



July 31, 2007

The following Letter Work Plan (LWP) represents OAK's revisions to the Final Work Plan, Site 9 Ash Landfill/Dump Removal Action, October 17, 2005. This LWP has been prepared to address the handling and sampling of existing excavated and stockpiled materials and construction water and any materials to be excavated from the ash landfill. The OAK Group and its on-site subcontractor, RC&D, are committed to strictly conforming to the requirements of the existing Work Plan, this LWP, the QAPP and SOPs approved for the project and for all sampling conducted at the site. RC&D personnel will perform the sampling outlined in this LWP in conformance with these approved plans. OAK will provide seven (7) days of advance notification to the Navy with respect to planned sampling (and other) activities to allow for coordination with the Navy's oversight contractor and regulatory agency representatives to oversee the Site 9 activities and ensure compliance with the field oversight requirements of the QAPP (January 2006).

LETTER WORK PLAN Site 9 Soil Removal Action

Includes: Figure 1 - Site 9, Materials Stockpiled On-site (August 18, 2006) (Attached)
Figure 2 - Confirmatory Sample Locations, Site 9 (Attached)
Figure 3 - Site 9 Hazardous Waste Pile

Table 1 - Summary of Proposed Sampling
Table 2 - Overview of PQL for Composite VOC Sampling

Attachment 1 - Standard Operating Procedure for Hazardous Waste Management
Attachment 2 - Standard Operating Procedure for ESS Laboratory VOC Analyses
(Methods 8260B and 5035, plus VOC sample compositing procedure)
Attachment 3 - Table C-2 - Detection Limits for Soil/Solid Samples (Revised
February 2007 to include Pesticides, Revised April 2007 to remove SSLs)

Existing Hazardous Waste Pile

Sample results from a pile of approximately 900 tons of soils indicated leachability of lead (Pb) and trichloroethylene (TCE) at concentrations above levels considered as hazardous waste under RCRA regulations. These materials will be disposed as a hazardous waste. This pile will not be re-sampled; however, since the existing Work Plan does not include procedures for handling and disposal of hazardous waste (HW), our proposed procedures for disposal of these materials are provided as Attachment 1 - Standard Operating Procedure (SOP) for Hazardous Waste Management. The soils in the HW pile will be managed on-site and disposed off-site in accordance with these Hazardous Waste Management SOPs.

As shown in Figure 3, the edges of the HW pile are currently overlain with materials from adjacent ash piles 7 and 8. The materials from the HW pile will be isolated as follows:

- The Navy and regulatory agencies will be notified 14 days in advance of removing ash materials adjacent to the HW pile.



- Until analytical data show otherwise, soils from Piles 7 and 8 adjacent to the HW pile will be managed as potential hazardous waste.
- The northern site boundary will be expanded, as needed, to provide additional staging area for materials adjacent to the HW pile. This staging area will be surrounded by erosion controls (e.g., haybales), new four-foot mesh fencing with attached markers for visibility, and Hazardous Waste signs will be posted around the perimeter at 75-foot intervals. Materials separated from Piles 7 and 8 as part of the HW pile isolation process and placed in this staging area will be underlain by poly sheeting and overlain by poly sheeting pending final disposition. [Note: Some areas to the north contain asphalt layers within the top one foot of the soil surface. The presence of this asphalt would be anticipated to lead to detections of PAHs (and potentially other compounds) that are similar to those associated with the ash). Sampling of areas beneath these piles to the north will be performed as part of the overall site closure documentation. The potential interference in the chemical data due to the presence of the asphalt will be evaluated as part of the overall closure sampling by direct sampling of the asphalt materials.]
- The boundaries of the HW pile will be identified in the field from its angle of repose and the GPS coordinates from its time of initial stockpiling. These boundaries will be discussed with on-site Navy and regulatory inspectors prior to continuing with the HW pile isolation process.
- Initially, an excavator will be used to segregate any nearby materials from the HW pile. To avoid slumping of soils from Piles 7 and 8 into the area of the HW pile during this segregation process, temporary sheeting may be installed into Piles 7 and 8, outside the footprint of the HW pile. Locations of sheeting will be discussed with on-site Navy and regulatory inspectors.
- As the outer edges of the HW pile are approached, manual labor including the use of shovels and brooms will be used to remove materials overlying the HW pile.
- Navy, EPA and MEDEP inspectors will then determine whether the HW pile was kept isolated from the adjacent piles based on the presence/condition of its cover. Where the poly sheeting between the HW pile and any overlying materials is intact, the overlying materials will be considered to have NOT been in contact with the HW pile. [However, as a practical matter, some quantities of soils overlying the poly sheeting of the HW pile may be included with the HW pile materials for off-site disposal as hazardous waste.]
- Ash materials will be removed from the northern ends of ash piles #7 and #8 and placed in the northern staging area until isolation of the HW pile has been completed (based on visual inspection and concurrence with on-site Navy and regulatory inspectors). These materials will be staged in separate, non-contiguous 500 ton piles. In the event that the materials are determined to have NOT been in contact with the HW pile, composite samples will be collected per procedures in this LWP as the 500 tons piles are being assembled. If any of these 500 ton segment created as part of the HW pile isolation process, in whole or in part, came in contact with or was commingled with the Hazardous Waste pile, the composite sample from that segment will not be chemically analyzed, and materials from that entire 500 tone segment will be disposed of as hazardous waste. Where materials staged to the



