



**DEPARTMENT OF THE ARMY
BASE REALIGNMENT AND CLOSURE
ATLANTA FIELD OFFICE
BRAC ENVIRONMENTAL COORDINATOR
HAMILTON ARMY AIRFIELD
1 BURMA ROAD
NOVATO, CALIFORNIA 94949**



February 17, 2004

DAIM-BO-A-HA

Subject: Forwarding the *Runway Stockpiles Characterization Report*, Hamilton Army Airfield, Novato, CA.

Ms. Naomi Feger
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Ms. Feger,

The Army BRAC and FUDS programs are pleased to provide the *Runway Stockpiles Characterization Report*, Hamilton Army Airfield, Novato, CA for your review and we request your concurrence with the recommendations in this letter.

This submittal satisfies Task 4 of Board Order No. R2-2003-0076 Site Cleanup Requirements (SCRs) – Hamilton Army Airfield. Under Task 4, the discharger is required to identify the contaminant concentrations within the existing soil stockpiles on the runway, provide a determination whether additional sampling is required, and determine applicable reuse or disposal.

The enclosed document presents the data from the most recent sample collection efforts. In the preparation of this document, the data were compared to the Inboard Area action goals that are listed in the *Main Airfield Parcel Record of Decision/Remedial Action Plan* (ROD/RAP), Hamilton Army Airfield, Novato CA (August 2003). The ROD/RAP action goals were developed to be protective of both human and ecological receptors.

Forty-four (44) of the 87 stockpiles sampled in this effort had no constituents greater than the associated ROD/RAP action goals. Table 2 of the enclosed document identifies these 44 stockpiles. It is recommended that the soil in these 44 stockpiles be reused on site by the Hamilton Wetland Restoration Project (HWRP) with no restrictions.

The remaining 43 stockpiles sampled in this most recent effort had some constituents at levels greater than the associated ROD/RAP action goals. Table 1 of the enclosed document identifies these 43 stockpiles and the exceedances. Since the constituent concentrations in these stockpiles exceeded some ROD/RAP action goals, they also were evaluated using the GSA Phase I Sale Area Residential Cleanup Goals (RCGs). The RCGs were established as being protective for the adjacent residential properties. For constituents that did not have a RCG established, the US EPA preliminary remediation goals (PRGs) for residential exposure were used. Forty of these stockpiles had no constituents greater than the associated RCGs or PRGs, where used. The three remaining stockpiles were represented by one sample which had total DDTs at 0.818 parts per million (ppm). This sample represents stockpiles C12P15, C13P16, and C18P22. This value exceeds the sum of the RCG DDD, DDE, and DDT values, which total 0.50 ppm, however it is lower than the sum of the PRG DDD, DDE, and DDT values, which total 5.8 ppm and is also less than the ROD/RAP action goal of 1.0 ppm for soils requiring excavation and disposal off-site. We believe these soils do not pose a risk to residential receptors. It is recommended the soils in these 43 stockpiles be reused on site by the HWRP in locations where there will be three (3) feet of stable cover and that

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stockpiles C12P15, C13P16 and C18P22 each be sampled with a discrete sample for Total DDTs to confirm the results of the earlier sampling.

Two additional stockpiles were sampled in June 2003 (reported August 2003) by Erler & Kalinowski, Inc. at the direction of the California State Coastal Conservancy. These stockpiles, referred to as the Group C3 Stockpiles, had constituent concentrations that exceeded the ROD/RAP action goals. One out of the 12 samples collected (sample COMP 9) also exceeded the ROD/RAP total DDT action goal of 1.0 ppm thus requiring excavation and disposal off-site. Two out of the remaining 11 samples had total DDT concentrations of 0.573 ppm and 0.976 ppm. These values exceed the previously mentioned RCG sum of 0.50 ppm, however they are lower than the PRG sum of 5.8 ppm and are also less than the ROD/RAP action goal of 1.0 ppm for soils requiring excavation and disposal off-site. The remaining 9 samples had no constituents greater than the associated RCGs or PRGs, where used. It is recommended that the soil represented by sample COMP 9 be separated from the C3 Stockpile, sampled for waste profiling, (per disposal facilities requirements), and disposed of at an appropriate off-site facility. We also recommend resampling of the portion of the pile with DDTs at 0.976 ppm using discrete samples. We believe that the remainder of the C3 Stockpiles do not pose a risk to residential receptors. Therefore, it is further recommended that the remainder of the C3 Stockpiles be reused on-site by the HWRP in locations where there will be three (3) feet of stable cover.

This document is submitted and distributed in accordance with Provision C8 and C9 of the SCRs by submitting one electronic copy and one hard copy to the RWQCB and distributing copies, in electronic format, to Cal EPA/DTSC, the California State Coastal Conservancy, and Novato Public Library.

We request your concurrence by March 2, 2004.

If you have any questions, please contact Ed Keller at (415) 883-6386 or Jim McAlister at (916) 557-7401.

Sincerely,



Edward Keller, P.E.
BRAC Environmental Coordinator
Hamilton Army Airfield



James P. McAlister
Project Manager
BRAC/FUDS Unit USACE Sacramento District

Enclosure

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RUNWAY STOCKPILES

CHARACTERIZATION REPORT

HAMILTON ARMY AIRFIELD
NOVATO, CALIFORNIA

Prepared by:

US Army Corps of Engineers - Sacramento District
Environmental Design Section

Prepared for:

US Army Base Realignment and Closure Office
Hamilton Army Airfield
and
Formerly Used Defense Sites Program
US Army Corps of Engineers – Sacramento District



**US Army Corps
of Engineers ®**



February 2004

RUNWAY STOCKPILES CHARACTERIZATION REPORT

HAMILTON ARMY AIRFIELD

BACKGROUND

Stockpiles from previous remedial activities at Hamilton Army Airfield (HAAF) remain throughout the inboard area. Much of the inboard area is planned for a future wetland and the wetland design must be protective of species anticipated to occupy the wetland. Therefore, sampling of the stockpiles to fill datagaps and determine current levels of contaminants was performed in September and October 2003. The sampling was performed according to the procedures stated in the *Runway Stockpiles Characterization Work Plan, Hamilton Army Airfield*, September 2003.

OBJECTIVE

Previous data was collected from the runway stockpiles in 1995 through 1997. The objective for this Stockpile Characterization is to complete the characterization of the stockpile soils. This information collected is used to determine if the soil from the stockpiles may be left on-site, with restricted or unrestricted reuse, or must be disposed off-site. A brief overview of the sampling strategy included the following assumptions.

- 1) All Stockpile Sets were analyzed for Organochlorine (OC) pesticides and metals, unless previously analyzed for the constituent.
- 2) Representative piles were sampled and analyzed for Total Purgeable Petroleum Hydrocarbons (TPH-P) (including gasoline range organics) in historical concentrations from the Record of Decision/Remedial Action Plan (ROD/RAP) action goal (12 milligrams per kilogram [mg/kg]) to 50 mg/kg [Stockpiles D3 and RCI R1C2]. The results are intended to indicate the concentration decrease for all stockpiles with previous data within this concentration range. These include A5 Bins, Group A3, R60C1, R65C2, and Rows 43&44. In addition, all stockpiles with historical concentrations above 50 mg/kg were sampled [C12P15, C4P5, RCI R1C1].
- 3) Representative piles were sampled and analyzed for Total Extractable Petroleum Hydrocarbons (TPH-E) (including diesel and motor oil range organics) in historical concentrations from the ROD/RAP action goal (144 mg/kg) to 500 mg/kg [A5-4]. The results are intended to indicate the degree of degradation for all piles with previous data in this concentration range. These include A5-2, OSFL-1, Group D3, Group D1, C4P5, Rows

12&13, and Rows 35&36. The one pile with a historical concentration greater than 500 mg/kg was sampled [R29C1].

4) The six stockpiles with previous PAH data above the ROD/RAP action goal were sampled and analyzed for PAHs to assess degradation since the previous data was collected. These were OSFL-1 (stockpile set 3), A5-12, BRAC-2, Group D1, Rows 5&6, and Rows 12&13.

5) Stockpile sets with no previous data were sampled for all constituents of concern-TPH-purgeable, TPH-extractable, PAHs, OC pesticides and metals. These include Groups F3, G3, and H3, combined in Stockpile Set 7, and B99 Overburden.

6) All stockpiles with historical detections of VOCs were sampled for those VOCs, limited to TCE and TCE breakdown products. These include Group C4, Rows 40/41/42, Group D4, Rows 45&46, Group A2, Rows 7/10/11, Group B2, Rows 14-16, Group D2, Rows 37039, Row 32, Row 34, Rows 35&36, Rows 43&44, Rows 47&48, Rows 49&50, Rows 56&57, and LTTD 1.

The attached figure illustrates the analyses performed for each stockpile. Note that all piles were analyzed for organochlorine pesticides and metals, with the exception of the On-Shore Fuel Line, which was previously analyzed for metals. Therefore, the illustrations in the figure do not include analysis for organochlorine pesticides and metals.

In addition, the two C3 piles had been sampled in June 2003 and were not sampled during this event. The results are located in the EKI document *Coastal Conservancy Hamilton Wetlands Restoration Project, Results of Investigation of C3 Stockpiles*, August 2003. The total DDT results from the C3 piles were all greater than the action goal and one of the 12 samples contained Total DDTs greater than 1 mg/kg. Other constituents greater than the action goal in the C3 piles are heptachlor epoxide, Total PAHs, and mercury.

