Decision Documents for FST-26

Transmittal letter sent to GA EPD for CAP Addendum dated	January 6, 2010
Revised Corrective Action Plan Addendum dated	January 2010
EPD letter received w/ Comments dated	October 29, 2009
Transmittal letter sent to GA EPD dated	June 10, 2009
Corrective Action Plan Addendum dated	May 2009
EPD letter received approving CAP Mod. to Permit dated	November 17, 2000
EPD letter received approving CAP Mod. to Permit dated	September 14, 2000
EPD letter received approving Rpl Pgs. dated	April 17, 2000
Transmittal letter sent to GA EPD w/ Rpl pgs. dated	April 10, 2000
EPD letter received approving CAP dated	January 27, 2000
Transmittal letter sent to GA EPD w/ RTC dated	January 20, 2000
Revised Final Corrective Action Plan dated	January 2000
EPD letter received w/ Comments to CAP dated	December 8, 1999
Decision Document dated	November 2, 1999
Transmittal letter sent to GA EPD dated	July 27, 1999
Corrective Action Plan	(known due to previous letter, missing hard copy)
EPD letter received Approving RFI dated	January 21, 1999
Transmittal letter sent to GA EPD w/ RTC dated	January 20, 1999
EPD letter received w/ RTC dated	January 5, 1999
Transmittal letter sent to GA EPD w/ RTC dated	November 24, 1998
Decision Document dated	September 30, 1998
Revised Final Phase II RCRA Facility Investigation dated	November 1998
EPD letter received w/ comments dated	September 24, 1998
Transmittal letter sent to GA EPD dated	March 23, 1998
RCRA Facility Investigation dated	March 1998

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER army AIRFIELD
1587 FRANK COCHRAN DRIVE
FORT STEWART, GEORGIA 31314

REPLY TO
ATTENTION OF

Office of the Directorate

CERTIFIED MAIL

7008 2810 0000 7784 0669

JAN 6 2010

Georgia Environmental Protection Division
Attention: Mr. Mahamad Ghazi, PhD
2 Martin Luther King Jr. Drive, Southeast
Floyd Towers East, Suite 1452
Atlanta, Georgia 30334

Dear Mr. Ghazi:

Fort Stewart is pleased to receive the Georgia Environmental Protection Division's (GA EPD) correspondence dated October 29, 2009, regarding the Corrective Action Plan (CAP) Addendum for the Former 724th Tanker Purging Station Solid Waste Management Unit (SWMU) 26 at Fort Stewart Military Reservation, Fort Stewart, Georgia, dated May 9, 2009.

In response to the comments received from GA EPD, Fort Stewart has enclosed a formal Response to Comments Table, two sets of replacement pages, and an electronic copy of the revised final for the Corrective Action Plan Addendum for the Former 724th Tanker Purging Station Solid Waste Management Unit (SWMU) 26 at Fort Stewart Military Reservation, Fort Stewart, Georgia, dated December 2009.

In accordance with the Federal Code of Regulations, Section 270.11(d), the following certification is provided by the Installation:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact Ms. Algeana Stevenson at (912)315-5144 or Ms. Tressa Rutland, Directorate of Public Works Prevention and Compliance Division, at (912)767-2010, should questions arise regarding the enclosed report.

Sincerely,

Thomas C. Frey
for Robert R. Baumgardt
Director, Public Works

Enclosures

RESPONSE TO COMMENTS Received November 4, 2009 (Potter to Fry)	Date: January 4, 2009	Page 1 of 4
To: Amy Potter	**From:** Georgia Department of Natural Resources Environmental Protection Division	
Project: SWMU 26 Corrective Action Plan Addendum, Former 724th Tanker Purging Station, Fort Stewart, Georgia, EPA ID # GA9 210 020 872		

ITEM NUMBER	COMMENT	RESPONSE
1	*Section 2, Previous Investigations and Corrective Actions.* The report states that the results from the Thirteenth CAP Progress Report (Science Application International Corporation [SAIC] 2009) were used to prepare the Corrective Action Plan Addendum. However, GAEPD has not received the Thirteenth CAP Progress Report. Please submit copies of the Thirteenth CAP Progress Report to GAEPD.	Fort Stewart will provide a copy of the Thirteenth CAP Progress Report to the GAEPD under a separate cover.
2	*Additional Figure, Section 2.4, PHOSter® II Enhanced Bioremediation and Source Area Excavation.* Please provide an additional figure (or modify Figure 3-3) that shows the location of the PHOSter® II Enhanced Bioremediation applications and source area excavation activities, as well as the pipe that contained product and well MW-02.	A new Figure 2-1 has been added to the Revised CAP Addendum to show the location of the PHOSter® II Enhanced Bioremediation Injection Wells, the 1996 and 2001 excavation limits, and abandoned monitor well MW-02. According to the 3rd CAP Progress Report, the pipe that contained product was located in the area near MW-02 (SAIC, January 2001). The exact location is unknown. The original Figure 2-1 has been renamed as Figure 2-2. Section 2 and the Table of Contents have been revised to include the new Figure numbers. Copies of Figures 2-1 and 2-2, the revised Section 2, and the Table of Contents are attached to this comment response.
3	*Section 4.1, 1st paragraph.* The last sentence of this paragraph states, "Figure 2-1 summarizes the exceedances of benzene in soil." A summary of Benzene exceedances is actually shown in Figure 4-1, not 2-1. Please correct the figure number from 2-1 to 4-1.	The text has been revised as noted. A copy of the revised page is attached to this comment response.

RESPONSE TO COMMENTS Received November 4, 2009 (Potter to Fry)	Date: January 4, 2009	Page 2 of 4

ITEM NUMBER	COMMENT	RESPONSE
4	*Section 4.1, 1st paragraph.* The second sentence of this paragraph uses ug/L for soil concentrations, which is the incorrect unit. Please replace ug/L with the correct units.	The correct units are µg/kg. The text has been revised as necessary and a copy of the revised page is attached to this comment response.
5	*Section 4.2 Biosparge System.* Please add a paragraph to generically summarize the mechanics of the biosparge system (i.e., how it works), including potential limitations of the technology.	Section 4.2 has been revised to include additional information on the Biosparge system. Biosparging is an in-situ technology and a variation of air sparging, differing distinctly based on design and operation. The design intent of the biosparge system is to provide low to moderate flows of air containing oxygen to wells with small screen zones located below the plume interval. This will allow the air to move up through the aquifer supplying oxygen for aerobic biological degradation. The primary objective will be to maximize the bioremediation component of remediation rather than the volatilization of contaminants into the injected airstream. This technology will be implemented through the use of injection points installed throughout the target area. Ambient air will be injected into the aquifer at a rate of approximately 2-3 standard cubic feet per minute (SCFM) per well. The introduction of air will stimulate the indigenous microorganisms and enhance the biological degradation of the petroleum impacts. As with all in-situ technologies, the potential limitation of the Biosparge system is the local geology. If the soil is not permeable enough, the system will not be able to transmit the injected air throughout the impacted area. To evaluate the injection flow rates, pressures and overall effectiveness of biosparging at SWMU 26, a pilot study will be conducted to aid in the final design of the system. Copies of the revised pages are attached.