north have not been in contact with the HW pile, the composite samples will be analyzed as ash materials, as described below, and disposed of based on the results of the chemical analyses.

- Once the HW pile has been isolated, remaining ash materials from piles 7 and 8 will be staged to the south in separate, non-contiguous 500 ton piles, sampled and analyzed per the procedures in this LWP for ash. The materials will then be disposed of based on the results of that chemical analyses.

Construction Water

There is one 20,000 gallon frac tank at the site containing water and fine-grained sediment from the excavation. The water and suspended sediment mix (e.g. turbid water) in that tank has already been analyzed to meet the requirements for on-site discharge to the Brunswick Sewer District. [These analyses include VOCs via 8260, SVOCs via 8270 and priority pollutant metals via 6010.] However, to mitigate potential discharge of sediment to the sewer district, water from the tank will be filtered prior to discharge, as follows. An equipment decontamination area is in place at the site and is in close proximity to the existing frac tank; this area consists of filter fabric, overlain by gravel, with a drain to an underground poly tank. Additional filter fabric (two layers of 8 ounce, non-woven, needle punched fabric) will be placed over top of this gravel wash pad. The water and sediment mix will be pumped from the remaining frac tank onto the wash pad. Sediment collected on top of the wash pad and filter fabric will be moved to a separate stockpile for waste characterization (this separate stockpile will be underlain and overlain with poly sheeting). Water draining into the poly tank will be recirculated through the frac tank and be handled in the same manner as the water in the frac tank (e.g., discharge to the Brunswick Sewer District once the turbidity requirements for discharge can be met).

Overview of Sampling.

A summary of material sampling is presented in the table below – the materials include ash, construction and demolition debris, overburden and loam; confirmatory samples of the ash excavation are also shown. This table shows the types of materials sampled, the numbers of samples collected and the types of chemical analyses performed since the inception of the removal action, and the plan for subsequent sampling. Attached Figure 1 shows the approximate locations of materials currently stockpiled at the site. Attached Figure 2 shows the locations of confirmatory soil samples. Note: Some construction and demolition debris (CDD) was removed from the areas east of the ash excavation; three "confirmatory" samples (S9-C10-B7-1, S9-C10-SW5-2 and S9-C10-WS2-3) were collected in this former Building 220 area (outside the ash excavation) to confirm that no ash was present underlying the CDD that was excavated.

Table 1 – Overview of Proposed Sampling			
Type of Materials	Previous Samples Collected	Chemical Analyses	LWP Sampling Plan
Ash	34	Per Final Workplan,	All existing ash piles (P6, P7, P8 and an