RESULTS

As stated in the WP, these data will be used to determine the disposition of the stockpiles. In this process it is anticipated that the ROD/RAP Inboard Area Action Goals (CH2MHill) will be used as a reference. Therefore, the tables and results discussion are directed at providing information with these action goals in mind.

Table 1 lists the stockpile data that are greater than the associated action goals, including the C3 stockpile data collected previously. Forty-four (44) stockpiles of the 87 sampled during

this sampling event had no constituents greater than the associated action goals. These stockpiles are listed in Table 2. All of the analytical data from this sampling event are listed in Appendix A. Bolded values are greater than the action goals; shaded values are non-detected results where the reporting limit is greater than the action goal. Different stockpiles often had the same results, because some of the composite samples consisted of discrete samples from more than one stockpile. The analytical reports are presented in Appendix B.

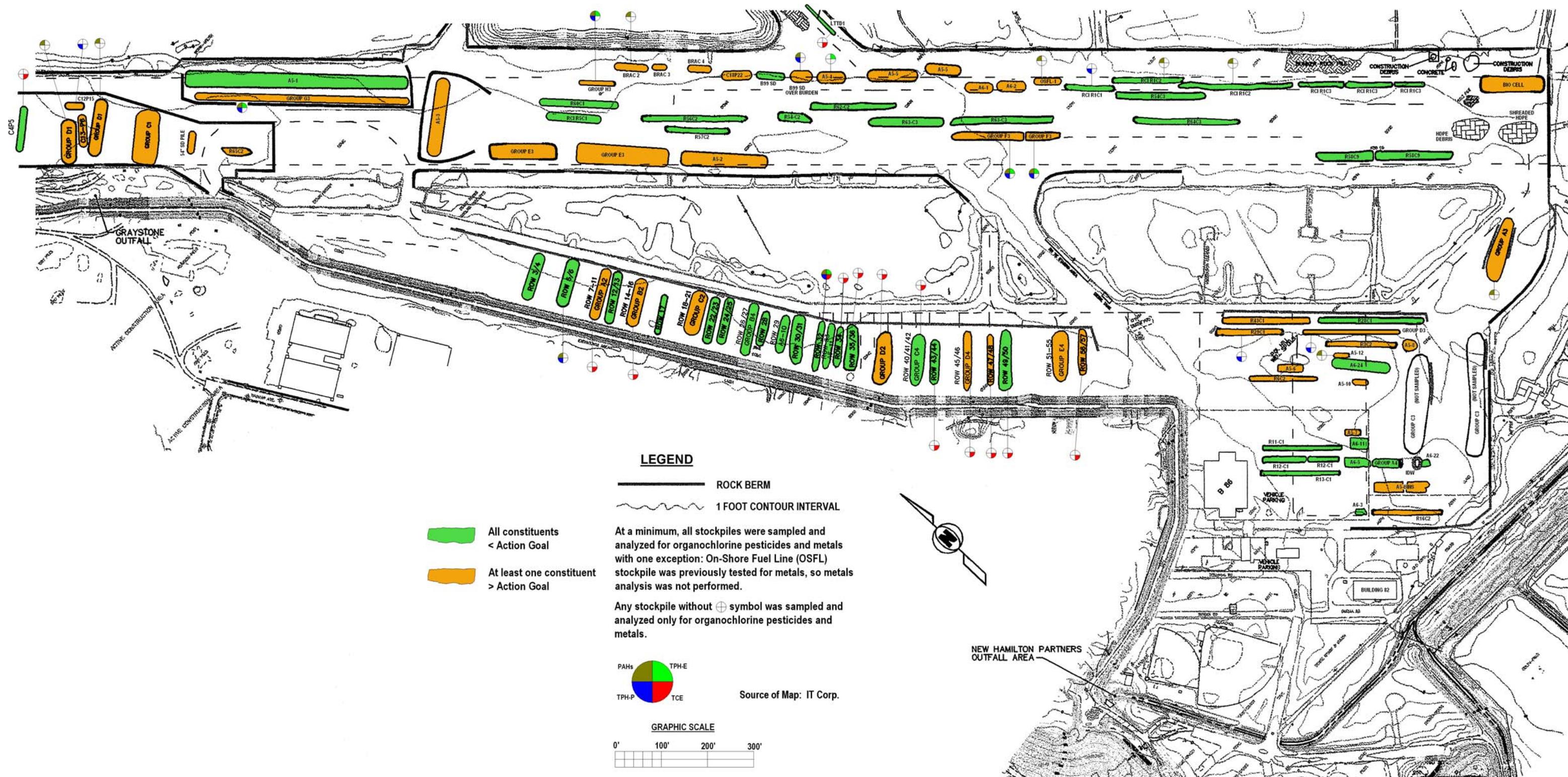
Total PAHs, Total BHCs, Total Chlordanes, and Total DDTs were calculated from the individual analyte concentrations reported by the laboratory. Only detections were summed; where no individual analytes that make up one of the above "Totals" were detected, the totals were reported as "Not Detected" (ND). Summing only detected concentrations is consistent with previous reporting of Total PAHs. Total DDTs has previously included the use of half the reporting limit as the value for non-detects; however, this would bias the result high since the laboratory reports down to the detection limit (below the reporting limit), evident by the data in this dataset. Numerous results were reported below the reporting limits, but above the laboratory detection limits. To determine the reporting limits, refer to the individual analytes. The figure also illustrates the locations of stockpiles with no exceedences.

Curtis and Tompkins, Limited, Berkeley, analyzed the samples collected by US Army Corps of Engineers, Sacramento District, Environmental Design section. Laboratory Data Consultants, Sacramento, reviewed the data for quality and added associated qualifiers to individual results. Some antimony, methoxychlor, and 4,4'-DDT results were rejected due to matrix interference. Matrix interference also affected many organochlorine pesticide analyses, resulting in reporting limits for a few constituents that were greater than the associated ROD/RAP action goal; however, DDD, DDE, and DDT, individually, were below the associated Total DDT action goal. The laboratory performed a cleanup procedure prior to analysis to remove the interferences, but the interfering constituents were not adequately removed; therefore the sample had to be diluted before analysis to maintain quality control criteria. The rejected 4,4'-DDT and methoxychlor results discussed above suggests that even with the dilution, the quality control criteria were still not met for some of the analyses due to matrix interferences.

As is evident from Table 1, the majority of results greater than the associated ROD/RAP action goal were for Total DDTs; however, no Total DDT results were greater than 1.0 mg/kg during this sampling event. Other results are discussed below.

- Eight stockpiles were associated with sample data that exceeded the Total Chlordanes action goal of 0.00479 mg/kg. The results ranged from 0.0091 to 0.096 mg/kg. The stockpiles were 54-inch SD, A5-2, A5-3, A5-4, Group C1, and Group D1 east.
- One composite sample from two stockpiles (Group D3, R2C4 and R2C3) contained lead concentrations above the action goal. The result was 82 mg/kg compared with the 46.7 mg/kg action goal.
- Only the Group C2 stockpile sample exceeded the mercury action goal. The result was 0.67 mg/kg; the action goal was 0.43 mg/kg.
- All TPH-purgeable results were below the action goal, indicating that degradation or volatilization has successfully reduced the concentrations to acceptable levels.
- Results from composite samples from four stockpiles exceeded the TPH-extractable action goal of 144 mg/kg. The results ranged from 150 mg/kg to 300 mg/kg. The four stockpiles are B99 Overburden, Group G3, Group H3 (all three of which had never been sampled before) and A5-4. A5-4 was sampled and analyzed for TPH-Extractable because previous results were above the action goal; four previous samples from this stockpile had TPH-Extractable concentrations that ranged from 210 to 440 mg/kg. The most recent concentration was reported to be 150 mg/kg, indicating some degradation over time, yet still slightly above the action goal for stockpiles with previous data within this concentration range. The sample from R29C1, which historically had a concentration of 670 mg/kg, resulted in degradation to 72 mg/kg, which is half the action goal. Degradation is occurring and most likely will continue to occur; however, some piles need more time to reach the goals. The varying apparent rates of degradation or inconsistent sample results are due to a number of factors, including soil type, complexity of the individual constituents (mass, bonding types, etc.), and heterogeneity of the petroleum within the stockpiles.
- Total PAHs were greater than the action goal for samples from two stockpiles – Group F3, which had never been sampled before, and OSFL-1, which previously had 41 mg/kg total PAHs from 1997 sampling results. The two results ranged from 4.76 to 5.12 mg/kg, compared to the action goal of 4.022 mg/kg.
- No VOCs were detected in any of the samples from soil stockpiles where previous TCE and DCE detections were reported. Reporting limits were similar to those from the previous sampling events; TCE and DCE at previous concentrations up to as much as 30 mg/kg have decreased to below 0.010 mg/kg.

