 | 23 - 97 | 0 - 42 |
| Acenaphthene | 79 | 80 | 1 | 46 - 118 | 0 - 31 |
| 2,4-Dinitrotoluene | 75 | 75 | .0 | 24 - 96 | 0 - 38 |
| 4-Nitrophenol | 21 | 21 | 1 | 10 - 80 | 0 - 50 |
| Pentachlorophenol | 54 | 49 | 9 | 9 - 103 | 0 - 50 |
| Pyrene | 104 | 107 | 2 | 26 - 127 | 0 - 31 |
| Matrix Spike Information Analyte | MS %Rec | MSD %Rec | MS RPD | %Recovery Range | RPD Range |
| P' (1 | 30 | 32 | 7 | 12 - 89 | 0 - 42 |
| 2-cnlorophenol | 76 | 79 | 4 | 27 - 123 | 0 - 4.0 |
| 1,4-Dichlorobenzene | 70 | 68 | 3 | 36 - 97 | 0 - 28 |
| N-Nitrosodipropylamine | 73 | 73 | 1 | 41 - 116 | 0 - 38 |
| 1,2,4-Trichlorobenzene | 79 | 76 | 4 | 44 - 142 | 0 - 28 |
| 4-Chloro-3-methylphenol | 67 | 71 | 6 | 23 - 97 | 0 - 42 |
| Acenaphthene | 81 | 79 | 2 | 46 - 118 | 0 - 31 |
| 2,4-Dinitrotoluene | 7.7 | 74 | 4 | 24 - 96 | 0 - 38 |
| 4-Nitrophenol | 22 | 23 | 5 | 10 - 80 | 0 - 50 |
| Pentachlorophenol | 64 | 71 | 11 | 9 - 103 | 0 - 50 |
| Pyrene | 99 | 105 | 6 | 26 - 127 | 0 - 31 |

Analytical Services Inc. Batch QC Surrogate Recovery Base Neutrals / Acids Batch # 23565 Met

Matrix : Aqueous

Method: EPA 8270

| ક | Recovery | Objectives |
|---|----------|------------|
|---|----------|------------|

| - | | | | | | | | |
|---|--|-----------------------|---|---------------------------------|----------------------------------|--------------------------------------|------------------------------------|----------------------------------|
| | S1 S2 S3 S4 S5 S6 | Nit 2-Fl 2,4,6- | luoropher Phenol-d robenzend uorobiphe Tribromon rphenyl-d | 5 e-d5 enyl phenol | | 10 - 9 35 - 1 43 - 1 10 - 1 | 16 | |
| Sample | File | | S1 | S2 | s3 | S4 | S5 | S 6 |
| 23565BLK 23565LCS 23565LCSI 74578-2 ^Note: | B3545 B3546 D B3547 B3548 PAH ONLY | | 49 48 48 | 35 33 35 | 84 84 79 63 | 83 83 80 65 | 78 87 83 | 81 88 87 48 |
| 74578-4 ^^Note: | B3549 PAH ONLY | | | | 61 | 61 | | 51 |
| 74666-2 74666-2MS 74666-2MS 74824-5 74824-10 74824-11 ^^Note: | · · | SURR. RE | 26 50 53 37 27 5 COVERIES | 17 36 38 26 20 2 | 54 64 62 58 60 44 | 80 89 87 84 84 53 | 71 104 110 94 80 30 | 74 93 94 66 54 14 |
| 74824-17 74968-3 75004-4 75004-4D ^^Note: | B3668 B3675 B3701 B3703 1:10 DILUTIO | ON | 32 25 22 15 | 23 22 12 11 | 52 52 48 36 | 63 67 44 39 | 47 55 48 39 | 19 19 16 14 |
| 75000-2 ^^Note: | B3702 PAH ONLY/NO | SAMPLE I | FOR RE | | 21 | 31 | | 16 |
| | R B3698 NO SUR ADDEI |),SP. ADI | DED INSTE | :AD | | | | |
| 75038 ^^Note: | B3710 MATRIX EFFE | CT, CONF'I | | 12 .3 | 37 | 44 | 41 | 16 |
| 75037-6 | B3707 B3782 PAH ONLY | | 14 | 11 | 37 44 | 43 68 | 43 | 18 34 |