		<p>Section 7.0, Table 1, Waste Stockpile analyses</p> <p>TCLP Extraction (1311)</p> <p>VOCs – 8260</p> <p>SVOCs – 8270</p> <p>RCRA Metals – 6010</p> <p>Pesticides – 8081</p> <p>Total PCBs – 8082</p> <p>TPH DRO/GRO – 4.1.25 & 4.1.17</p>	<p>unnamed ash pile) and future ash piles shall be segregated and moved into separate, non-contiguous 500 ton piles for sampling and subsequent disposal.</p> <p>Composite sampling of each 500 ton pile will be conducted per the procedures outlined in this LWP. Each individual 500 ton pile shall be sampled per the Work Plan, Table 1, Waste Stockpile analyses.</p> <p>Composite sampling will be conducted per the procedures outlined in this LWP. Ash material characterized as special waste shall be disposed of according to the approved Work Plan.</p> <p>If any of the ash material is characterized as hazardous waste, it shall be handled and disposed of according to the Hazardous Waste Management SOP (attached).</p>
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Table 1 – Overview of Proposed Sampling (continued)			
Type of Materials	Previous Samples Collected	Chemical Analyses	LWP Sampling Plan
Construction and demolition debris (CDD)	12	Per Final Workplan, Section 7.0, Table 1, Waste Stockpile analyses (shown above)	<p>CDD materials were on-site in three separate piles. Piles were covered and no materials were added to or removed from the piles prior to disposal.</p> <p>Each CDD pile was divided into 500 ton sections per the Workplan (using field measurements) and sampled for the Waste Stockpile analyses in Table 1 of the Final Workplan. All three CDD piles have been resampled, and materials from CDD5 and CDD6 have been disposed of off-site as construction and demolition debris. The CDD was disposed of according to the Workplan.</p>
	<p>Note: the CDD consists principally of concrete and rebar mixed with backfilled soils (there is little evidence of other materials such as glass, brick or wood). The sampling of the CDD includes the soils matrix with small particles of concrete and concrete dust generated during demolition of the housing structures. The rebar is not included in the sampling.</p>		
Loam and Overburden	4	<p>Per Final Workplan, Section 7.0, Table 1, Waste Stockpile analyses (shown above), and Backfill analyses, as follows:</p> <p>TPH DRO/GRO – 4.1.25 and 4.1.17</p> <p>VOCs – 8260</p> <p>SVOCs – 8270</p> <p>RCRA Metals – 6010</p> <p>Total PCBs – 8082</p> <p>Pesticides – 8081 (added at MEDEP/EPA request)</p>	<p>All the loam and overburden materials are still on-site. The materials will be staged in 500 ton piles. Each pile will be sampled and analyzed for the backfill parameters and the waste stockpile analyses in Table 1 of the Workplan. Composite samples will be collected per the procedures in this LWP. Sample results for total VOCs, SVOCs, metals, TPH and PCBs (backfill parameters plus PCBs) below the most stringent of the soil standards provided in Attachment C to the Final Workplan (as revised and provided in this LWP) shall be cause to re-use the materials as backfill at the site. Sample results above these soil standards shall be cause to reject these materials for re-use at the site. Should the materials be unacceptable for re-use as backfill, they will be disposed of using the results of the waste stockpile analyses and according to the Workplan.</p>

Table 1 – Overview of Proposed Sampling (continued)			
Type of Materials	Previous Samples Collected	Chemical Analyses	LWP Sampling Plan
Confirmatory Samples	32	Per Final Workplan, Section 7.0, Table 1, Excavation confirmatory analyses. VOCs – 8260 SVOCs – 8270 RCRA Metals - 6010	Once the final excavation boundaries for an area of the site have been established by visual and/or PID readings, confirmatory samples for that area will be collected per the approved Final Workplan and sampling grid. Confirmatory sample points that existed from the 2006 excavation boundaries will be re-sampled or replaced with new sampling points.
	Confirmatory sample results will be compared with the values in Attachment C (as revised), using the most stringent of the MEDEP residential standard or the EPA PRG residential standard. Additional excavation will be performed where confirmatory sample results exceed either of the standards provided in Attachment C (as revised). In the unlikely event that a substance is detected for which a standard is not available, as described in Attachment C, site-specific PRG's will be established using risk assessment methodology with stakeholder involvement.		

Methodology for Waste Characterization Composite Sampling

Five locations will be used to generate a composite sample for each 500 ton ash stockpile. Where 500 ton ash piles are being created, a composite fraction will be collected for every 100 tons placed in the pile. Each composite sample will consist of fractions collected on the same day. Thus, as piles are being built, a composite sample and pile will be considered complete at the end of the day, even if the pile is less than 500 tons (and less than 5 fractions, where there is a fraction for every 100 tons). Sampling equipment used to collect composite samples will be used for all fractions of a single composite sample without decontamination. However, new sampling equipment and/or equipment decontamination will be performed between separate composite samples.

Methodology for Composite Total VOC Sampling

For VOC analyses, a composite sample will be collected using EPA Methods 5035A for sample collection and 8260B for chemical analyses. The laboratory SOPs are attached. In order to generate a composite sample for VOCs, the following methods will be used:

- A separate sample vial with methanol preservative (per EPA Method 5035 for high level analyses, as presented in the approved Soil Sampling SOP) will be collected for each fraction of the composite sample.