FIGURE



Runway Stockpile Characterization Analyte Map

Hamilton Army Airfield, California

TABLES

Table 1
Stockpiles with Constituents Greater Than Action Goals

| Stockpile | Method | Constituent | Final Result | Result Units | RL | Action Goal |
|-----------------|-----------|--------------------------------------|--------------|--------------|----|-------------|
| 54 inch SD Pile | 8081A | Total Chlordane | 0.0091 | mg/Kg | | 0.00479 |
| A5 Bins | 8081A | Total DDTs | 0.026 | mg/Kg | | 0.024 |
| A5-2 | 8081A | Total Chlordane | 0.017 | mg/Kg | | 0.00479 |
| | | Total Chlordane | 0.0091 | mg/Kg | | 0.00479 |
| A5-3 | 8081A | Total DDTs | 0.0414 | mg/Kg | | 0.024 |
| | | Total DDTs | 0.0242 | mg/Kg | | 0.024 |
| | | Total Chlordane | 0.0091 | mg/Kg | | 0.00479 |
| A5-4 | 8015B DRO | TPH-Extractable, motor oil (C24-C36) | 150 | mg/Kg | 12 | 144 |
| | 8081A | Total Chlordane | 0.017 | mg/Kg | | 0.00479 |
| A5-5 | 8081A | Total DDTs | 0.029 | mg/Kg | | 0.024 |
| A5-6 | 8081A | Total DDTs | 0.029 | mg/Kg | | 0.024 |
| A5-7 | 8081A | Total DDTs | 0.029 | mg/Kg | | 0.024 |
| A5-8 | 8081A | Total DDTs | 0.029 | mg/Kg | | 0.024 |
| A5-10 | 8081A | Total DDTs | 0.026 | mg/Kg | | 0.024 |
| A5-12 | 8081A | Total DDTs | 0.026 | mg/Kg | | 0.024 |
| A6-1 | 8081A | Total DDTs | 0.0311 | mg/Kg | | 0.024 |
| A6-2 | 8081A | Total DDTs | 0.0311 | mg/Kg | | 0.024 |
| B99 overburden | 8015B DRO | TPH-Extractable, motor oil (C24-C36) | 220 | mg/Kg | 11 | 144 |
| Biocell | 8081A | Total DDTs | 0.0306 | mg/Kg | | 0.024 |
| BRAC-2 | 8081A | Total DDTs | 0.027 | mg/Kg | | 0.024 |
| BRAC-3 | 8081A | Total DDTs | 0.027 | mg/Kg | | 0.024 |
| BRAC-4 | 8081A | Total DDTs | 0.0311 | mg/Kg | | 0.024 |
| C12P15 | 8081A | Total DDTs | 0.818 | mg/Kg | | 0.024 |
| C13P16 | 8081A | Total DDTs | 0.818 | mg/Kg | | 0.024 |
| C18P22 | 8081A | Total DDTs | 0.818 | mg/Kg | | 0.024 |
| Group A2 | 8081A | Total DDTs | 0.0784 | mg/Kg | | 0.024 |
| | | Total DDTs | 0.0458 | mg/Kg | | 0.024 |
| Group A3 | 8081A | Total DDTs | 0.0308 | mg/Kg | | 0.024 |

Table 1
Stockpiles with Constituents Greater Than Action Goals

| Stockpile | Method | Constituent | Final Result | Result Units | RL | Action Goal |
|----------------|------------|--------------------------------------|--------------|--------------|-------|-------------|
| Group B2 | 8081A | Total DDTs | 0.0458 | mg/Kg | | 0.024 |
| | | Total DDTs | 0.0296 | mg/Kg | | 0.024 |
| Group C1 | 8081A | Total DDTs | 0.0775 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.0632 | mg/Kg | | 0.024 |
| | 8081A | Total Chlordane | 0.096 | mg/Kg | | 0.00479 |
| | 8081A | Total Chlordane | 0.069 | mg/Kg | | 0.00479 |
| Group C2 | 8081A | Total DDTs | 0.039 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.107 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.045 | mg/Kg | | 0.024 |
| | 7471A | Mercury | 0.67 | mg/Kg | 0.023 | 0.43 |
| Group D1 | 8081A | Total DDTs | 0.0341 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.0355 | mg/Kg | | 0.024 |
| | 8081A | Total Chlordane | 0.0098 | mg/Kg | | 0.00479 |
| | 8081A | Total DDTs | 0.0332 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.0379 | mg/Kg | | 0.024 |
| Group D2 | 8081A | Total DDTs | 0.045 | mg/Kg | | 0.024 |
| Group D3, R2C3 | 6010B | Lead | 82 | mg/Kg | 0.16 | 46.7 |
| Group D3, R2C4 | 6010B | Lead | 82 | mg/Kg | 0.16 | 46.7 |
| Group D4 | 8081A | Total DDTs | 0.0274 | mg/Kg | | 0.024 |
| Group E3 | 8081A | Total DDTs | 0.0298 | mg/Kg | | 0.024 |
| Group E4 | 8081A | Total DDTs | 0.036 | mg/Kg | | 0.024 |
| | 8081A | Total DDTs | 0.0584 | mg/Kg | | 0.024 |
| Group F3 | 8270C, SIM | Total PAHs | 4.758 | mg/kg | | 4.022 |
| Group G3 | 8015B DRO | TPH-Extractable, motor oil (C24-C36) | 200 | mg/Kg | 5.7 | 144 |
| Group H3 | 8015B DRO | TPH-Extractable, motor oil (C24-C36) | 300 | mg/Kg | 11 | 144 |
| OSFL-1 | 8270C, SIM | Total PAHs | 5.1172 | mg/kg | | 4.022 |
| R3C2 | 8081A | Total DDTs | 0.031 | mg/Kg | | 0.024 |
| R16C2 | 8081A | Total DDTs | 0.0292 | mg/Kg | | 0.024 |

Table 1
Stockpiles with Constituents Greater Than Action Goals

| Stockpile | Method | Constituent | Final Result | Result Units | RL | Action Goal |
|------------|--------|-------------|--------------|--------------|----|-------------|
| R29C1 | 8081A | Total DDTs | 0.031 | mg/Kg | | 0.024 |
| R43C1 | 8081A | Total DDTs | 0.031 | mg/Kg | | 0.024 |
| Rows 47&48 | 8081A | Total DDTs | 0.0746 | mg/Kg | | 0.024 |
| Rows 56&57 | 8081A | Total DDTs | 0.0514 | mg/Kg | | 0.024 |

Pile C3 exceedences (Coastal Conservancy Hamilton Wetlands Restoration Project, Results of Investigation of C3 Stockpiles, August 2003, EKI)

| | | | | | | |
|----|-------|--------------------|---------|-------|--|--------|
| C3 | 8081A | Total DDTs | 0.174 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.0631 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.0852 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.110 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.106 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.132 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.0816 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.976 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 1.029 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.573 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.378 | mg/Kg | | 0.024 |
| C3 | 8081A | Total DDTs | 0.155 | mg/Kg | | 0.024 |
| C3 | 8081A | Heptachlor Epoxide | 0.0126 | mg/Kg | | 0.0088 |
| C3 | 8081A | Heptachlor Epoxide | 0.0431 | mg/Kg | | 0.0088 |
| C3 | 8081A | Heptachlor Epoxide | 0.0129 | mg/Kg | | 0.0088 |
| C3 | 8081A | Heptachlor Epoxide | 0.033 | mg/Kg | | 0.0088 |
| C3 | 8081A | Heptachlor Epoxide | 0.00903 | mg/Kg | | 0.0088 |
| C3 | 8081A | Heptachlor Epoxide | 0.0114 | mg/Kg | | 0.0088 |
| C3 | 8270 | Total PAHs | 6.018 | mg/Kg | | 4.022 |
| C3 | 7471 | Mercury | 1.01 | mg/Kg | | 0.43 |

Table 2
Stockpiles with All Constituents Below Action Goals

| | |
|-------------------|------------------|
| A5-1 (BRAC) | R58C9 (GSA) |
| A6-3 (BRAC) | R60C1 (GSA) |
| A6-4 (BRAC) | R62C2 (GSA) |
| A6-5 (BRAC) | R63C3 (GSA) |
| A6-10, R29 (BRAC) | R64C3 (GSA) |
| A6-11, R33 (BRAC) | RCI R1C1 (GSA) |
| A6-24 (BRAC) | RCI R1C2 (GSA) |
| A6-22 (BRAC) | RCI R1C3 (GSA) |
| B99 SD (BRAC) | RCI R5C1 (GSA) |
| C4P5 (GSA) | Rows 3&4 (GSA) |
| Group A4 (BRAC) | Rows 5&6 (GSA) |
| Group B4 (BRAC) | Rows 12&13 (GSA) |
| Group C4 (BRAC) | Row 17 (GSA) |
| LTTD1 (BRAC) | Rows 22&23 (GSA) |
| R11C1 (GSA) | Rows 24&25 (GSA) |
| R12C1 (GSA) | Row 28 (GSA) |
| R13C1 (GSA) | Rows 30&31 (GSA) |
| R28C1 (GSA) | Row 32 (GSA) |
| R54C4 (GSA) | Row 34 (GSA) |
| R54C6 (GSA) | Rows 35&36 (GSA) |
| R56C2 (GSA) | Rows 43&44 (GSA) |
| R57C2 (GSA) | Rows 49&50 (GSA) |