RESPONSE TO COMMENTS Received November 4, 2009 (Potter to Fry)	Date: January 4, 2009	Page 3 of 4

ITEM NUMBER	COMMENT	RESPONSE
6	*Section 4.2.1 Pilot Scale Test, 3rd paragraph.* Please include the purpose for monitoring vapors in monitoring wells, and the contingency action if contaminants are detected with the PID (photo ionization detector) during system operation.	The purpose for monitoring the vapors in surrounding monitor wells is to ensure there is not a significant increase in vapor volatilization. If significant volatilization is observed, the injection rates will be adjusted accordingly. Section 4.2.1 has been revised and a copy of the revised page is attached to this comment response.
7	*Section 4.2.3.3, System Start-Up and Operation and Maintenance.* The report states, "The biosparge system will be monitored weekly for the first month and monthly thereafter." GAEPD recommends that a logbook (i.e. maintenance logbook) be kept to record all operational aspects and inspection results (i.e., adjustments, optimization) of the biosparge system.	Comment noted.

RESPONSE TO COMMENTS Received November 4, 2009 (Potter to Fry)	Date: January 4, 2009	Page 4 of 4

ITEM NUMBER	COMMENT	RESPONSE
8	*Section 4.3, Process Monitoring and Reporting*, In addition to the wells listed in this report, which require routine semi-annual groundwater monitoring during the operation of the biosparge system, GAEPD requests the following monitoring wells be added to the proposed list. • Please include wells MW-16 and MW-35 in the process monitoring program since the groundwater does not have a well-established flow direction and tends to flow radial in the vicinity of the excavation area (Figures 3-1 and 3-3, May 2009 Report). • GAEPD requests installation of the following two new monitoring wells: One shallow monitoring well located southeast of MW-25 (Figure 4-4); and one deep well located southwest of well MW-50 (Figure 4-4). These two wells are needed to serve as downgradient sentry wells monitoring for contaminant migration.	Comment noted. One new shallow well and one deep well will be installed as requested. Monitor wells MW-16, MW-35, and the two new wells will be added to the semi-annual monitoring list. Figure 4-6 has also been revised to show the location of the two proposed new monitor wells. A copy of the revised page and Figure 4-6 is attached.
9	*Section 4.4 Corrective Action Completion Criteria*, The first sentence states, "Following the excavation, the deep groundwater impacts will be monitored for up to one year." Please note that GAEPD requires three years of confirmatory sampling/monitoring after remediation goals are met. Please revise this sentence accordingly.	Comment noted. Section 4.4 has been revised and a copy of the revised page is attached.

Imagine the result

Fort Stewart, Georgia

IMA

3d Inf Div (Mech)

SWMU 26
Corrective Action Plan Addendum

Former 724th Tanker Purging Station

Fort Stewart, Georgia
EPA ID # GA9 210 020 872

May 5, 2009
Revised January 4, 2010

ARCADIS
Infrastructure, environment, buildings

4. Additional Corrective Action Activities

Additional remedial actions are recommended to meet the established remedial levels for soil and groundwater at SWMU 26. As discussed in Section 2.5, soil impacts remain in the clay layer in the source area. Consequently, an excavation is recommended to remove residual impacts in the source area.

Benzene is the only constituent remaining in groundwater above the remedial levels. The highest detections are in deep groundwater downgradient of the source area. To expedite the attenuation of benzene in deep groundwater, a biosparge system is recommended. The following sections outline the proposed excavation activities and biosparge system.

4.1 Source Removal

Soil remedial levels were developed in the Phase II RFI based on leaching from soil to groundwater at levels exceeding MCLs or USEPA Region III risk-based values (SAIC 1998). The historical soil sample results indicated exceedances of the BTEX soil remedial levels (20 ug/kg for benzene, 4,200 ug/kg for toluene, 3,100 ug/kg for ethylbenzene, and 31,700 ug/kg for total xylenes). Table 2-1 summarizes the soil sample results. Figure 4-1 summarizes the exceedances of benzene in soil.

Fort Stewart proposes an addendum to the CAP (SAIC 2000) to remove the remaining impacted soil in the source area. The proposed corrective action will include six temporary borings followed by soil excavation to remove the impacted soil remaining in the clay layer. The temporary borings will be used to confirm the historical sample results and characterize the soil prior to removal.

4.1.1 Confirmation Soil Borings

The temporary borings will be installed using direct push technology (DPT). DPT uses a combination of hydraulic pressure and percussion to drive steel rods into subsurface soil for sample collection. The investigation will be focused in the source area to confirm the historical soil sample results and to characterize the soil prior to removal. Figure 4-2 shows the proposed temporary soil boring locations. The soil borings will be installed to approximately 14 feet below land surface (ft bls). The borings will be installed deeper if field screening indicates impacts at greater than 14 ft bls. Additional borings may be added if field conditions warrant further lateral investigation. At this

- Hazard communication
- Emergency procedures, including emergency phone numbers
- Location of emergency equipment (first aid kits, eyewashes, and fire extinguishers)
- Name and location of the nearest hospital or urgent treatment facility
- Any client-mandated procedures

Mechanized equipment like skid steers, trackhoes, bulldozers and backhoes represent serious hazards to site workers. Care shall be taken by all personnel to exercise caution when working with mechanized equipment to prevent clothing from being caught in moving parts, placing body parts in close vicinity to pinch points on the equipment or using the equipment on slopes or unstable surfaces in excess of the manufacturer's recommendations. Site personnel, visitors, or other persons who are not performing necessary work shall remain at a distance of at least 15 ft from any moving part of the mechanized equipment. All workers within 15 ft of the equipment are required to wear, at a minimum, hard hats, safety glasses, steel-toed boots, and hearing protection, if applicable. Open excavations will be barricaded overnight and the site will be secured using the existing locked security fencing.

4.1.8 Schedule

Upon approval of the CAP Addendum for SWMU 26, ARCADIS will schedule and implement the temporary soil boring and soil removal activities. The temporary borings are anticipated to take one to two days and the soil removal and site restoration are anticipated to take a couple of weeks each. Installation of replacement wells MW-24 and MW-36 will be performed immediately following site restoration.

4.2 Biosparge System

Based on the December 2008 sample results, benzene is the only constituent remaining in groundwater above the established remedial goals. The established remedial goal for benzene is 5 µg/L. In December 2008, benzene was detected in the shallow groundwater at a maximum of 67 µg/L and in deep groundwater at a maximum of 260 µg/L. The proposed excavation is expected to have a rapid effect on the shallow groundwater impacts within the source area. To enhance the attenuation of benzene concentrations in the deep groundwater, a biosparge system will be installed.