Analytical Services Inc. Batch QC

Surrogate Recovery Base Neutrals / Acids Batch # 23565

Matrix : Aqueous

Method: EPA 8270

% Recovery Objectives

| <u> </u> | S1 S2 S3 S4 S5 S6 | 2-Fluoroph Phenol Nitrobenze 2-Fluorobip 2,4,6-Tribrom Terpheny | -d5 ene-d5 phenyl nopheno: | 1 | 21 - 1 10 - 9 35 - 1 43 - 1 10 - 1 33 - 1 | 14 .14 .16 .23 | |
|----------|----------------------------------|--|-------------------------------------|----|--|-------------------------|----|
| Sample | File | S1 | S2 | S3 | S4 | <i>S</i> 5 | S6 |
| 75055-2 | B3783 | 12 | 9 | 6 | 34 | 12 | 11 |

Sample Batch Information
Base Neutrals / Acids Method : EPA 8270

| | Prepa: | | | Preparation | Ana | lysis | | |
|------------|----------|------|--------|-------------|----------|-------|-----|--------|
| Sample ID | Date | Time | Ву | Notes | Date | Time | | Inst # |
| 74578-2 | 07/25/96 | | | | 07/25/96 | 1446 | DMB | 5971 |
| 74578-4 | 07/25/96 | | | PAH | 07/25/96 | | | 5971 |
| 23565LCS | 07/25/96 | 1000 | MO BLM | | 07/25/96 | 1253 | DMB | 5971 |
| 23565LCSD | | 1000 | MO BLM | | 07/25/96 | 1408 | DMB | 5971 |
| 23565BLK | 07/25/96 | | MO BLM | | 07/25/96 | | DMB | 5971 |
| 74666-2 | 07/31/96 | | BLM | APP 9 | 07/31/96 | | | 5971 |
| 74666-2MS | 07/31/96 | | | APP 9 | 07/31/96 | 1941 | DMB | 5971 |
| 74666-2MSD | 07/31/96 | | | APP 9 | 07/31/96 | | DMB | 5971 |
| 74824-17 | 08/06/96 | 0800 | BLM | | 08/08/96 | | | 5971 |
| 74824-11 | 08/06/96 | | BLM | | 08/08/96 | | | 5971 |
| 74824-10 | 08/06/96 | 0800 | BLM | | 08/08/96 | | | 5971 |
| 74824-5 | 08/06/96 | 0800 | BLM | | 08/08/96 | | | 5971 |
| 74968-3 | 08/08/96 | | MO | | 08/08/96 | 1605 | TAS | 5971 |
| 74824-11RR | 08/08/96 | 1230 | BLM | | 08/09/96 | | | 5971 |
| 75004-4 | 08/09/96 | 0930 | MO | | 08/09/96 | 1340 | TAS | 5971 |
| 75000-2 | 08/09/96 | | | PAH | 08/09/96 | | | 5971 |
| 75009-3 | 08/09/96 | | | | 08/09/96 | | TAS | 5971 |
| 75004-4D | 08/09/96 | 1445 | RFA | 1:10 | 08/09/96 | | | 5971 |
| 75038 | 08/09/96 | | | | | 1845 | TAS | 5971 |
| 75037-6 | 08/12/96 | | | PAH | 08/13/96 | | DMB | 5971 |
| 7 (5-2 | 08/12/96 | 1430 | BLM | • | | | DMB | 5971 |