BRAC = Base Realignment and Closure program

GSA = General Services Administration

APPENDIX A

Analytical Results

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | 54 inch SD Pile | A5 Bins | A5-1 | A5-1 | A5-1 | A5-10 |
|---------------------|-----------|---|---------------|---------------|---------------|---------------|---------------|
| | Sample # | HAAF-SP1-2006 | HAAF-SP1-2011 | HAAF-SP1-2002 | HAAF-SP1-2003 | HAAF-SP1-2009 | HAAF-SP1-2011 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0022 J | ND < 0.018 | ND < 0.0037 | 0.0028 J | ND < 0.018 | ND < 0.018 |
| 4,4'-DDE | 8081A | 0.0019 J | ND < 0.018 | ND < 0.0037 | 0.0026 J | ND < 0.018 | ND < 0.018 |
| 4,4'-DDT | 8081A | 0.0091 J- | 0.026 | 0.0054 | 0.011 | ND < 0.018 | 0.026 |
| Total DDTs | 8081A | 0.0132 | 0.026 | 0.0054 | 0.0164 | ND | 0.026 |
| alpha-BHC | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| beta-BHC | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| delta-BHC | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | 0.0048 | ND < 0.0092 | ND < 0.0019 | 0.00082 J | ND < 0.0094 | ND < 0.0092 |
| gamma-Chlordane | 8081A | 0.0043 | ND < 0.0092 | ND < 0.0019 | 0.001 J | ND < 0.0094 | ND < 0.0092 |
| Total Chlordane | 8081A | 0.0091 | ND | ND | 0.00182 | ND | ND |
| Aldrin | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| Dieldrin | 8081A | 0.0014 J | ND < 0.018 | ND < 0.0037 | 0.0022 J | ND < 0.018 | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| Endosulfan II | 8081A | ND < 0.004 | ND < 0.018 | 0.0015 J | ND < 0.0038 | ND < 0.018 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.004 | ND < 0.018 | 0.0016 J | ND < 0.0038 | ND < 0.018 | ND < 0.018 |
| Endrin | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | ND < 0.0038 | ND < 0.018 | ND < 0.018 |
| Endrin aldehyde | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | 0.0026 J | ND < 0.018 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.0021 | ND < 0.0092 | ND < 0.0019 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| Heptachlor epoxide | 8081A | ND < 0.0021 | ND < 0.0092 | 0.0021 | ND < 0.002 | ND < 0.0094 | ND < 0.0092 |
| Methoxychlor | 8081A | ND < 0.021 UJ | 0.022 J | ND < 0.019 | 0.027 | ND < 0.094 | 0.022 J |
| Toxaphene | 8081A | ND < 0.072 | ND < 0.33 | ND < 0.068 | ND < 0.069 | ND < 0.33 | ND < 0.33 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | A5-12 | A5-2 | A5-2 | A5-2 | A5-3 | A5-3 | A5-3 |
|---------------------|-----------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | Sample # | HAAF-SP1-2011 | HAAF-SP1-2006 | HAAF-SP1-2007 | HAAF-SP1-2008 | HAAF-SP1-2003 | HAAF-SP1-2004 | HAAF-SP1-2005 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 4,4'-DDD | 8081A | ND < 0.018 | 0.0022 J | 0.0013 J | ND < 0.018 | 0.0028 J | 0.0081 J | 0.0062 J |
| 4,4'-DDE | 8081A | ND < 0.018 | 0.0019 J | 0.0021 J | ND < 0.018 | 0.0026 J | 0.0063 J | ND < 0.018 |
| 4,4'-DDT | 8081A | 0.026 | 0.0091 J- | 0.0082 J- | 0.0099 J | 0.011 | 0.027 | 0.018 J |
| Total DDTs | 8081A | 0.026 | 0.0132 | 0.0116 | 0.0099 | 0.0164 | 0.0414 | 0.0242 |
| alpha-BHC | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| beta-BHC | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| delta-BHC | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0092 | 0.0048 | 0.001 J | 0.0081 J | 0.00082 J | ND < 0.0096 | ND < 0.0095 |
| gamma-Chlordane | 8081A | ND < 0.0092 | 0.0043 | 0.0014 J | 0.0089 J | 0.001 J | ND < 0.0096 | ND < 0.0095 |
| Total Chlordane | 8081A | ND | 0.0091 | 0.0024 | 0.017 | 0.00182 | ND | ND |
| Aldrin | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| Dieldrin | 8081A | ND < 0.018 | 0.0014 J | 0.002 J | 0.0054 J | 0.0022 J | 0.0044 J | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.004 | ND < 0.0037 | ND < 0.018 | ND < 0.0038 | ND < 0.019 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.004 | ND < 0.0037 | ND < 0.018 | ND < 0.0038 | ND < 0.019 | ND < 0.018 |
| Endrin | 8081A | ND < 0.018 | ND < 0.004 | ND < 0.0037 | ND < 0.018 | ND < 0.0038 | ND < 0.019 | ND < 0.018 |
| Endrin aldehyde | 8081A | ND < 0.018 | ND < 0.004 | ND < 0.0037 | ND < 0.018 | 0.0026 J | ND < 0.019 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| Heptachlor epoxide | 8081A | ND < 0.0092 | ND < 0.0021 | ND < 0.0019 | ND < 0.0094 | ND < 0.002 | ND < 0.0096 | ND < 0.0095 |
| Methoxychlor | 8081A | 0.022 J | ND < 0.021 UJ | ND < 0.019 UJ | 0.02 J | 0.027 | 0.04 J | 0.032 J |
| Toxaphene | 8081A | ND < 0.33 | ND < 0.072 | ND < 0.067 | ND < 0.33 | ND < 0.069 | ND < 0.34 | ND < 0.33 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Analyte | Stockpile | A5-3 | A5-4 | A5-5 | A5-5 | A5-6 | A5-7 | A5-8 |
|---|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Sample # | HAAF-SP1-2006 | HAAF-SP1-2008 | HAAF-SP1-2001 | HAAF-SP1-2010 | HAAF-SP1-2010 | HAAF-SP1-2010 | HAAF-SP1-2010 |
| Results are in mg/kg unless otherwise indicated | | | | | | | | |
| 4,4'-DDD | 8081A | 0.0022 J | ND < 0.018 | ND < 0.0037 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| 4,4'-DDE | 8081A | 0.0019 J | ND < 0.018 | ND < 0.0037 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| 4,4'-DDT | 8081A | 0.0091 J- | 0.0099 J | 0.0086 | 0.029 | 0.029 | 0.029 | 0.029 |
| Total DDTs | 8081A | 0.0132 | 0.0099 | 0.0086 | 0.029 | 0.029 | 0.029 | 0.029 |
| alpha-BHC | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| beta-BHC | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| delta-BHC | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Total BHCs | 8081A | ND |
| alpha-Chlordane | 8081A | 0.0048 | 0.0081 J | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| gamma-Clordane | 8081A | 0.0043 | 0.0089 J | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Total Chlordane | 8081A | 0.0091 | 0.017 | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Dieldrin | 8081A | 0.0014 J | 0.0054 J | 0.002 J | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Endosulfan II | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.004 | ND < 0.018 | ND < 0.0037 | 0.0056 J | 0.0056 J | 0.0056 J | 0.0056 J |
| Heptachlor | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Heptachlor epoxide | 8081A | ND < 0.0021 | ND < 0.0094 | ND < 0.0019 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 | ND < 0.0096 |
| Methoxychlor | 8081A | ND < 0.021 UJ | 0.02 J | 0.015 J | 0.028 J | 0.028 J | 0.028 J | 0.028 J |
| Toxaphene | 8081A | ND < 0.072 | ND < 0.33 | ND < 0.067 | ND < 0.34 | ND < 0.34 | ND < 0.34 | ND < 0.34 |

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Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Analyte | Stockpile | A6-1 | A6-10, R29 | A6-11, R33 | A6-2 | A6-22 | A6-24 | A6-3 |
|---------------------|-----------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | Sample # | HAAF-SP2-2013 | HAAF-SP2-2015 | HAAF-SP2-2015 | HAAF-SP2-2013 | HAAF-SP2-2202 | HAAF-SP2-2203 | HAAF-SP2-2202 |
| | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 4,4'-DDD | 8081A | 0.0022 J | 0.0061 J | 0.0061 J | 0.0022 J | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDE | 8081A | 0.0029 J | ND < 0.02 | ND < 0.02 | 0.0029 J | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDT | 8081A | 0.026 J- | ND < 0.02 UJ | ND < 0.02 UJ | 0.026 J- | 0.021 | ND < 0.018 | 0.021 |
| Total DDTs | 8081A | 0.0311 | 0.0061 | 0.0061 | 0.0311 | 0.021 | ND | 0.021 |
| alpha-BHC | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| beta-BHC | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| delta-BHC | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| gamma-Chlordane | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Dieldrin | 8081A | ND < 0.0037 | ND < 0.02 | ND < 0.02 | ND < 0.0037 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Endosulfan II | 8081A | 0.0052 | ND < 0.02 | ND < 0.02 | 0.0052 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.0037 | ND < 0.02 | ND < 0.02 | ND < 0.0037 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin | 8081A | ND < 0.0037 | ND < 0.02 | ND < 0.02 | ND < 0.0037 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin aldehyde | 8081A | ND < 0.0037 | ND < 0.02 | ND < 0.02 | ND < 0.0037 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.0019 | ND < 0.01 UJ | ND < 0.01 UJ | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Heptachlor epoxide | 8081A | ND < 0.0019 | ND < 0.01 | ND < 0.01 | ND < 0.0019 | ND < 0.0094 | ND < 0.0093 | ND < 0.0094 |
| Methoxychlor | 8081A | ND < 0.019 UJ | ND < 0.1 UJ | ND < 0.1 UJ | ND < 0.019 UJ | ND < 0.094 | ND < 0.093 | ND < 0.094 |
| Toxaphene | 8081A | ND < 0.067 | ND < 0.36 | ND < 0.36 | ND < 0.067 | ND < 0.33 | ND < 0.33 | ND < 0.33 |

Bolded Values are detections that exceed Action Goal.