Biosparging is an in-situ technology and a variation of air sparging, differing distinctly based on design and operation. The design intent of the biosparge system is to provide

low to moderate flows of air containing oxygen to wells with small screen zones located below the plume interval. This will allow the air to move up through the aquifer supplying oxygen for aerobic biological degradation. The primary objective will be to maximize the bioremediation component of remediation rather than the volatilization of contaminants into the injected airstream.

This technology will be implemented through the use of injection points installed throughout the target area. Ambient air will be injected into the aquifer at a rate of approximately 2-3 standard cubic feet per minute (SCFM) per well. The introduction of air will stimulate the indigenous microorganisms and enhance the biological degradation of the petroleum impacts. As with all in-situ technologies, the potential limitation of the Biosparge system is the local geology. If the soil is not permeable enough, the system will not be able to transmit the injected air throughout the impacted area. To evaluate the injection flow rates, pressures and overall effectiveness of biosparging at SWMU 26, a pilot study will be conducted to aid in the final design of the system. Subsequent to the performance of the proposed excavation, the pilot scale test will be completed to determine if biosparge is a viable technology to remediate the deep groundwater impacts and to determine the site specific design parameters. Following the performance of the pilot test, deep groundwater impacts will continue to be monitored to evaluate if full scale implementation is warranted.

4.2.1 Pilot Scale Test

The biosparge Pilot Scale Test will be conducted for approximately 6 hours. For the test, one biosparge injection well will be installed approximately 10 feet north of MW-54. The injection well will be installed using DPT to a depth of 35 ft bls. Approximate injection well construction details are included as Figure 4-5. An air compressor will be used to force air into the deep aquifer at a rate of 1 cubic feet per meter (cfm). The depth-to-water, dissolved oxygen and wellhead pressure will be measured at monitor wells MW-54 (located 10 feet north of the proposed injection well) and MW-38 (located 20 feet south of the proposed injection well). Two additional temporary monitor wells will be installed approximately 15 feet west and 5 feet east of the proposed injection well (Figure 4-4). The monitor wells will be used to determine the radius of influence for the final biosparge injection system.

The temporary wells will be installed using DPT and will consist of 1-inch Sch. 40 PVC with a 10-foot, 10-slot screen, which will be screened from approximately 23 ft bls to 33 ft bls and completed with a 1-inch Sch. 40 PVC riser to ground surface. The temporary wells will be installed in accordance with the "no filter pack method" as outlined in the

Design and Installation of Monitoring Wells (USEPA 2008a). At each location, a continuous soil core will be collected using a macro-core sampler from ground surface to the target depth and the lithology will be logged using the USCS.

Vapors will be monitored in monitor wells and temporary wells with a PID to ensure there is not a significant increase in vapor volatilization. If significant volatilization is observed, the injection rates will be adjusted accordingly. The air flow conditions at the injection well will also be documented. The system will be operated at varying air flows and air pressures to determine the optimum flow rate and to provide information for the full scale biosparge system design. During the maximum recovery operation, one air sample will be collected from MW-54 for laboratory analysis via EPA method 18.

4.2.2 Full Scale Biosparge System

The data derived from the pilot scale test will be used to finalize the design of the full-scale biosparge system for the site.

4.2.3 Well Construction

The injection depth for the proposed biosparge wells will be 34 ft bls. Figure 4-6 presents the proposed target location for the biosparge system. Based on the results of the pilot test, the injection well layout will be established. The injection flow rate and injection pressure will be determined during the pilot test. The permanent biosparge wells will also be installed to a depth of 35 feet bls.

Each biosparge point will be constructed of 1-inch-diameter, Schedule 40 polyvinyl chloride (PVC) pipe with the lower 2.5 feet comprised of 0.010-inch slotted screen. The biosparge wells will be installed using DPT drilling methods. The top of each wellhead assembly will be equipped with a threaded cap to provide access to the interior of the biosparge point.

4.2.3.1 Biosparge Piping and System Components

Each biosparge well will be independently piped to the equipment compound using dedicated 1-inch- diameter Schedule 40 PVC piping or pressure rated hose. The biosparge wells will be joined within the equipment compound at a manifold comprising a pressure regulator, pressure gauge, air flow meter, and ball valve for each well.

For cost-effective sizing of the equipment, the biosparge wells will be split into zones. Only one zone of wells will operate at a time to allow a smaller air compressor to be used. The equipment specifications will include using electronic solenoid valves operating on a timer. This will allow air flow to switch from one set of wells to the next set of wells. This operation will also help prevent the formation of preferential air flow paths. The zone layout will be determined following the pilot scale test.

The biosparge system will include an air compressor, a series of vapor and particulate filters, a flow meter, and a pressure regulator. A programmable timer will be installed to allow for continuous or intermittent system operation. The system equipment will be enclosed within a small shed.

4.2.3.2 Construction Schedule

Construction of the biosparge system will require an estimated ten working days. System start-up activities will be conducted during the first three days of operation, and on the last day of the first week of system operation. During the first day of system start-up, the system will be monitored and any necessary changes or repairs will be completed.

4.2.3.3 System Start-Up and Operation and Maintenance

The biosparge system will be monitored weekly for the first month and monthly thereafter. The following will be conducted during this routine monitoring:

- The air compressor will be inspected and adjusted for proper operation. System adjustments will be made when necessary to optimize system performance;
- The fail-safe mechanisms will be inspected for proper operation;
- The air injection flow rates and pressures will be recorded using the proposed meters and gauges. Adjustments will be made when necessary to optimize system performance.

A logbook will be maintained to record the air flow rates and injection pressures as well as the inspection results.

4.3 Process Monitoring and Reporting

Routine semi-annual groundwater monitoring will continue during the operation of the biosparge system. Monitor wells MW-6, MW-7, MW-9, MW-16, MW-19, MW-20, MW-21, MW-25, MW-27, MW-28, MW-31, MW-32, MW-35, MW-36, MW-38, MW-41, MW-42, MW-49, MW-50, MW-51, MW-52, MW-53, MW-54, MW-55, MW-56, MW-57 will be monitored on a semi-annual basis. Two additional monitor wells will be installed as part of the monitoring network. One shallow monitor well will be installed southeast of MW-25 and one deep well will be installed southwest of well MW-50. The location of the two proposed monitor wells is shown on Figure 4-6. The monitor wells will be monitored for BTEX by USEPA Method 8260B. The results from the groundwater monitoring will be used to evaluate the effectiveness of the excavation and the biosparge system. Semi-annual CAP Progress Reports will be prepared to summarize the sample results and evaluate the effectiveness of the CAP.