Analytical Services Inc. Batch QC For Report Number :75055 Base Neutrals / Acids

(.rix : Soil/Sediment Batch # 24007

Method: EPA 8270

| Lab Control Information Analyte | LC %Rec | LCD %Rec | LC RPD | %Recovery Range | RPD |
|---------------------------------|------------|-------------|---------------------|----------------------|--------|
| | | | | Range | Range |
| Phenol | ς ο | 5.5 | | 36 00 | |
| 2-Chlorophenol | 58 54 | 5.5 58 | 4 7 | 26 - 90 | 0 - 35 |
| 1,4-Dichlorobenzene | 50 | 57 | 13 | 25 - 102 | 0 - 50 |
| N-Nitrosodipropylamine | 50 66 | 57 65 | | 28 - 104 41 - 136 | 0 - 27 |
| 1,2,4-Trichlorobenzene | 60 | 65 65 | 1 | 41 - 126 | 0 - 38 |
| 4-Chloro-3-methylphenol | 63 | | 9 _. 3 | 38 - 107 | 0 - 23 |
| Acenaphthene | | 61 | | 26 - 103 | 0 - 33 |
| | 67 | 67 | 0 | 31 - 137 | 0 - 19 |
| 2,4-Dinitrotoluene | 71 | 67 | .5 | 28 - 89 | 0 - 47 |
| 4-Nitrophenol | 80 | 68 | 16 | 11 - 114 | 0 - 50 |
| Pentachlorophenol | 6.9 | 63 | 8 | 17 - 109 | 0 - 47 |
| Pyrene | 78 | 72 | 8 | 35 - 142 | 0 - 36 |
| Matrix Spike Information | MS | MSD | MS | %Recovery | RPD |
| Analyte | %Rec | %Rec | RPD | Range | Range |
| Phenol | 66 | 60 | 10 | 26 - 90 | 0 - 35 |
| 2-Chlorophenol | 67 | 62 | 9 | 25 - 102 | 0 - 50 |
| 1 / Dichlorobenzene | 63 | 60 | 5 | 28 - 104 | 0 - 27 |
| N trosodipropylamine | 74 | 66 | 10 | 41 - 126 | 0 - 38 |
| 1,2,4-Trichlorobenzene | 73 | 69 | 5 | 38 - 107 | 0 - 23 |
| 4-Chloro-3-methylphenol | 69 | 64 | 7 | 26 - 103 | 0 - 33 |
| Acenaphthene | 76 | 70 | 8 | 31 - 137 | 0 - 19 |
| 2,4-Dinitrotoluene | 76 | 69 | 10 | 28 - 89 | 0 - 19 |
| 4-Nitrophenol | 84 | 75 | 11 | 11 - 114 | 0 - 47 |
| <u> </u> | | | | 17 - 109 | |
| Pentachlorophenol | 74 | 71 | 3 | / = []:9 | 0 - 47 |

Analytical Services Inc. Batch QC Surrogate Recovery Base Neutrals / Acids Matrix : Soil/Sediment Batch # 24007 Met

Method: EPA 8270

| 왕 | Recovery | Objectives | ١. |
|---|----------|------------|----|
| | | | |

| <u> </u> | S1 S2 S3 S4 S5 | 2-Fluoroph Phenol Nitrobenzo 2-Fluorobi 2,4,6-Tribro Terpheny | -d5 ene-d5 phenyl mophenc |)1 | 24 - 1 23 - 1 30 - 1 19 - 1 | 121 113 120 115 122 | |
|----------|---|--|--|-------------------------------------|--|---|--|
| Sample | File | S1. | S2 | S3 | S 4 | S5 | S6 |
| | B3837 B3838 B3839 B3840 B3841 B3842 B3843 B3844 B3845 B3846 B3847 B3848 B3866 B3867 B3868 B3867 B3871 B3872 B3871 B3872 B3871 B3871 B3871 | 50 53 64 59 68 51 86 51 86 51 86 87 76 89 77 89 77 89 77 82 82 82 82 82 82 82 82 82 82 82 82 82 | 71 28 57 66 66 66 66 65 56 77 77 88 78 82 14 | 615580899804711167758258639 8539 | 70 68 77 76 66 76 76 77 77 88 78 96 80 80 | 67286156355549328560676680 7777776688889889993 | 75 75 75 75 75 76 77 76 66 66 88 88 98 98 99 86 86 86 86 86 86 86 86 86 86 86 86 86 |
| 75066 | B3895 | 60 | 69 | 69 | 71 | 83 | 72 |
| | | | | | | 43 | · |