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | A6-4 | A6-5 | B99 SD | B99 SD | B99 SD Overburden | B99 SD Overburden |
|---------------------|-----------|---|---------------|----------------|----------------|-------------------|-------------------|
| | Sample # | HAAF-SP2-2203 | HAAF-SP2-2203 | HAAF-SP15-2059 | HAAF-SP15-2218 | HAAF-SP15-2059 | HAAF-SP15-2218 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDE | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDT | 8081A | ND < 0.018 | ND < 0.018 | 0.0081 J | 0.011 J | 0.0081 J | 0.011 J |
| Total DDTs | 8081A | ND | ND | 0.0081 | 0.011 | 0.0081 | 0.011 |
| alpha-BHC | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| beta-BHC | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| delta-BHC | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| gamma-Clordane | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Dieldrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin aldehyde | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Heptachlor epoxide | 8081A | ND < 0.0093 | ND < 0.0093 | ND < 0.0094 | ND < 0.0095 | ND < 0.0094 | ND < 0.0095 |
| Methoxychlor | 8081A | ND < 0.093 | ND < 0.093 | ND < 0.094 | ND < 0.095 | ND < 0.094 | ND < 0.095 |
| Toxaphene | 8081A | ND < 0.33 | ND < 0.33 | ND < 0.33 | ND < 0.34 | ND < 0.33 | ND < 0.34 |

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Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Analyte | Stockpile Sample # | Stockpile | Biocell | Biocell | Biocell | BRAC-2 | BRAC-3 | BRAC-4 | C12P15 |
|---------------------|-----------------------|---|----------------|----------------|---------------|---------------|---------------|----------------|--------|
| | | HAAF-SP8-2030 | HAAF-SP8-2031 | HAAF-SP8-2032 | HAAF-SP2-2012 | HAAF-SP2-2012 | HAAF-SP2-2013 | HAAF-SP11-2211 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| 4,4'-DDD | 8081A | ND < 0.019 | 0.0046 J | 0.0075 J | 0.0076 | 0.0076 | 0.0022 J | 0.091 J | |
| 4,4'-DDE | 8081A | ND < 0.019 | ND < 0.018 | 0.0061 J | 0.0044 | 0.0044 | 0.0029 J | 0.037 J | |
| 4,4'-DDT | 8081A | ND < 0.019 UJ | 0.011 J | 0.017 J | 0.015 J- | 0.015 J- | 0.026 J- | 0.69 | |
| Total DDTs | 8081A | ND | 0.0156 | 0.0306 | 0.027 | 0.027 | 0.0311 | 0.818 | |
| alpha-BHC | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| beta-BHC | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| gamma-BHC (Lindane) | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| delta-BHC | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND | ND | |
| alpha-Chlordane | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| gamma-Clordane | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND | ND | |
| Aldrin | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| Dieldrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0037 | ND < 0.0037 | ND < 0.0037 | ND < 0.037 | |
| Endosulfan I | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0037 | ND < 0.0037 | 0.0052 | ND < 0.037 | |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0037 | ND < 0.0037 | ND < 0.0037 | ND < 0.037 | |
| Endrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0037 | ND < 0.0037 | ND < 0.0037 | ND < 0.037 | |
| Endrin aldehyde | 8081A | ND < 0.019 UJ | ND < 0.018 | ND < 0.019 | ND < 0.0037 | ND < 0.0037 | ND < 0.0037 | ND < 0.037 | |
| Heptachlor | 8081A | ND < 0.0097 UJ | ND < 0.0095 UJ | ND < 0.0097 UJ | 0.0011 J | 0.0011 J | ND < 0.0019 | ND < 0.019 | |
| Heptachlor epoxide | 8081A | ND < 0.0097 | ND < 0.0095 | ND < 0.0097 | ND < 0.0019 | ND < 0.0019 | ND < 0.0019 | ND < 0.019 | |
| Methoxychlor | 8081A | 0.097 R | ND < 0.095 UJ | ND < 0.097 UJ | 0.027 J- | 0.027 J- | ND < 0.019 UJ | ND < 0.19 | |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.33 | ND < 0.34 | ND < 0.068 | ND < 0.068 | ND < 0.067 | ND < 0.67 | |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Analyte | Stockpile | C13P16 | C18P22 | C4P5 | Group A2 | Group A2 | Group A3 |
|---------------------|-----------|--------------|----------------|----------------|----------------|----------------|----------------|
| | | Sample # | HAAF-SP11-2211 | HAAF-SP11-2211 | HAAF-SP12-2045 | HAAF-SP13-2046 | HAAF-SP13-2047 |
| 4,4'-DDD | 8081A | 0.091 J | 0.091 J | ND < 0.018 | 0.037 | 0.019 J | 0.0053 J |
| 4,4'-DDE | 8081A | 0.037 J | 0.037 J | ND < 0.018 | 0.0074 J | 0.0068 J | 0.0055 J |
| 4,4'-DDT | 8081A | 0.69 | 0.69 | ND < 0.018 UJ | 0.034 J- | 0.02 J- | 0.02 |
| Total DDTs | 8081A | 0.818 | 0.818 | ND | 0.0784 | 0.0458 | 0.0308 |
| alpha-BHC | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| beta-BHC | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| gamma-BHC (Lindane) | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| delta-BHC | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| gamma-Chlordane | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| Dieldrin | 8081A | ND < 0.037 | ND < 0.037 | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| Endosulfan II | 8081A | ND < 0.037 | ND < 0.037 | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.037 | ND < 0.037 | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 |
| Endrin | 8081A | ND < 0.037 | ND < 0.037 | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 |
| Endrin aldehyde | 8081A | ND < 0.037 | ND < 0.037 | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 UJ | ND < 0.01 UJ | ND < 0.0094 |
| Heptachlor epoxide | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 |
| Methoxychlor | 8081A | ND < 0.19 | ND < 0.19 | ND < 0.095 | 0.099 R | 0.1 R | ND < 0.094 |
| Toxaphene | 8081A | ND < 0.67 | ND < 0.67 | ND < 0.34 | ND < 0.35 | ND < 0.36 | ND < 0.33 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Analyte | Stockpile | Group A3 | Group A4 | Group B2 | Group B2 | Group B4 | Group C1 |
|---------------------|-----------|---|---------------|---------------|----------------|----------------|---------------|
| | | Sample # | HAAF-SP4-2023 | HAAF-SP2-2202 | HAAF-SP13-2047 | HAAF-SP13-2048 | HAAF-SP2-2014 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | ND < 0.018 | ND < 0.018 | 0.019 J | 0.0096 J | ND < 0.019 | 0.01 J |
| 4,4'-DDE | 8081A | ND < 0.018 | ND < 0.018 | 0.0068 J | ND < 0.019 | 0.012 J | 0.0095 J |
| 4,4'-DDT | 8081A | 0.02 J- | 0.021 | 0.02 J- | 0.02 J+ | 0.0057 J | 0.058 |
| Total DDTs | 8081A | 0.02 | 0.021 | 0.0458 | 0.0296 | 0.0177 | 0.0775 |
| alpha-BHC | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| beta-BHC | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| delta-BHC | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | 0.055 |
| gamma-Chlordane | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | 0.041 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | 0.096 |
| Aldrin | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| Dieldrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.02 | ND < 0.019 | ND < 0.019 | 0.0068 J |
| Endosulfan I | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.02 | ND < 0.019 | ND < 0.019 | ND < 0.02 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.02 | ND < 0.019 | ND < 0.019 | ND < 0.02 |
| Endrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.02 | ND < 0.019 | ND < 0.019 | ND < 0.02 |
| Endrin aldehyde | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.02 | ND < 0.019 | ND < 0.019 | ND < 0.02 |
| Heptachlor | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 UJ | ND < 0.0097 | ND < 0.01 UJ | ND < 0.01 |
| Heptachlor epoxide | 8081A | ND < 0.0094 | ND < 0.0094 | ND < 0.01 | ND < 0.0097 | ND < 0.01 | ND < 0.01 |
| Methoxychlor | 8081A | ND < 0.094 | ND < 0.094 | 0.1 R | 0.0086 J | 0.037 J | 0.039 J |
| Toxaphene | 8081A | ND < 0.33 | ND < 0.33 | ND < 0.36 | ND < 0.34 | ND < 0.35 | ND < 0.36 |