- These separate VOC fractions will then be transported to the laboratory whereby the laboratory will generate a single composite sample from the separate, preserved VOC vials (as described below and in Attachment 2).
- VOC analyses is performed in the laboratory using a 500 microliter (ul) aliquot of the methanol extract, extracted via a syringe through the septa of the vial, without exposing the contents of the vial to the atmosphere. The 500 ul sample will be generated in the laboratory by using a calibrated syringe to remove an equal amount from each of the vials being used to generate a composite sample until the 500 ul volume is achieved. [Where there are five vials for a composite, a 100 ul aliquot of methanol extract will be taken from each vial.]
- The final sample result is typically calculated using the dry weight of the soil in a single sample vial. Because the composite sample will be based on multiple vials, the dry weight for the composite sample will be based on the average dry weight for all the vials used to generate the composite sample.

The “20 times” rule will be used when comparing the total VOC concentrations in this composite sample with TCLP limits for VOCs under RCRA. Under the “20 times” rule, the VOCs results are divided by 20, and the resultant dividend is compared against the TCLP regulatory limits. [As shown below, the laboratory PQLs for the VOC analyses are sufficiently low so that the “20 times” rule can be applied with the level of precision being well below the TCLP regulatory limits.

Table 2 - Summary of TCLP Volatile Organic Compound Regulatory Limits and PQLs			
	TCLP Regulatory Limit	QAPP 8260B PQL	ESS 8260B PQL*
	(ug/L)	(ug/kg)	(ug/kg)
Benzene	500	125	100
1,1-Dichloroethene	700	125	100
1,2-Dichloroethane	500	125	100
1,4-Dichlorobenzene	7,500	330	100
2-Butanone	200,000	250	250
Carbon Tetrachloride	500	125	100
Chlorobenzene	100,000	125	100
Chloroform	6,000	125	100
Tetrachloroethene	700	125	100
Trichloroethene	500	125	100
Vinyl Chloride	200	125	100

* Based on high level, methanol preserved samples.



Methodology for Special Waste and CDD Disposal/Load Tracking

All materials being sent off-site will go through a pre-approval process whereby the analytical data for the materials will be reviewed by the Navy and the disposal facility, and will be provided to EPA and MEDEP for approval. No material loading will be initiated until the pre-approval process is complete. Each truck carrying special waste or CDD for off-site disposal will have a Bill of Lading (BOL) bearing the number of the stockpile from which the truck contents were derived as well as the sample identification numbers associated with that stockpile. The total stockpile material delivered on any one sample ID cannot exceed 500 tons. Where the load consists of parts of two piles, the approximate tonnage from each pile will be estimated and indicated on the BOL. The disposal facility checks the BOL paperwork for each and every truckload and compares it with the pre-approved information. Any truck not complying with the above will be rejected at the disposal facility gate, and the truck and its contents will be required to return to Site 9 for appropriate paperwork.

Note: materials going off-site as hazardous waste will be managed via the protocol in the attached SOP for hazardous waste management.

Re-Mobilization

Upon approval from the Navy, OAK will mobilize our subcontractor RC&D, Inc. to implement activities outlined in this LWP as well as remaining activities at the site per the approved Workplan. OAK will provide sufficient notice to the Navy prior to sampling (seven (7) days) and prior to isolation of the HW pile (fourteen (14) days) to allow for coordination with appropriate oversight personnel.

Standard turnaround time (5 to 7 business days) will be used for the proposed sampling, and the analytical results will be provided to the Navy within 4 working hours of receipt by OAK.

Please contact me with any additional information you require or changes that need to be made.

Sincerely,

Bruce Newman
Director of Operations

Attachments

Figure 1 - Site 9, Materials Stockpiled On-site (August 18, 2006)

Figure 2 - Confirmatory Sample Locations, Site 9

Figure 3 - Site 9 Hazardous Waste Pile

Table 1 - Summary of Proposed Sampling

Table 2 - Overview of PQL for Composite VOC Sampling

Attachment 1 - Standard Operating Procedure for Hazardous Waste Management



Attachment 2 - Standard Operating Procedure for ESS Laboratory VOC Analyses
(Methods 8260B and 5035, plus VOC sample compositing procedure)
Attachment 3 - Table C-2 - Detection Limits for Soil/Solid Samples (Revised February
2007 to include Pesticides, Revised April 2007 to remove SSLs)