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Sample Batch Information
Base Neutrals / Acids Method : EPA 8270

| | Prepa | ration | Preparation | Ana | lysis | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · |
|------------|----------|-------------|-------------|----------|-------|---------------------------------------|---------------------------------------|
| Sample ID' | Date | Time By | Notes | Date | Time | Ву | Inst # |
| 75072-1 | 08/14/96 | 1400 JQZ/MC |) | 08/16/96 | 1504 | DMB | 5971 |
| 75072-10 | 08/14/96 | 1400 JQZ/MC |) | 08/16/96 | 2126 | DMB | 5971 |
| 75072-2 | 08/14/96 | 1400 JQZ/MC |) | 08/16/96 | | DMB | 5971 |
| 75072-3 | 08/14/96 | 1400 JQZ/MC |) | 08/16/96 | | DMB | 5971 |
| 75072-4 | 08/14/96 | | | 08/16/96 | | DMB | 5971 |
| 75072-5 | 08/14/96 | |) | 08/16/96 | | DMB | 5971 |
| 75072-6 | 08/14/96 | |) | 08/19/96 | | DMB | 5971 5971 |
| 75072-7 | 08/14/96 | |) | * . | | | 5971 5971 |
| 75072-8 | 08/14/96 | 1400 JQZ/MC |) | 08/16/96 | | DMB | 597 <u>1</u> 5971 |
| 75072-9 | | 1400 JQZ/MC |) | 08/16/96 | | | 5971 |
| 75055-1 | 08/14/96 | | | 08/18/96 | 1554 | DMB | 5971 |
| 75066 | | 1400 JQZ/MC | | 08/19/96 | | DMB | 5971 |
| 75072-3MS | | 1400 JQZ/MO | | 08/16/96 | 1659 | | 5971 |
| 75072-3MSD | 08/14/96 | | | 08/16/96 | | DMB | 5971 |
| 24007BLK | 08/14/96 | | | 08/16/96 | | DMB | 5971 |
| 24007LCS | 08/14/96 | | | 08/16/96 | 1348 | | 5971 |
| 24007LCSD | 08/14/96 | | | 08/16/96 | 1426 | פויום | 5971 |
| 75047-1 | | 1330 JQZ | | 08/18/96 | 1632 | | 5971 |
| 75047-2 | 08/15/96 | 1330 JQZ | | 1 | 1710 | | 5971 |
| 75048-1 | | 1330 JQZ | | 08/18/96 | | | 5971 5971 |
| 7 8-2 | 08/15/96 | | | 08/18/96 | 1942 | DMB | 5971 |
| 7-048-3 | 08/15/96 | 1330 JQZ | | | 2020 | | 5971 |
| 75049-2 | 08/15/96 | 1330 JQZ | | 08/18/96 | | | 5971 |
| 75049-3 | 08/15/96 | | | | 1826 | | 597 <u>1</u> |
| 74047-3 | 08/15/96 | | | 08/18/96 | 1748 | DMB | 5971 |
| 75049-3DUP | 08/15/96 | 1330 JQZ | | 08/18/96 | | | 5971 |
| 75047-3 | 7 7 | ~ ~ ~ | | / / | | בניום | 2311 |
| 75072-11D | / / | | | 08/19/96 | 1851 | DMB | 5971 |

Analytical Services Inc. Batch QC For Report Number :75055 Volatile Organics

(.trix : Soil/Sediment Batch # 24017 Method : EPA 8020

| | | | | meriod . Elli 0020 | |
|------------------------------------|------------|-------------|-----------|--------------------|--------------|
| Lab Control Information Analyte | LC %Rec | LCD %Rec | LC RPD | %Recovery Range | RPD Range |
| Benzene | 105 | 104 | 1 | 39 - 150 | 0 - 20 |
| Toluene | 105 | 104 | 1 | 46 - 148 | 0 - 20 |
| Ethylbenzene | 107 | 106 | 0 | 32 - 160 | 0 - 20 |
| Xylenes | 107 | 106 | 1 | 71 - 133 | 0 - 20 |
| Matrix Spike Information | MS | MSD | MS | %Recovery | RPD |
| Analyte | %Rec | %Rec | RPD | Range | Range |
| Benzene | 106 | 113 | 7 | 39 ~ 150 | 0 - 20 |
| Toluene | 106 | 113 | 6 | 46 - 148 | 0 - 20 |
| Ethylbenzene | 101 | 109 | 7 | 32 - 160 | 0 - 20 |
| Xylenes | 105 | 113 | 7 | 71 - 133 | 0 - 20 |

Analytical Services Inc. Batch QC Surrogate Recovery Volatile Organics
Matrix: Soil/Sediment Batch # 24017 Met Method: EPA 8020