4.4 Corrective Action Completion Criteria

Following the excavation and installation of the biosparge system, the deep groundwater impacts will be monitored for up to three years. The biosparge system will be operated for one year or until the benzene concentration in deep groundwater decrease below the MCL of 5 µg/L. If the benzene concentrations in deep groundwater have not decreased to below the MCL after 1 year, an evaluation of whether to continue operating the biosparge system will be conducted.

Georgia Department of Natural Resources
2 Martin Luther King Jr. Dr., S. E., Suite 1162 East, Atlanta, Georgia 30334
Chris Clark, Commissioner
Environmental Protection Division
F. Allen Barnes, Director
404/656-2833

October 29, 2009

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Thomas C. Fry
Acting Director, Public Works
Headquarters, 3D Infantry Division (Mechanized) and Fort Stewart
Directorate of Public Works, Building 1137
Environmental Branch (ATTN: Algeana Stevenson)
1550 Frank Cochran Drive
Fort Stewart, GA 31314-4927

RE: Corrective Action Plan (CAP) Addendum for the Former 724th Tanker Purging Station [Solid Waste Management Unit (SWMU) 26] dated May 5, 2009; Fort Stewart; EPA ID No. GA9 210 020 872.

Dear Mr. Fry:

The Hazardous Waste Management Branch (HWMB) of the Georgia Environmental Protection Division (GA EPD) has received Fort Stewart's Corrective Action Plan (CAP) Addendum for the Former 724th Tanker Purging Station, dated May 5 2009, and received June 12, 2009. GA EPD has reviewed the plan and has the following comments:

1. **Section 2, Previous Investigations and Corrective Actions.** The report states that the results from the Thirteenth CAP Progress Report (Science Application International Corporation [SAIC] 2009) were used to prepare the Corrective Action Plan Addendum. However, GA EPD has not received the Thirteenth CAP Progress Report. Please submit copies of the Thirteenth CAP Progress Report to GA EPD.

2. **Additional Figure, Section 2.4, PHOSter® II Enhanced Bioremediation and Source Area Excavation.** Please provide an additional figure (or modify Figure 3-3) that shows the location of the PHOSter® II Enhanced Bioremediation applications and source area excavation activities, as well as the pipe that contained product and well MW-02.

3. **Section 4.1, 1st paragraph.** The last sentence of this paragraph states, "Figure 2-1 summarizes the exceedances of benzene in soil." A summary of Benzene exceedances is actually shown in Figure 4-1, not 2-1. Please correct the figure number from 2-1 to 4-1.

4. **Section 4.1, 1st paragraph.** The second sentence of this paragraph uses ug/L for soil concentrations, which is the incorrect unit. Please replace ug/L with the correct units.

5. **Section 4.2 Biosparge System.** Please add a paragraph to generically summarize the mechanics of the biosparge system (i.e., how it works), including potential limitations of the technology.

6. **Section 4.2.1 Pilot Scale Test, 3rd paragraph.** Please include the purpose for monitoring vapors in monitoring wells, and the contingency action if contaminants are detected with the PID (photo ionization detector) during system operation.

7. **Section 4.2.3.3, System Start-Up and Operation and Maintenance.** The report states, "The biosparge system will be monitored weekly for the first month and monthly thereafter." GA EPD recommends that a logbook (i.e., maintenance logbook) be kept to record all operational aspects and inspection results (i.e., adjustments, optimization) of the biosparge system.

8. **Section 4.3, Process Monitoring and Reporting.** In addition to the wells listed in this report, which require routine semi-annual groundwater monitoring during the operation of the biosparge system, GA EPD requests the following monitoring wells be added to the proposed list.

    - Please include wells MW-16 and MW-35 in the process monitoring program since the groundwater does not have a well-established flow direction and tends to flow radial in the vicinity of the excavation area (Figures 3-1 and 3-3, May 2009 Report).
    - GA EPD requests installation of the following two new monitoring wells: One shallow monitoring well located southeast of MW-25 (Figure 4-4); and one deep well located southwest of well MW-50 (Figure 4-4). These two wells are needed to serve as downgradient sentry wells monitoring for contaminant migration.

9. **Section 4.4 Corrective Action Completion Criteria.** The first sentence states, "Following the excavation, the deep groundwater impacts will be monitored for up to one year." Please note that GA EPD requires three years of confirmatory sampling/monitoring after remediation goals are met. Please revise this sentence accordingly.

Within sixty (60) days of receipt of this letter, please submit two (2) copies of all revisions that address the above comments to the report, and one (1) electronic copy (in Word or PDF format) of the full report. The revised pages should be noted at the bottom with the word "Revised" and the revision date.

Should you have any questions concerning this correspondence, please contact Mr. Mo Ghazi of my staff at (404) 657-8674.

Sincerely,

Amy Potter
Unit Coordinator
Hazardous Waste Management Branch

c: Darrell Crosby, Manager, GA EPD-Coastal District
Tressa Rutland, Fort Stewart (via facsimile)
File: Fort Stewart (G)

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY GARRISON, FORT STEWART / HUNTER army AIRFIELD
DIRECTORATE OF PUBLIC WORKS
1587 FRANK COCHRAN DRIVE
FORT STEWART, GEORGIA 31314

REPLY TO
ATTENTION OF

Office of the Directorate

JUN 10 2009

CERTIFIED MAIL

Georgia Environmental Protection Division
Attention: Mr. Mahamad Ghazi, PhD
2 Martin Luther King Jr. Drive, Southeast
Floyd Towers East, Suite 1452
Atlanta, Georgia 30334

Dear Mr. Ghazi:

Fort Stewart is pleased to submit two hard copies and one electronic copy of the Corrective Action Plan Addendum at the Former 724th Tanker Purging Station Solid Waste Management Unit (SWMU) 26, Fort Stewart, Georgia, for your review and approval.

In accordance with the Federal Code of Regulations, Section 270.11(d), the following certification is provided by the Installation:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact Ms. Algeana Stevenson at (912)315-5144 or Ms. Tressa Rutland, Directorate of Public Works Prevention and Compliance Division, at (912)767-2010, should questions arise regarding the enclosed report.

Sincerely,

Thomas C. Ray

for ROBERT R. BAUMGARDT
Director, Public Works

Enclosure

Imagine the result

Fort Stewart, Georgia

IMA

3d Inf Div (Mech)

SWMU 26
Corrective Action Plan Addendum

Former 724th Tanker Purging Station

Fort Stewart, Georgia
EPA ID # GA9 210 020 872

May 5, 2009

ARCADIS
Infrastructure, environment, buildings

4. Additional Corrective Action Activities

Additional remedial actions are recommended to meet the established remedial levels for soil and groundwater at SWMU 26. As discussed in Section 2.5, soil impacts remain in the clay layer in the source area. Consequently, an excavation is recommended to remove residual impacts in the source area.