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Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Group C1 | Group C2 | Group C2 | Group C2 | Group C4, R40/41/42 | Group C4, R40/41/42 |
|---------------------|-----------|---|----------------|----------------|----------------|---------------------|---------------------|
| | Sample # | HAAF-SP10-2040 | HAAF-SP13-2049 | HAAF-SP13-2212 | HAAF-SP13-2213 | HAAF-SP2-2016 | HAAF-SP2-2017 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0082 J | 0.012 J | 0.019 J | 0.01 J | 0.0042 J | 0.0044 J |
| 4,4'-DDE | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| 4,4'-DDT | 8081A | 0.055 | 0.027 J- | 0.088 J+ | 0.035 J+ | ND < 0.019 UJ | ND < 0.019 UJ |
| Total DDTs | 8081A | 0.0632 | 0.039 | 0.107 | 0.045 | 0.0042 | 0.0044 |
| alpha-BHC | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| beta-BHC | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| delta-BHC | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | 0.043 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| gamma-Clordane | 8081A | 0.026 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| Total Chlordane | 8081A | 0.069 | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| Dieldrin | 8081A | 0.0073 J | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | 0.0048 J | ND < 0.019 | ND < 0.02 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Heptachlor | 8081A | ND < 0.0095 | ND < 0.0099 UJ | ND < 0.01 | ND < 0.01 | ND < 0.01 UJ | ND < 0.0099 |
| Heptachlor epoxide | 8081A | ND < 0.0095 | ND < 0.0099 | ND < 0.01 | ND < 0.01 | ND < 0.01 | ND < 0.0099 |
| Methoxychlor | 8081A | ND < 0.095 | ND < 0.099 UJ | ND < 0.1 | ND < 0.1 | ND < 0.1 UJ | ND < 0.099 UJ |
| Toxaphene | 8081A | ND < 0.33 | ND < 0.35 | ND < 0.36 | ND < 0.36 | ND < 0.35 | ND < 0.35 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Group D1 | Group D1 | Group D1 | Group D1 | Group D2 | Group D2 |
|---------------------|-----------|---|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP11-2041 | HAAF-SP11-2042 | HAAF-SP11-2043 | HAAF-SP11-2044 | HAAF-SP13-2213 | HAAF-SP13-2214 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.008 | 0.0069 | 0.008 | 0.0088 | 0.01 J | 0.012 J |
| 4,4'-DDE | 8081A | 0.0031 J | 0.0046 | 0.0032 J | 0.0051 | ND < 0.02 | ND < 0.02 |
| 4,4'-DDT | 8081A | 0.023 | 0.024 | 0.022 | 0.024 | 0.035 J+ | ND < 0.02 |
| Total DDTs | 8081A | 0.0341 | 0.0355 | 0.0332 | 0.0379 | 0.045 | 0.012 |
| alpha-BHC | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | ND < 0.002 | ND < 0.01 | ND < 0.01 |
| beta-BHC | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | ND < 0.002 | ND < 0.01 | ND < 0.01 |
| gamma-BHC (Lindane) | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | ND < 0.002 | ND < 0.01 | ND < 0.01 |
| delta-BHC | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | 0.0012 J | ND < 0.01 | ND < 0.01 |
| Total BHCs | 8081A | ND | ND | ND | 0.0012 | ND | ND |
| alpha-Chlordane | 8081A | 0.0013 J | 0.0058 | 0.0022 | 0.003 | ND < 0.01 | ND < 0.01 |
| gamma-Chlordane | 8081A | 0.0011 J | 0.004 | 0.0016 J | 0.0017 J | ND < 0.01 | ND < 0.01 |
| Total Chlordane | 8081A | 0.0024 | 0.0098 | 0.0038 | 0.0047 | ND | ND |
| Aldrin | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | 0.0012 J | ND < 0.01 | ND < 0.01 |
| Dieldrin | 8081A | ND < 0.0038 | 0.0019 J | 0.0014 J | 0.0027 J | ND < 0.02 | ND < 0.02 |
| Endosulfan I | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | ND < 0.002 | ND < 0.01 | ND < 0.01 |
| Endosulfan II | 8081A | ND < 0.0038 | ND < 0.0038 | ND < 0.0037 | ND < 0.0038 | ND < 0.02 | ND < 0.02 |
| Endosulfan sulfate | 8081A | ND < 0.0038 | ND < 0.0038 | ND < 0.0037 | ND < 0.0038 | ND < 0.02 | ND < 0.02 |
| Endrin | 8081A | ND < 0.0038 | ND < 0.0038 | ND < 0.0037 | ND < 0.0038 | ND < 0.02 | ND < 0.02 |
| Endrin aldehyde | 8081A | 0.00071 J | 0.0016 J | 0.0017 J | 0.0017 J | ND < 0.02 | ND < 0.02 |
| Heptachlor | 8081A | ND < 0.002 | ND < 0.0019 | ND < 0.0019 | ND < 0.002 | ND < 0.01 | ND < 0.01 |
| Heptachlor epoxide | 8081A | ND < 0.002 | 0.002 | ND < 0.0019 | 0.0015 J | ND < 0.01 | ND < 0.01 |
| Methoxychlor | 8081A | ND < 0.02 | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.1 | 0.006 J |
| Toxaphene | 8081A | ND < 0.069 | ND < 0.069 | ND < 0.066 | ND < 0.07 | ND < 0.36 | ND < 0.36 |

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Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Group D3 | Group D4, R45&46 | Group D4, R45&46 | Group E3 | Group E3 | Group E4, R51-55 |
|---------------------|-----------|---|------------------|------------------|---------------|---------------|------------------|
| | Sample # | HAAF-SP5-2024 | HAAF-SP2-2017 | HAAF-SP2-2018 | HAAF-SP6-2025 | HAAF-SP6-2205 | HAAF-SP2-2019 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | ND < 0.018 | 0.0044 J | 0.0064 J | 0.0058 J | ND < 0.019 | 0.012 J |
| 4,4'-DDE | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | 0.0061 J | 0.005 J |
| 4,4'-DDT | 8081A | ND < 0.018 UJ | ND < 0.019 UJ | 0.021 | 0.024 J | 0.016 J | 0.019 J |
| Total DDTs | 8081A | ND | 0.0044 | 0.0274 | 0.0298 | 0.0221 | 0.036 |
| alpha-BHC | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| beta-BHC | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| delta-BHC | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| gamma-Clordane | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Dieldrin | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.018 | ND < 0.019 | ND < 0.02 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Heptachlor | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Heptachlor epoxide | 8081A | ND < 0.0092 | ND < 0.0099 | ND < 0.01 | ND < 0.0094 | ND < 0.0097 | ND < 0.0097 |
| Methoxychlor | 8081A | ND < 0.092 | ND < 0.099 UJ | ND < 0.1 | ND < 0.094 | 0.033 J | ND < 0.097 UJ |
| Toxaphene | 8081A | ND < 0.33 | ND < 0.35 | ND < 0.36 | ND < 0.33 | ND < 0.34 | ND < 0.34 |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Group E4, R51-55 | Group E4, R51-55 | Group F3 | Group F3 | Group F3 | Group G3 |
|---------------------|-----------|---|------------------|----------------|---------------|---------------|---------------|
| | Sample # | HAAF-SP2-2201 | HAAF-SP2-2202 | HAAF-SP7-2028 | HAAF-SP7-2029 | HAAF-SP7-2206 | HAAF-SP7-2026 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.015 J | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | 0.0026 J |
| 4,4'-DDE | 8081A | 0.0064 J | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | 0.0023 J |
| 4,4'-DDT | 8081A | 0.037 J | 0.021 | ND < 0.019 UJ | ND < 0.018 | 0.011 J | 0.01 |
| Total DDTs | 8081A | 0.0584 | 0.021 | ND | ND | 0.011 | 0.0149 |
| alpha-BHC | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| beta-BHC | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| delta-BHC | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| gamma-Chlordane | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | 0.0011 J |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | 0.0011 |
| Aldrin | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| Dieldrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.0038 |
| Endosulfan I | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.0038 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.0038 |
| Endrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.0038 |
| Endrin aldehyde | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 UJ | ND < 0.018 | ND < 0.018 | 0.0022 J |
| Heptachlor | 8081A | ND < 0.0096 UJ | ND < 0.0094 | ND < 0.0096 UJ | ND < 0.0092 | ND < 0.0091 | ND < 0.0019 |
| Heptachlor epoxide | 8081A | ND < 0.0096 | ND < 0.0094 | ND < 0.0096 | ND < 0.0092 | ND < 0.0091 | 0.002 |
| Methoxychlor | 8081A | ND < 0.096 UJ | ND < 0.094 | 0.096 R | ND < 0.092 | ND < 0.091 | ND < 0.019 |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.33 | ND < 0.34 | ND < 0.32 | ND < 0.32 | ND < 0.069 |

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ND < RL = Not detected above reporting limit