% Recovery Objectives

| | | | | | | | | |
|-------------|---------------|---------|--------------------|-----|-----|----------|----|----|
| | S1 | Bromoi | Bromofluorobenzene | | | 50 - 150 | | |
| Sample | File | | S1 | S2 | .S3 | S4 | S5 | S6 |
| 240µ7BLK1 | 08149600 |)4R | 106 | - | | | | |
| 24017LCS | 08149600 |)5R | 101 | e . | | | | |
| 24017LCSD | 08149600 | 6R | 101 | | | | | |
| 75049-1 | 08149600 | | 106 | | | | | |
| 75049-1MS | 08149600 |)8R | 101 | | | | | |
| 75049-1MSI | | | 103 | | | hym | | |
| 75049-2 | 08149601 | LOR | 106 | | | | | |
| 75055-1 | 08149601 | | 106 | | | | | |
| 75049-3 | 08149602 | | 101 | | | | | |
| ^^Note: | REANALYZE AT | LESSER | DILUTION | | | | | |
| 24017BLK2 | 08159602 | 26R | 109 | | | | | |
| 75181-1 | 08159603 | 3:0R | 104 | | | | | |
| 75181-2 | 08159603 | 31R | 105 | | | | | |
| 75181-3 | 08159603 | | 105 | | | | | |
| 75181-5 | 08159603 | | 106 | | | | | |
| 75181-4 | 08159604 | | 106 | | | | | |
| 75049-3RA | 08159604 | | 98 | | | | | |
| ^^Note: | REANALYSIS AT | LESSER | DILUTION | J | | | | |
| 24017BLK3 | 08169604 | 6R | 105 | | | | | |
| 75181-1RA | 08169604 | | 106 | | | | | |
| ^^Note: | REANALYSIS FO | R CONFI | RMATION | | | | | |

Sample Batch Information
Volatile Organics Method: EPA 8020

| | Preparation | | Preparation | Ana | lysis | | |
|-------------|-------------|---------|-------------|----------|-------------|--------|--|
| Sample ID | Date | Time By | Notes | Date | Time By | Inst # | |
| 75049-1 | / / | | | 08/16/96 | 1359 BDL | VGC1 | |
| 75,049-2 | / / | | | | 1637 BDL | VGC1 | |
| 75049-3 | / / | | | | 0310 BDL | VGC1 | |
| 75055-1 | / / | | | | 1730 BDL | VGC1 | |
| 24017BLK1 | 1 1 | | | | 1058 BDL | VGC1 | |
| 24017LCS | / / | | | | 1151 BDL | VGC1 | |
| 24017LCSD _ | / / | | | | 1244 BDL | VGC1 | |
| 75049-1MS [| / / | | | | 1452 BDL | VGC1 | |
| 75049-1MSD | / / | | | | 1544 BDL | VGC1 | |
| 75181-1 | / / | | | | 1445 BDL | VGC1 | |
| 75181-2 | / / | | | | 1538 BDL | VGC1 | |
| 75181-3 | / / | | | | 1631 BDL | VGC1 | |
| 75181-4 | 1 1 | | | | 0026 BDL | VGC1 | |
| 75181-5 | / / | | | 08/16/96 | | VGC1 | |
| 24017BLK2 | / / | | | | 1114 BDL | VGC1 | |
| 75049-3RA | / / | | | 08/16/96 | | VGC1 | |
| 24.017BLK3 | / / | | | 08/16/96 | | VGCi | |
| 75181-1RA | / / | | | 08/16/96 | | VGC1 | |
| 75167 | / / | • | | 7 7 | · · · — — — | | |