Benzene is the only constituent remaining in groundwater above the remedial levels. The highest detections are in deep groundwater downgradient of the source area. To expedite the attenuation of benzene in deep groundwater, a biosparge system is recommended. The following sections outline the proposed excavation activities and biosparge system.

4.1 Source Removal

Soil remedial levels were developed in the Phase II RFI based on leaching from soil to groundwater at levels exceeding MCLs or USEPA Region III risk-based values (SAIC 1998). The historical soil sample results indicated exceedances of the BTEX soil remedial levels (20 ug/L for benzene, 4,200 ug/L for toluene, 3,100 ug/L for ethylbenzene, and 31,700 ug/L for total xylenes). Table 2-1 summarizes the soil sample results. Figure 2-1 summarizes the exceedances of benzene in soil.

Fort Stewart proposes an addendum to the CAP (SAIC 2000) to remove the remaining impacted soil in the source area. The proposed corrective action will include six temporary borings followed by soil excavation to remove the impacted soil remaining in the clay layer. The temporary borings will be used to confirm the historical sample results and characterize the soil prior to removal.

4.1.1 Confirmation Soil Borings

The temporary borings will be installed using direct push technology (DPT). DPT uses a combination of hydraulic pressure and percussion to drive steel rods into subsurface soil for sample collection. The investigation will be focused in the source area to confirm the historical soil sample results and to characterize the soil prior to removal. Figure 4-2 shows the proposed temporary soil boring locations. The soil borings will be installed to approximately 14 feet below land surface (ft bls). The borings will be installed deeper if field screening indicates impacts at greater than 14 ft bls. Additional borings may be added if field conditions warrant further lateral investigation. At this

time, Fort Stewart requests approval for the installation of approximately 6 DPT borings at SWMU 26.

At each boring location, a continuous soil core sample will be collected using a macro-core sampler from ground surface to the target depth. The lithology will be logged at each location using the Unified Soil Classification System (USCS) and the core will be field screened with a photoionization detector (PID) to determine if volatile organic vapors are present. Three soil samples will be collected from each boring. Two soil samples will be collected at the location of highest PID detection and one sample will be collected from the bottom of each boring. If no indications of impacted soil are present in the core samples, then soil samples will be collected from 8 to 10 ft bls and 10 to 12 ft bls.

Soil samples will be placed in laboratory supplied sample containers and sent via courier to Shealy Laboratory in West Columbia, South Carolina (NELAC No. E87653) under appropriate preservation and chain-of-custody procedures. The samples will be analyzed for BTEX using USEPA Method 8260B. The boring sample results will be used to confirm the historical soil sample results and to better define the limits of the excavation prior to implementation.

Upon completion of the DPT borings, the boring locations will be abandoned by allowing the saturated portion of the formation (i.e., unconsolidated sands and clay) to collapse back into the 2-inch diameter borehole as the Geoprobe® rods are retracted. The upper 10 ft of the borehole will be plugged with granular bentonite and hydrated with potable water to make an impermeable seal.

Between each boring all drilling equipment (all downhole equipment and any tools used at the surface) will be properly decontaminated in accordance with the procedures outlined in ARCADIS' Sampling and Analysis Plan (ARCADIS 2008).

The investigation derived waste that is generated during this investigation, which includes soil cores and decontamination water will be containerized using Department of Transportation (DOT) specification packaging and properly characterized prior to disposal.

4.1.2 Soil Removal Methodology

Portions of the existing fence may be removed and preliminary clearing and brush or trees may be conducted as necessary to the proposed excavation area. Monitor wells

MW-24, MW-27, and MW-36 are located within the proposed excavation and monitor wells MW-6, MW-15, and MW-28 are located close to the proposed excavation. Monitor wells MW-24 and MW-27 will be removed during the excavation. MW-36 will be properly abandoned prior to excavation activities due to its total depth of 26 feet bls. If it is determined that the integrity of monitor wells MW-6, MW-15, and/or MW-28 may be compromised during the performance of the excavation, these wells will also be properly abandoned. Well materials present in the excavation will be removed during excavation activities. Monitor wells that are required for on-going plume monitoring that are destroyed or abandoned during the excavation will be replaced once the excavation is backfilled and restoration activities have been completed. Excavation of the soils will be coordinated and conducted in a systematic manner to prevent releases of constituents of concern (COCs) to the environment. Soil excavation will be performed using standard construction equipment (i.e. backhoe). Based on the historical soil investigations (SAIC 2009), soils will be excavated from the western side of the parking lot as shown in Figure 4-2. Soils will be excavated to the water table (approximately 7 to 8 ft bls). The estimated volume of soil to be removed from the excavation area is approximately 1,970yd3 based on a 70 ft x 95 ft x 8 ft deep area. Since the objective of the excavation is to remove residual impacts to soils in the source area, the side walls will be field screened to verify all the impacted soils are removed. Previous investigations indicate residual soil impacts extend below the water table. An oxidant and/or persulfate will be mixed with soils in the bottom of the excavation to help attenuate the residual impacts below the water table.

During the excavation, the soil will be visually inspected. Any soil indicating staining will be removed. Since the top 7 to 9 ft of soil in this area has already been excavated, it is not anticipated that contaminated soil will be detected in the top 0 to 6 ft bls. Assuming no staining is observed, overburden material from approximately 0 to 6 ft bls will be stockpiled on site. Three composite samples will be collected from the soil removed from 0 to 6 ft bls and analyzed for BTEX by USEPA Method 8260B. If the results indicate the soil is below USEPA Regional Screening Levels (RSLs) for industrial soil (USEPA 2008b), then the soil will be used as backfill. If the results indicate the soil exceeds industrial soil RSLs, then the soil will be characterized and transported to an offsite treatment or disposal facility. Subsequently, the target soils (6 to 8 ft bls) will be excavated and placed in clean dump trucks and/or roll-offs and transported to an offsite permitted treatment or disposal facility. The soil from the target depth will be characterized prior to disposal using the confirmation soil boring results. Disposal manifests for soil removed from the site will be included in the next CAP progress report.

A minimum of eight confirmation samples will be collected from the sidewalls of the excavation near the water table. One confirmation sample will be collected every 40 ft along the excavation sidewall. The samples will be transported in properly cooled and sealed containers to Shealy Laboratory in West Columbia, South Carolina (NELAC No. E87653) under appropriate preservation and chain-of-custody procedures. Each sample will be analyzed for BTEX using USEPA method 8260B. Soil below the established remedial levels will be considered clean.

4.1.3 Stormwater and Liquids Control

Liquid wastes, if any, from excavation dewatering activities will be containerized on site in portable tanks and analyzed to determine disposal options. Following characterization, the liquids will be transported to a treatment and/or disposal facility. The handling and transport of the liquid-filled containers will be conducted in a controlled and safe manner. In the event of a spill or release, the liquid released will immediately be contained.