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J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| Stockpile Sample # | Group G3 | Group G3 | Group H3 | LTTD1 | OSFL-1 | R11C1 |
|-----------------------|---------------|---|----------------|----------------|---------------|---------------|
| | HAAF-SP7-2027 | HAAF-SP7-2028 | HAAF-SP7-2207 | HAAF-SP15-2301 | HAAF-SP3-2020 | HAAF-SP9-2033 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | |
| 4,4'-DDD | 8081A | 0.002 J | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDE | 8081A | 0.0018 J | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| 4,4'-DDT | 8081A | 0.005 | ND < 0.019 UJ | ND < 0.018 | ND < 0.018 | ND < 0.018 UJ |
| Total DDTs | 8081A | 0.0088 | ND | ND | ND | ND |
| alpha-BHC | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| beta-BHC | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| delta-BHC | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| gamma-Clordane | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Dieldrin | 8081A | ND < 0.0041 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan I | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Endosulfan II | 8081A | ND < 0.0041 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endosulfan sulfate | 8081A | ND < 0.0041 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin | 8081A | ND < 0.0041 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Endrin aldehyde | 8081A | 0.0017 J | ND < 0.019 UJ | ND < 0.018 | ND < 0.018 | ND < 0.018 |
| Heptachlor | 8081A | ND < 0.0021 | ND < 0.0096 UJ | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Heptachlor epoxide | 8081A | ND < 0.0021 | ND < 0.0096 | ND < 0.0094 | ND < 0.0093 | ND < 0.0092 |
| Methoxychlor | 8081A | ND < 0.021 | 0.096 R | ND < 0.094 | ND < 0.093 | ND < 0.092 |
| Toxaphene | 8081A | ND < 0.075 | ND < 0.34 | ND < 0.33 | ND < 0.33 | ND < 0.32 |
| | | | | | | ND < 0.34 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | R12C1 | R13C1 | R16C2 | R28C1 | R29C1 | R3C2 |
|---------------------|-----------|---|----------------|---------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP9-2033 | HAAF-SP9-2033 | HAAF-SP6-2257 | HAAF-SP9-2035 | HAAF-SP9-2034 | HAAF-SP9-2034 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | ND < 0.018 | ND < 0.018 | 0.0042 J | 0.0093 J | 0.0074 J | 0.0074 J |
| 4,4'-DDE | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.019 | 0.0046 J | 0.0046 J |
| 4,4'-DDT | 8081A | ND < 0.018 UJ | ND < 0.018 UJ | 0.025 | 0.013 J | 0.019 J- | 0.019 J- |
| Total DDTs | 8081A | ND | ND | 0.0292 | 0.0223 | 0.031 | 0.031 |
| alpha-BHC | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| beta-BHC | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| delta-BHC | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| gamma-Clordane | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| Dieldrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| Endosulfan II | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.018 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.018 UJ | ND < 0.018 UJ | ND < 0.018 | ND < 0.019 UJ | ND < 0.019 UJ | ND < 0.019 UJ |
| Heptachlor | 8081A | ND < 0.0095 UJ | ND < 0.0095 UJ | ND < 0.009 | ND < 0.0098 UJ | ND < 0.0095 UJ | ND < 0.0095 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0095 | ND < 0.0095 | ND < 0.009 | ND < 0.0098 | ND < 0.0095 | ND < 0.0095 |
| Methoxychlor | 8081A | 0.095 R | 0.095 R | ND < 0.09 | 0.098 R | 0.095 R | 0.095 R |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.34 | ND < 0.32 | ND < 0.34 | ND < 0.34 | ND < 0.34 |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL = Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | R43C1 | R54C4 | R54C6 | R56C2 | R57C2 | R58C9 |
|---------------------|---------------|---|----------------|----------------|----------------|----------------|----------------|
| Sample # | HAAF-SP9-2034 | HAAF-SP9-2209 | HAAF-SP9-2038 | HAAF-SP9-2210 | HAAF-SP9-2209 | HAAF-SP9-2035 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0074 J | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | 0.0093 J |
| 4,4'-DDE | 8081A | 0.0046 J | ND < 0.019 |
| 4,4'-DDT | 8081A | 0.019 J- | 0.019 R | ND < 0.019 UJ | 0.019 R | 0.019 R | 0.013 J |
| Total DDTs | 8081A | 0.031 | ND | ND | ND | ND | 0.0223 |
| alpha-BHC | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| beta-BHC | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| delta-BHC | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| gamma-Clordane | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| Dieldrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.019 UJ | ND < 0.019 | ND < 0.019 UJ | ND < 0.019 | ND < 0.019 | ND < 0.019 UJ |
| Heptachlor | 8081A | ND < 0.0095 UJ | ND < 0.0098 UJ | ND < 0.0097 UJ | ND < 0.0098 UJ | ND < 0.0098 UJ | ND < 0.0098 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0095 | ND < 0.0098 | ND < 0.0097 | ND < 0.0098 | ND < 0.0098 | ND < 0.0098 |
| Methoxychlor | 8081A | 0.095 R | ND < 0.098 UJ | 0.097 R | ND < 0.098 UJ | ND < 0.098 UJ | 0.098 R |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.34 | ND < 0.34 | ND < 0.34 | ND < 0.34 | ND < 0.34 |

Bolded Values are detections that exceed Action Goal.

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ND < RL = Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | R60C1 | R62C2 | R63C3 | R64C3 | R6C2 | RCI R1C1 |
|---------------------|---------------|---|----------------|---------------|----------------|----------------|----------------|
| Sample # | HAAF-SP9-2210 | HAAF-SP9-2209 | HAAF-SP9-2208 | HAAF-SP9-2036 | HAAF-SP9-2034 | HAAF-SP9-2038 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | 0.0045 J | 0.0074 J | ND < 0.019 |
| 4,4'-DDE | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | 0.0046 J | ND < 0.019 |
| 4,4'-DDT | 8081A | 0.019 R | 0.019 R | 0.0068 J | 0.011 J | 0.019 J- | ND < 0.019 UJ |
| Total DDTs | 8081A | ND | ND | 0.0068 | 0.0155 | 0.031 | ND |
| alpha-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| beta-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| delta-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| gamma-Chlordane | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| Dieldrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.018 | ND < 0.018 | ND < 0.019 UJ | ND < 0.019 UJ |
| Heptachlor | 8081A | ND < 0.0098 UJ | ND < 0.0098 UJ | ND < 0.009 UJ | ND < 0.0093 UJ | ND < 0.0095 UJ | ND < 0.0097 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.009 | ND < 0.0093 | ND < 0.0095 | ND < 0.0097 |
| Methoxychlor | 8081A | ND < 0.098 UJ | ND < 0.098 UJ | ND < 0.09 UJ | ND < 0.093 UJ | 0.095 R | 0.097 R |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.34 | ND < 0.32 | ND < 0.33 | ND < 0.34 | ND < 0.34 |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | RCI R1C2 | RCI R1C3 | RCI R5C1 | Row 17 | Row 28 | Row 32 |
|---------------------|-----------|---|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP9-2037 | HAAF-SP9-2036 | HAAF-SP9-2210 | HAAF-SP14-2052 | HAAF-SP14-2056 | HAAF-SP14-2056 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0048 J | 0.0045 J | ND < 0.019 | 0.0038 | ND < 0.019 | ND < 0.019 |
| 4,4'-DDE | 8081A | 0.0041 J | ND < 0.018 | ND < 0.019 | 0.00095 J | ND < 0.019 | ND < 0.019 |
| 4,4'-DDT | 8081A | 0.014 J | 0.011 J | 0.019 R | 0.016 | 0.019 R | 0.019 R |
| Total DDTs | 8081A | 0.0229 | 0.0155 | ND | 0.02075 | ND | ND |
| alpha-BHC | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| beta-BHC | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| delta-BHC | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| gamma-Clordane | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| Dieldrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.019 | ND < 0.018 | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 |
| Heptachlor | 8081A | ND < 0.0096 UJ | ND < 0.0093 UJ | ND < 0.0098 UJ | ND < 0.002 | ND < 0.0098 UJ | ND < 0.0098 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0096 | ND < 0.0093 | ND < 0.0098 | ND < 0.002 | ND < 0.0098 | ND < 0.0098 |
| Methoxychlor | 8081A | ND < 0.096 | ND < 0.093 UJ | ND < 0.098 UJ | ND < 0.02 | ND < 0.098 UJ | ND < 0.098 UJ |
| Toxaphene | 8081A | ND < 0.34 UJ | ND < 0.33 | ND < 0.34 | ND < 0.069 | ND < 0.35 | ND < 0.35 |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Row 34 | Rows 12&13 | Rows 22&23 | Rows 24&25 | Rows 3&4 | Rows 30&31 |
|---------------------|-----------|---|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP14-2057 | HAAF-SP14-2052 | HAAF-SP14-2053 | HAAF-SP14-2054 | HAAF-SP14-2050 | HAAF-SP14-2055 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0097 J | 0.0038 | 0.0039 J | ND < 0.019 | 0.007 | ND < 0.02 |
| 4,4'-DDE | 8081A | ND < 0.019 | 0.00095 J | ND < 0.019 | ND < 0.019 | 0.0032 J | ND < 0.02 |
| 4,4'-DDT | 8081A | 0.019 R | 0.016 | 0.019 R | 0.019 R | 0.013 | 0.02 R |
| Total DDTs | 8081A | 0.0097 | 0.02075 | 0.0039 | 0.019 | 0.0232 | ND |
| alpha-BHC | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| beta-BHC | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| delta-BHC | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | 0.0018 J | ND < 0.01 |
| gamma-Chlordane | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | 0.0016 J | ND < 0.01 |
| Total Chlordane | 8081A | ND | ND | ND | ND | 0.0034 | ND |
| Aldrin | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| Dieldrin | 8081A | 0.004 J | ND < 0.0038 | ND < 0.019 | ND < 0.019 | ND < 0.0039 | ND < 0.02 |
| Endosulfan I | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 | ND < 0.0039 | ND < 0.02 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 | ND < 0.0039 | ND < 0.02 |
| Endrin | 8081A | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 | ND < 0.0039 | ND < 0.02 |
| Endrin aldehyde | 8081A | ND < 0.019 | ND < 0.0038 | ND < 0.019 | ND < 0.019 | ND < 0.0039 | ND < 0.02 |
| Heptachlor | 8081A | ND < 0.0098 UJ | ND < 0.002 | ND < 0.01 UJ | ND < 0.0097 UJ | ND < 0.002 | ND < 0.01 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0098 | ND < 0.002 | ND < 0.01 | ND < 0.0097 | ND < 0.002 | ND < 0.01 |
| Methoxychlor | 8081A | 0.098 R | ND < 0.02 | 0.1 R | 0.097 R | ND < 0.02 | 0.1 R |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.069 | ND < 0.35 | ND < 0.34 | ND < 0.071 | ND < 0.36 |