Analytical Services Inc. Batch QC For Report Number :75055 Volatile Organics

(.trix : Aqueous

Batch # 24018

Method : EPA 8020

| Lab Control Information Analyte | LC | LCD | LC | %Recovery | RPD |
|---------------------------------|------|------|-----|-----------|--------|
| | %Rec | %Rec | RPD | Range | Range |
| Benzene | 105 | 104 | 1 | 39 - 150 | 0 - 20 |
| Toluene | 105 | 104 | | 46 - 148 | 0 - 20 |
| Ethylbenzene | 107 | 106 | 0 | 32 - 160 | 0 - 20 |
| Xylenes | 107 | 106 | 1 | 71 - 133 | 0 - 20 |
| Matrix Spike Information | MS | MSD | MS | %Recovery | RPD |
| Analyte | %Rec | %Rec | RPD | Range | Range |
| Benzene | 107 | 116 | 8 | 39 - 150 | 0 - 20 |
| Toluene | 111 | 115 | 4 | 46 - 148 | 0 - 20 |
| Ethylbenzene | 103 | 111 | 7 | 32 - 160 | 0 - 20 |
| Xylenes | 108 | 114 | 6 | 71 - 133 | 0 - 20 |

Analytical Services Inc. Batch QC Surrogate Recovery Volatile Organics Batch # 24018 Met

Matrix : Aqueous

Method : EPA 8020

% Recovery Objectives

| · | | | | | | | |
|------------|-----------------------|----------|-------|----|--------|-----|------------------|
| | S1 Bromof | luorobe | nzene | • | 50 - 1 | .50 | |
| Sample | File | S1 | S2 | S3 | S4 | S5 | S _. 6 |
| 24018BLK1 | 081496004R | 106 | | · | | ٠. | |
| 24018LCS | 081496005R | 101 | | | | | |
| 24018LCSD | 081496006R | 101 | | | | | |
| 75049-5 | 081496012R | 107 | | | | | |
| 75055-3 | 081496013R | 106 | | | | | |
| 75056-3 | 081496014R | 106 | | | *** | | |
| 75056-1 | 081496015R | 49 | | | | | |
| ^^Note: | REANALYZE AT DILUTIO | N/SURR | | | | | |
| 75056-2 | 081496019R | 57 | | | | | |
| ^^Note: | REANALYZE AT DILUTIO | N | | | | | |
| 75055-2 | 081496020R | 90 | | | | | |
| ^^Note: | REANALYZE FOR CONFIR | MATION | | | | | |
| 75049-4 | 081496021R | 98 | | | | | |
| ^^Note: | REANALYZE AT LESSER | DILUTION | ı | | | | |
| 24018BLK2 | 081596026R | 109 | | | | | |
| 75049-4RA | 081596028R | 104 | | | | | |
| ^^Note: | REANALYSIS AT LESSER | DILUTIO | N | | | | |
| 75056-1RA | 081596027R | 79 | | | | | |
| ^^Note: | REANALYSIS AT DILUTIO | ON | | | | | |
| 75055-2RA | 081596033R | 105 | | | | | |
| ^^Note: | REANALYSIS FOR CONFID | RMATION | | | | | |
| 75055-2MS | 081596035R | 98 | | | | | |
| 75055-2MSI | 081596036R | 101 | | | | | |
| 75181-6 | | 96 | | | | | |
| ^^Note: | REANALYZE AT DILUTION | N | , | | | | |
| 75056-1RA2 | | 104 | | | | | |
| "Note: | REANALYSIS AT DILUTIO | OM. | | | | • | |
| 75056-2RA | | 96 | | | | | |
| Note: | REANALYSIS AT DILUTIO | NC | | | | • | |
| 24018BLK3 | 081696046R | 105 | | | | | |

Analytical Services Inc. Batch QC Surrogate Recovery Volatile Organics Batch # 24018 Met

Matrix : Aqueous

Method : EPA 8020

% Recovery Objectives

| _ | S1 | Bromo | Bromofluorobenzene | | | 50 - 150 | | |
|--------|----|-------|--------------------|----|----|----------|----|----|
| Sample | F | ile | S1 | S2 | S3 | S4 | S5 | S6 |