4.1.4 Material Transport and Disposal

Material handling, packaging, and transport will be in accordance with applicable DOT requirements. The Generator/Owner, Contractor, and Transporter will control the documentation (manifesting and labeling of containers/shipments) and transportation of non-hazardous materials. The assignment of responsibilities of each party will be designated prior to implementation. The minimum requirements for health and training of the transporter's personnel will be specified and will reference the DOT's Transporter Regulations for Hazardous Materials (CFR 49, Part 100 to 177).

The soil will be characterized prior to the excavation using the confirmation soil boring results. The excavated soil will be placed in clean dump trucks and/or roll-offs and transported to an offsite permitted treatment or disposal facility.

4.1.5 Site Restoration

Following soil removal, the resulting excavation will be backfilled and regraded. Imported sand materials will be placed in the bottom of the excavation to reduce potential problems associated with compacting soils in saturated conditions. The excavation will then be backfilled and compacted to grade using clean fill. If portions of the fence are removed during the excavation, the fence will be repaired to existing conditions.

4.1.6 Monitor Well Replacement

Monitor wells that are required for on-going plume monitoring activities that were destroyed or abandoned, will be replaced following the completion of the excavation activities. Monitor wells that are not required for on-going monitoring of the plume, will not be replaced. Following backfill of the excavation, the wells that are replaced will be installed at locations in close proximity to the abandoned wells. Monitor wells will be installed so that the screened portion is set to bracket the groundwater table. The proposed well construction is included as Figure 4-3. All well installation and well development activities will be performed in accordance with the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), (ARCADIS 2008).

The wells will be finished at the land surface with an above ground completion and protective casing and will be installed by a Georgia certified well driller under the supervision of an ARCADIS representative. The replacement monitor wells will be used to monitor groundwater quality in accordance with the approved CAP (SAIC 2000).

4.1.7 Health and Safety

All activities will be conducted in general accordance with the ARCADIS Health and Safety Plan (ARCADIS 2009). In addition, the soil removal contractor will prepare a Comprehensive Site Safety Plan (CSSP). The CSSP will comply with the basic provisions of Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR 1910), General Construction Standards (29 CFR 1926) and OSHA Hazardous Material Operations and Emergency Response (29 CFR 1910.120).

Site specific training consisting of an initial site safety briefing and daily "tailgate" safety briefings will be performed to inform site workers of the specific hazards identified during site activities and any changes from the initial safety briefing. The initial safety meeting will consist, at a minimum, of the following topics:

- Worker responsibilities
- Physical hazards
- Biological hazards
- Chemical hazards
- Protective clothing/equipment to be used
- Air monitoring and action levels

- Hazard communication
- Emergency procedures, including emergency phone numbers
- Location of emergency equipment (first aid kits, eyewashes, and fire extinguishers)
- Name and location of the nearest hospital or urgent treatment facility
- Any client-mandated procedures

Mechanized equipment like skid steers, trackhoes, bulldozers and backhoes represent serious hazards to site workers. Care shall be taken by all personnel to exercise caution when working with mechanized equipment to prevent clothing from being caught in moving parts, placing body parts in close vicinity to pinch points on the equipment or using the equipment on slopes or unstable surfaces in excess of the manufacturer's recommendations. Site personnel, visitors, or other persons who are not performing necessary work shall remain at a distance of at least 15 ft from any moving part of the mechanized equipment. All workers within 15 ft of the equipment are required to wear, at a minimum, hard hats, safety glasses, steel-toed boots, and hearing protection, if applicable. Open excavations will be barricaded overnight and the site will be secured using the existing locked security fencing.

4.1.8 Schedule

Upon approval of the CAP Addendum for SWMU 26, ARCADIS will schedule and implement the temporary soil boring and soil removal activities. The temporary borings are anticipated to take one to two days and the soil removal and site restoration are anticipated to take a couple of weeks each. Installation of replacement wells MW-24 and MW-36 will be performed immediately following site restoration.

4.2 Biosparge System

Based on the December 2008 sample results, benzene is the only constituent remaining in groundwater above the established remedial goals. The established remedial goal for benzene is 5 µg/L. In December 2008, benzene was detected in the shallow groundwater at a maximum of 67 µg/L and in deep groundwater at a maximum of 260 µg/L. The proposed excavation is expected to have a rapid effect on the shallow groundwater impacts within the source area. To enhance the attenuation of benzene concentrations in the deep groundwater, biosparging may be utilized. Subsequent to the performance of the proposed excavation, a pilot scale test will be completed to determine if biosparge is a viable technology to remediate the deep groundwater impacts and to determine the site specific design parameters. Following

the performance of the pilot test, deep groundwater impacts will continue to be monitored to evaluate if full scale implementation is warranted.

4.2.1 Pilot Scale Test

The biosparge Pilot Scale Test will be conducted for approximately 6 hours. For the test, one biosparge injection well will be installed approximately 10 feet north of MW-54. The injection well will be installed using DPT to a depth of 35 ft bls. Approximate injection well construction details are included as Figure 4-5. An air compressor will be used to force air into the deep aquifer at a rate of 1 cubic feet per meter (cfm). The depth-to-water, dissolved oxygen and wellhead pressure will be measured at monitor wells MW-54 (located 10 feet north of the proposed injection well) and MW-38 (located 20 feet south of the proposed injection well). Two additional temporary monitor wells will be installed approximately 15 feet west and 5 feet east of the proposed injection well (Figure 4-4). The monitor wells will be used to determine the radius of influence for the final biosparge injection system.

The temporary wells will be installed using DPT and will consist of 1-inch Sch. 40 PVC with a 10-foot, 10-slot screen, which will be screened from approximately 23 ft bls to 33 ft bls and completed with a 1-inch Sch. 40 PVC riser to ground surface. The temporary wells will be installed in accordance with the "no filter pack method" as outlined in the Design and Installation of Monitoring Wells (USEPA 2008a). At each location, a continuous soil core will be collected using a macro-core sampler from ground surface to the target depth and the lithology will be logged using the USCS.

Vapors will be monitored in monitor wells and temporary wells with a PID and the air flow conditions at the injection well will be documented. The system will be operated at varying air flows and air pressures to determine the optimum flow rate and to provide information for the full scale biosparge system design. During the maximum recovery operation, one air sample will be collected from MW-54 for laboratory analysis via EPA method 18.

4.2.2 Full Scale Biosparge System

If determined to be necessary, the data derived from the pilot scale test will be used to finalize the design of the full-scale biosparge system for the site.

4.2.3 Well Construction

The injection depth for the proposed biosparge wells will be 34 ft bls. Figure 4-6 presents the proposed target location for the biosparge system. Based on the results of the pilot test, the injection well layout will be established. The injection flow rate and injection pressure will be determined during the pilot test. The permanent biosparge wells will also be installed to a depth of 35 feet bls.