110

75181-6RA 081496047R ^%Note: REANALYSIS AT DILUTION

Sample Batch Information
Volatile Organics Method: EPA 8020

| , | Prepa | aration | Preparation | Ana | lysis | | |
|-------------|-------|---------|-------------|----------|-------|---|--------|
| Sample ID | Date | Time By | Notes | Date | Time | | Inst # |
| 75049-4 | / / | | | 08/15/96 | 0217 | BDL | VGC1 |
| 75049-5 | / / | | | 08/14/96 | | | VGC1 |
| 75055-2 | / / | | | 08/15/96 | 0125 | \mathtt{BDL} | VGC1 |
| 75055-3 | / / | | | 08/14/96 | 1915 | BDL | VGC1 |
| 75056-1 | / / | | | 08/14/96 | 2101 | BDL | VGC1 |
| 75056-2 | / / | | | 08/15/96 | 0032 | BDL | VGC1 |
| 75056-3 🚊 | / / | | | 08/14/96 | | BDL | VGC1 |
| 24018BLK1 k | | | | 08/14/96 | 1058 | $\mathtt{BDL}_{\!\scriptscriptstyle L}$ | VGC1 |
| 24018LCS | / / | | | 08/14/96 | | | VGC1 |
| 24018LCSD | / / | | | 08/14/96 | | | VGC1 |
| 75181-6 | / / | | | 08/14/96 | | | VGC1 |
| 24018BLK2 | / / | | | 08/15/96 | | | VGC1 |
| 75049-4RA | / / | | | 08/15/96 | | | VGC1 |
| 75056-1RA | / / | | | 08/14/96 | | | VGC1 |
| 75055-2RA | / / | | | 08/14/96 | | | VGC1 |
| 75055-2MS | / / | | | 08/14/96 | | | VGC1 |
| 75055-2MSD | / / | | | 08/14/96 | | | VGC1 |
| 75056-2RA | 1 1 | | | 08/14/96 | | | VGC1 |
| 75056-1RA2 | 7 7 | · · | | 08/14/96 | | | VGC1 |
| 24018BLK3 | / / | Þ | | 08/16/96 | | | VGC1 |
| 7 1-6RA | / / | | | 08/16/96 | | | VGC1 |

Analytical Services Inc. Batch QC For Report Number :75055

| O Batch itch Number | General Info | ormation Analysis Method | Ma | trix | | Blank Result | Prep. Method |
|---------------------------|--------------------------|-----------------------------------|-----------------|-------------|------------|-----------------------|------------------|
| 23858 ^Note | TPH : BATCH PAS | EPA 418.1M SES ON LCS/LCSD DUB | Soi E TO MS/ | | < ATRIX | 1.0000 EFFECT | |
| 23946 | TS | EPA 160.3 | Aq/ | Solid | < | 5.0000 | |
| Lab Conti | rod Informat: | ion | LC | LCD | LC | %Recovery | RPD |
| Number | Analyte | Method | %Rec | %Rec | RPD | Range | Range |
| 23858 23946 | TPH TS | EPA 418.1M EPA 160.3 | 82 94 | 82 97 | | -75 - 125 60 - 140 | 0 - 50 0 - 40 |
| Batch | pike Informat Analyte | | MS %Rec | MSD %Rec | MS RPD | %Recovery Range | RPD Range |
| 22258 | ТРН | EPA 418.1M | 61 | 54 | 12 | 75 - 125 | 0 - 50 |
| Unspiked Batch | Sample Dupl: | icate Information | Sampl | e 1 | Sample | a 2 | RPD |
| Number | Analyte | Method | RPD | <u> </u> | RPD | <u> </u> | Range |
| 23946 | ŢS | EPA 160.3 | 18 | | 2 | | 0 - 40 |

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Sample Batch Information Analysis : TPH

| 1 | | ration | Preparation | Ana | Analysis | | |
|-------------|----------|----------|-------------|----------|----------|------|--|
| Sample ID | Tag Date | Time By | Notes | | Time By | Inst | |
| 74861-1 | 08/07/96 | 1230 SEH | | 08/07/96 | 1500 SEH | | |
| 74861-2 | 08/07/96 | 1230 SEH | | | 1500 SEH | | |
| 74861-3 | 08/07/96 | 1230 SEH | | | 1500 SEH | | |
| 23858BLK | 08/07/96 | 1230 SEH | | | 1500 SEH | | |
| 23858LCS | 08/07/96 | 1230 SEH | | | 1500 SEH | | |
| 23858LCSD | | 1230 SEH | | | 1500 SEH | | |
| 74861-2MS [| | 1230 SEH | | | 1500 SEH | | |
| 74861-2MSD | | 1230 SEH | | | 1500 SEH | | |
| 75055-1 | | 1000 SEH | | | 1330 SEH | | |

Sample Batch Information Analysis : TS

| | | Prepa | aration | Preparation | Ana | lysis | |
|---|-----|-------------------|---------|-------------|--|--|--------------|
| Sample ID | Tag | Date | Time By | Notes | Date | Time By | Inst |
| 74999 23946BLK 23946LCS 23946LCSD | | / / / | | | 08/13/96 08/13/96 08/13/96 | 0950 AB/ET 0950 AB/ET 0950 AB/ET | 1, 1 1 |
| 74999DUP 75017 75055-1 75049-1 75049-2 | | | | | 08/13/96 08/13/96 08/13/96 08/13/96 | 0950 AB/ET 0950 AB/ET 0950 AB/ET 0950 AB/ET 0950 AB/ET | • • |
| 75049-3 75047-1 75047-2 75047-3 75048-1 | | ///// | | | 08/13/96 08/13/96 08/13/96 08/13/96 | 0950 AB/ET 1345 AB/ET 1345 AB/ET 1345 AB/ET 1345 AB/ET | 1 1 3 |
| 75048-2 75048-3 75095-5 75095-5DUP | | / / / / / / | | | 08/13/96 08/13/96 | 1345 AB/ET 1345 AB/ET 1345 AB/ET 1345 AB/ET | • |



ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS

110 TECHNOLOGY PARKWAY • NORCROSS, GA 30092 (770) 734-4200 • FAX (770) 734-4201

22 August, 1996

Case Narrative Report 75055

The samples were collected on 5 August, 1996, and received by ASI 10 August, 1996. Conditions for proper sample receipt were met as indicated on the chain-of-custody and cooler receipt form. The samples were logged into the LIMS as report #75055 for BTEX, BNA, and TPH as per client request. All holding times for sample preparation and analysis were met with the single exception that Total Solids for the dry-weight calculation on 75055-1 was run one day late due to the sample being received very close to the 7-day holding time.

BTEX analysis by method EPA 8020 for solid samples gave acceptable recoveries for all quality controls.

BTEX analysis by method EPA 8020 for aqueous samples gave acceptable recoveries for all quality controls. 75055-2 was reanalyzed due to a hit on Xylenes. The reanalysis did not confirm this hit, and the reanalysis was reported.

BNA analysis by method EPA 8270 for solid samples gave acceptable recoveries for all quality controls.

BNA analysis by method EPA 8270 for aqueous samples gave acceptable spike recoveries. BLK/LCS/LCSD/MS/MSD gave acceptable surrogate recoveries; however, 75055-2 showed low recoveries for five of six surrogates. Standard procedure would be to reextract 75055-2 to identify an extraction problem or a matrix effect on the surrogates. Insufficient sample was provided to allow for a reextraction. The batch passes on the quality controls, but the results being reported for 75055-2 cannot be confirmed.

TPH analysis by method EPA 418.1 gave acceptable recoveries for LCS/LCSD. MS/MSD showed low recoveries due to matrix effect.

TS analysis by method EPA 160.3 gave acceptable recoveries for all quality controls.

Julia E. Martin

Quality Assurance

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ANALYTICAL SERVICES,

ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS

110 TECHNOLOGY PARKWAY - NORCROSS, GA 30082 (770) 734-4200 · FAX (770) 734-4201

March 31, 1998

Ms. Molanic Little DPW Environmental Ft. Stewart, GA (580) 353-4054 fax

Re:

Fort Stewart, Job #4068 ASI Report #: 75055-1

Dear Ms. Little,

Regarding ASI report # 75055-1, the detection limits for TPH and BTEX were elevated above the UST action limits when the results (and detection limits) were adjusted for reporting on a dry weight basis. Prior to the dry weight calculation the detection limits for TPH and BTEX were 10 and 5 Mg/kg respectively. I hope this clears up any confusion on the subject. Please do not hesitate to call if there are any other questions.

Sincerely,

Project Manager

cc:

Mr. Blaise Willis and Mr. Jeff Smith South Atlantic Division Laboratory Marietta, GA

A Unit of American Analytical Services, Inc.

TAB 9

MANIFESTS

NO MANIFESTS ARE APPLICABLE TO THIS CLEAN SITE.

TAB 10

FORT STEWART AREA MAP