Each biosparge point will be constructed of 1-inch-diameter, Schedule 40 polyvinyl chloride (PVC) pipe with the lower 2.5 feet comprised of 0.010-inch slotted screen. The biosparge wells will be installed using DPT drilling methods. The top of each wellhead assembly will be equipped with a threaded cap to provide access to the interior of the biosparge point.

4.2.3.1 Biosparge Piping and System Components

Each biosparge well will be independently piped to the equipment compound using dedicated 1-inch- diameter Schedule 40 PVC piping or pressure rated hose. The biosparge wells will be joined within the equipment compound at a manifold comprising a pressure regulator, pressure gauge, air flow meter, and ball valve for each well.

For cost-effective sizing of the equipment, the biosparge wells will be split into zones. Only one zone of wells will operate at a time to allow a smaller air compressor to be used. The equipment specifications will include using electronic solenoid valves operating on a timer. This will allow air flow to switch from one set of wells to the next set of wells. This operation will also help prevent the formation of preferential air flow paths. The zone layout will be determined following the pilot scale test.

The biosparge system will include an air compressor, a series of vapor and particulate filters, a flow meter, and a pressure regulator. A programmable timer will be installed to allow for continuous or intermittent system operation. The system equipment will be enclosed within a small shed.

4.2.3.2 Construction Schedule

Construction of the biosparge system will require an estimated ten working days. System start-up activities will be conducted during the first three days of operation, and on the last day of the first week of system operation. During the first day of system

start-up, the system will be monitored and any necessary changes or repairs will be completed.

4.2.3.3 System Start-Up and Operation and Maintenance

The biosparge system will be monitored weekly for the first month and monthly thereafter. The following will be conducted during this routine monitoring:

- The air compressor will be inspected and adjusted for proper operation. System adjustments will be made when necessary to optimize system performance;
- The fail-safe mechanisms will be inspected for proper operation;
- The air injection flow rates and pressures will be recorded using the proposed meters and gauges. Adjustments will be made when necessary to optimize system performance.

4.3 Process Monitoring and Reporting

Routine semi-annual groundwater monitoring will continue during the operation of the biosparge system. Monitor wells MW-6, MW-7, MW-9, MW-19, MW-20, MW-21, MW-25, MW-27, MW-28, MW-31, MW-32, MW-36, MW-38, MW-41, MW-42, MW-49, MW-50, MW-51, MW-52, MW-53, MW-54, MW-55, MW-56, MW-57 will be monitored on a semi-annual basis for BTEX by USEPA Method 8260B. The results from the groundwater monitoring will be used to evaluate the effectiveness of the excavation and the biosparge system. Semi-annual CAP Progress Reports will be prepared to summarize the sample results and evaluate the effectiveness of the CAP.

4.4 Corrective Action Completion Criteria

Following the excavation, the deep groundwater impacts will be monitored for up to one year. If the concentrations in deep groundwater do not significantly decrease, the biosparge system may be implemented. The biosparge system will be operated for one year or until the benzene concentration in deep groundwater decrease below the MCL of 5 ug/L. If the benzene concentrations in deep groundwater have not decreased to below the MCL after 1 year, an evaluation of whether to continue operating the biosparge system will be conducted.

Georgia Department of Natural Resources
205 Butler Street, S.E., Suite 1162, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
404/656-2833

Brent
COPY

November 17, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Gregory V. Stanley, Colonel, U.S. Army
Director, Public Works
Headquarters, 3D Infantry Division (Mechanized) and Fort Stewart
Directorate of Public Works, Building 1137
Environmental Branch (ATTN: Melanie Little)
1550 Frank Cochran Drive
Fort Stewart, GA 31314-4927

RE: Notice of Decision; Modifications to the Fort Stewart Hazardous Waste Facility Permit #HW-045(S&T) and Permit Application dated June 13, 1997, as amended; EPA ID No. GA9 210 020 872.

Dear Colonel Stanley:

The Hazardous Waste Management Branch of the Georgia Environmental Protection Division (GA EPD) has made final decisions:

(1) to approve the Corrective Action Plan for the Post South Central Landfill [Solid Waste Management Unit (SWMU) 1] dated December 1999, as amended;

(2) to approve the Corrective Action Plan for the Former 724th Tanker Purging Station (SWMU 26) dated January 2000, as amended;

(3) that No Further Action is required at this time for the Burn Pits A through F (SWMUs 4A–4F) and the Waste Pile located adjacent to the Officer's Club (SWMU 38);

(4) to correct typographical errors contained in Permit Conditions III.B.6 and III.C.8 (i.e., the text will reference Section F of the Permit Application rather than Section E);

(5) to correct typographical errors contained in Permit Condition IV.F.1.a (i.e., the text will reference Condition IV.F rather than IV.E);

(6) to modify Permit Condition IV.G.2 in order to allow Fort Stewart to submit two copies of all reports and work plans required by Section IV of the Permit unless otherwise notified

by GA EPD rather than four copies as currently required;

(7) to approve the revised Appendix D-8 (Detection Monitoring Plan for the Open Burn and Open Detonation Units) dated January 2000 as a modification of Fort Stewart Permit Application dated June 13, 1997, as amended;

(8) to approve the revised Section I (Closure Plan, Post-Closure Plan and Financial Requirements) dated May 2000 [as that submittal has been modified by the request in your correspondence (Stanley to Khaleghi) dated August 15, 2000] as a modification of Fort Stewart Permit Application dated June 13, 1997, as amended;

(9) to modify Permit Condition III.D.3 by deleting the term *subsurface soil* and Permit Condition III.D.4 in order to allow Fort Stewart to submit one (1) monitoring report for the Open Burn and Open Detonation Units annually on January 15, consistent with text in the revised Appendix D-8 referenced in Item No. 7 above; and

(10) to delete the current Appendix H-1 and insert the following Replacement Pages into the Fort Stewart Permit Application dated June 13, 1997, as amended: ix, the first page of the Part A Application in Section A, B-1, B-3, B-4, C-1, D-1, D-6, F-3, F-5, F-6, F-8, F-9, F-17, G-2, G-3, G-6, G-7, G-11, G-12, H-1 through H-18, the Appendix H-1 title page [Explosive Ordnance Disposal (EOD) Basic Course Outline], and Appendix D-5. Fort Stewart requested the modifications referenced in the preceding sentence in correspondence (Stanley to Khaleghi) dated August 15, 2000 and e-mails (Powell-Jones to Rabon) dated September 5 & 6, 2000.

Our final decisions are based upon the requirements set forth in the Georgia Hazardous Waste Management Act, as amended, O.C.G.A. §12-8-60, *et seq.*; and the Rules for Hazardous Waste Management, Chapter 391-3-11, promulgated pursuant thereto, as amended (Rules), Chapter 391-3-11, which incorporates by reference the Code of Federal Regulations found in 40 CFR Parts 124, 260-268, 270, 273 and 279.

Prior to making final decisions to incorporate these changes into the Fort Stewart Hazardous Waste Facility Permit #HW-045(S&T) and the Permit Application dated June 13, 1997, as amended; Chapter 391-3-11 of the Rules requires GA EPD to provide an opportunity for public comment. Accordingly, the forty-five (45) day public comment period began on September 24, 2000 and ended on November 8, 2000 [Also see our correspondence (Ussery to Stanley) dated September 14, 2000]. GA EPD received no comments during this time period. Finally, please note that GA EPD (1) has attached the modified Permit to this correspondence and (2) has inserted copies of the replacement pages described in Item No. 10 above into our copies of your Permit Application dated June 13, 1997. In accordance with Condition I.B.2.a of your Hazardous Waste Facility Permit #HW-045(S&T), please note that Fort Stewart must maintain a

complete copy of the Permit Application dated June 13, 1997, as amended by the replacement pages and revised Appendix D-8 and Section I described in Item Nos. 10, 7 & 8 above, respectively, and by the Class I Modification described in correspondences (Perez to Khaleghi) dated June 30, 1998 and (Khaleghi to Perez) dated July 16, 1998.

Should you have any questions concerning this correspondence, please contact Brent Rabon of my staff at (404)656-2833.

Sincerely,

Harold F. Reheis, Director

Attachment
c: Mr. Don Webster, EPA Region IV
Mr. Larry Rogers, GA EPD-Southeast Regional Office
File: Fort Stewart(R)
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Georgia Departme of Natural Resources
205 Butler Street, S.E., Suite 1162, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
404/656-2833

September 14, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Gregory V. Stanley, Colonel, U.S. Army
Director, Public Works
Headquarters, 3D Infantry Division (Mechanized) and Fort Stewart
Directorate of Public Works, Building 1137
Environmental Branch (ATTN: Melanie Little)
1550 Frank Cochran Drive
Fort Stewart, GA 31314-4927

RE: Modifications to the Fort Stewart Hazardous Waste Facility Permit #HW-045(S&T) and Permit Application dated June 13, 1997, as amended; EPA ID No. GA9 210 020 872.

Dear Colonel Stanley:

The Hazardous Waste Management Branch of the Georgia Environmental Protection Division (GA EPD) has made tentative decisions:

(1) to approve the Corrective Action Plan for the Post South Central Landfill [Solid Waste Management Unit (SWMU) 1] dated December 1999, as amended (Also see the attached Statement of Basis);

(2) to approve the Corrective Action Plan for the Former 724th Tanker Purging Station (SWMU 26) dated January 2000, as amended (Also see the attached Statement of Basis);

(3) that No Further Action is required at this time for the Burn Pits A through F (SWMUs 4A–4F) and the Waste Pile located adjacent to the Officer's Club (SWMU 38) (Also see the attached Statements of Basis);

(4) to correct typographical errors contained in Permit Conditions III.B.6 and III.C.8 (i.e., the text will reference Section F of the Permit Application rather than Section E);

(5) to correct typographical errors contained in Permit Condition IV.F.1.a (i.e., the text will reference Condition IV.F rather than IV.E);

(6) to modify Permit Condition IV.G.2 in order to allow Fort Stewart to submit two copies of

all reports and work plans required by Section IV of the Permit unless otherwise notified by the Georgia Environmental Protection Division rather than four copies as currently required;

(7) to approve the revised Appendix D-8 (Detection Monitoring Plan for the Open Burn and Open Detonation Units) dated January 2000 as a modification of Fort Stewart Permit Application dated June 13, 1997, as amended;

(8) to approve the revised Section I (Closure Plan, Post-Closure Plan and Financial Requirements) dated May 2000 [as that submittal has been modified by the request in your correspondence (Stanley to Khaleghi) dated August 15, 2000] as a modification of Fort Stewart Permit Application dated June 13, 1997, as amended; [Specifically see the attached Replacement Page I-8 (Revised 10/05/2000)];

(9) to modify Permit Condition III.D.3 by deleting the term *subsurface soil* and Permit Condition III.D.4 in order to allow Fort Stewart to submit one (1) monitoring report for the Open Burn and Open Detonation Units annually on January 15, consistent with text in the revised Appendix D-8 referenced in Item No. 7 above; and

(10) to delete the current Appendix H-1 and insert the following Replacement Pages into the Fort Stewart Permit Application dated June 13, 1997, as amended: ix, the first page of the Part A Application in Section A, B-1, B-3, B-4, C-1, D-1, D-6, F-3, F-5, F-6, F-8, F-9, F-17, G-2, G-3, G-6, G-7, G-11, G-12, H-1 through H-18, the Appendix H-1 title page [Explosive Ordnance Disposal (EOD) Basic Course Outline], and Appendix D-5. Fort Stewart requested the modifications referenced in the preceding sentence in correspondence (Stanley to Khaleghi) dated August 15, 2000 and e-mails (Powell-Jones to Rabon) dated September 5 & 6, 2000.

Please note that Item Nos. 1-6 & 9 listed above have been incorporated into the Draft Permit attached to this correspondence and Item Nos. 7, 8 & 10 have been appropriately incorporated into your Permit Application dated June 13, 1997, as amended. Our tentative decisions are based upon the requirements set forth in the Georgia Hazardous Waste Management Act, as amended, O.C.G.A. §12-8-60, *et seq.*; and the Rules for Hazardous Waste Management, Chapter 391-3-11, promulgated pursuant thereto, as amended (Rules), Chapter 391-3-11, which incorporates by reference the Code of Federal Regulations found in 40 CFR Parts 124, 260-268, 270, and 279.

Before making a final decision to incorporate these changes into the Fort Stewart Hazardous Waste Facility Permit #HW-045(S&T) and the Permit Application dated June 13, 1997, as amended; Section 391-3-11 of the Rules requires GA EPD to provide an opportunity for public comment. Please note, in the attached Public Notice, that the forty-five (45) day public comment period will begin on September 24, 2000 and end on November 8, 2000. The attached Public

Notice will be published in the *Savannah Morning News* on September 24, 2000, and a radio announcement will also be broadcast on WSKX 92.3 FM twice a day for three consecutive days beginning September 25, 2000. In accordance with Section 391-3-11.11(4)(h) of the Rules, Fort Stewart will be billed for all costs associated with advertising of this Public Notice.

Should you have any questions concerning this correspondence, please contact Brent Rabon of my staff at (404)656-2833.

Sincerely,

Jim Ussery, Program Manager
Hazardous Waste Management Branch

Attachments(7)
c: Mr. Don Webster, EPA Region IV
File: Fort Stewart(R)
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