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Appendix A
HAAF Runway Stockpile Data
Organochlorine Pesticides

| | Stockpile | Rows 35&36 | Rows 43&44 | Rows 47&48 | Rows 49&50 | Rows 5&6 | Rows 56&57 |
|---------------------|-----------|---|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP14-2057 | HAAF-SP14-2058 | HAAF-SP14-2215 | HAAF-SP14-2216 | HAAF-SP14-2051 | HAAF-SP14-2217 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 4,4'-DDD | 8081A | 0.0097 J | 0.0038 J | 0.025 J+ | 0.0081 J | 0.0059 J | 0.032 |
| 4,4'-DDE | 8081A | ND < 0.019 | ND < 0.019 | 0.0086 J | ND < 0.02 | ND < 0.019 | 0.0074 J |
| 4,4'-DDT | 8081A | 0.019 R | ND < 0.019 | 0.041 J+ | 0.0086 J | 0.012 J | 0.012 J |
| Total DDTs | 8081A | 0.0097 | 0.0038 | 0.0746 | 0.0367 | 0.0179 | 0.0514 |
| alpha-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| beta-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| gamma-BHC (Lindane) | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| delta-BHC | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| Total BHCs | 8081A | ND | ND | ND | ND | ND | ND |
| alpha-Chlordane | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| gamma-Chlordane | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| Total Chlordane | 8081A | ND | ND | ND | ND | ND | ND |
| Aldrin | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| Dieldrin | 8081A | 0.004 J | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endosulfan I | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| Endosulfan II | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endosulfan sulfate | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endrin | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Endrin aldehyde | 8081A | ND < 0.019 | ND < 0.019 | ND < 0.019 | ND < 0.02 | ND < 0.019 | ND < 0.019 |
| Heptachlor | 8081A | ND < 0.0098 UJ | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 UJ |
| Heptachlor epoxide | 8081A | ND < 0.0098 | ND < 0.0098 | ND < 0.0097 | ND < 0.01 | ND < 0.01 | ND < 0.0096 |
| Methoxychlor | 8081A | 0.098 R | 0.0053 J | 0.014 J | 0.0076 J | ND < 0.1 | 0.096 R |
| Toxaphene | 8081A | ND < 0.34 | ND < 0.35 | ND < 0.34 | ND < 0.36 | ND < 0.35 | ND < 0.34 |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | 54 inch SD Pile | A5 Bins | A5-1 | A5-1 | A5-1 | A5-10 | A5-12 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP1-2006 | HAAF-SP1-2011 | HAAF-SP1-2002 | HAAF-SP1-2003 | HAAF-SP1-2009 | HAAF-SP1-2011 | HAAF-SP1-2011 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.27 R | 0.21 J | 0.26 R | 0.27 R | 0.27 R | 0.21 J | 0.21 J | |
| Arsenic | 6010B / 6020 | 5.2 | 3.7 J- | 5.4 | 4.8 | 5 | 3.7 J- | 3.7 J- | |
| Barium | 6010B / 6020 | 130 | 140 | 85 | 97 | 95 | 140 | 140 | |
| Beryllium | 6010B / 6020 | 0.73 | 0.58 | 0.65 | 0.64 | 0.64 | 0.58 | 0.58 | |
| Boron | 6010B | ND < 11 | 6.8 | ND < 12 | ND < 10 | ND < 10 | 6.8 | 6.8 | |
| Cadmium | 6010B / 6020 | ND < 0.27 | 0.37 J- | ND < 0.26 | ND < 0.27 | ND < 0.27 | 0.37 J- | 0.37 J- | |
| Chromium | 6010B / 6020 | 48 | 39 J+ | 50 | 43 | 43 | 39 J+ | 39 J+ | |
| Cobalt | 6010B / 6020 | 9.6 | 6.7 J- | 10 | 8.7 | 9.3 | 6.7 J- | 6.7 J- | |
| Copper | 6010B / 6020 | 18 | 35 J- | 21 | 19 | 19 | 35 J- | 35 J- | |
| Lead | 6010B / 6020 | 20 | 26 | 9.7 | 12 | 15 | 26 | 26 | |
| Manganese | 6010B / 6020 | 340 | 420 | 330 | 320 | 320 | 420 | 420 | |
| Mercury | 7471A | 0.049 | 0.093 | 0.09 | 0.08 | 0.072 | 0.093 | 0.093 | |
| Molybdenum | 6010B / 6020 | ND < 1.1 UJ | 0.54 J | ND < 1 UJ | ND < 1.1 UJ | ND < 1.1 UJ | 0.54 J | 0.54 J | |
| Nickel | 6010B / 6020 | 40 | 30 | 46 | 37 | 39 | 30 | 30 | |
| Selenium | 6010B / 6020 | 0.45 | 0.38 J- | ND < 0.26 | ND < 0.27 | ND < 0.27 | 0.38 J- | 0.38 J- | |
| Silver | 6010B / 6020 | 0.52 | 0.1 J | 0.042 J | 0.033 J | ND < 0.27 | 0.1 J | 0.1 J | |
| Thallium | 6010B / 6020 | ND < 0.27 | ND < 0.23 | 0.97 J- | 1 J- | 0.92 J- | ND < 0.23 | ND < 0.23 | |
| Vanadium | 6010B / 6020 | 48 | 32 | 43 | 40 | 37 | 32 | 32 | |
| Zinc | 6010B / 6020 | 61 | 81 | 56 | 48 | 49 | 81 | 81 | |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | A5-2 | A5-2 | A5-2 | A5-3 | A5-3 | A5-3 | A5-3 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP1-2006 | HAAF-SP1-2007 | HAAF-SP1-2008 | HAAF-SP1-2003 | HAAF-SP1-2004 | HAAF-SP1-2005 | HAAF-SP1-2006 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.27 R | 0.27 R | 0.23 J | 0.27 R | 0.28 R | 0.24 R | 0.27 R | |
| Arsenic | 6010B / 6020 | 5.2 | 4.2 | 3.7 J- | 4.8 | 4.4 | 4.4 | 5.2 | |
| Barium | 6010B / 6020 | 130 | 120 | 130 | 97 | 82 | 90 | 130 | |
| Beryllium | 6010B / 6020 | 0.73 | 0.71 | 0.69 | 0.64 | 0.63 | 0.62 | 0.73 | |
| Boron | 6010B | ND < 11 | ND < 8.8 | 12 | ND < 10 | ND < 11 | ND < 10 | ND < 11 | |
| Cadmium | 6010B / 6020 | ND < 0.27 | 0.17 J | 0.31 J- | ND < 0.27 | ND < 0.28 | ND < 0.24 | ND < 0.27 | |
| Chromium | 6010B / 6020 | 48 | 45 | 40 J+ | 43 | 40 | 41 | 48 | |
| Cobalt | 6010B / 6020 | 9.6 | 8.8 | 7.1 J- | 8.7 | 8.5 | 8.1 | 9.6 | |
| Copper | 6010B / 6020 | 18 | 18 | 17 J- | 19 | 19 | 19 | 18 | |
| Lead | 6010B / 6020 | 20 | 20 | 35 | 12 | 14 | 15 | 20 | |
| Manganese | 6010B / 6020 | 340 | 320 | 350 | 320 | 250 | 250 | 340 | |
| Mercury | 7471A | 0.049 | 0.17 | 0.09 | 0.08 | 0.11 | 0.15 | 0.049 | |
| Molybdenum | 6010B / 6020 | ND < 1.1 UJ | 0.33 J | 0.51 J | ND < 1.1 UJ | ND < 1.1 UJ | ND < 0.96 UJ | ND < 1.1 UJ | |
| Nickel | 6010B / 6020 | 40 | 39 | 34 | 37 | 35 | 35 | 40 | |
| Selenium | 6010B / 6020 | 0.45 | 0.54 | 0.53 J- | ND < 0.27 | ND < 0.28 | ND < 0.24 | 0.45 | |
| Silver | 6010B / 6020 | 0.52 | 0.36 | 0.039 J | 0.033 J | 0.045 J | 0.037 J | 0.52 | |
| Thallium | 6010B / 6020 | ND < 0.27 | ND < 0.27 | ND < 0.25 | 1 J- | 0.59 J- | 0.8 J- | ND < 0.27 | |
| Vanadium | 6010B / 6020 | 48 | 47 | 36 | 40 | 39 | 37 | 48 | |
| Zinc | 6010B / 6020 | 61 | 57 | 45 | 48 | 47 | 47 | 61 | |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | A5-4 | A5-5 | A5-5 | A5-6 | A5-7 | A5-8 | A6-1 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP1-2008 | HAAF-SP1-2001 | HAAF-SP1-2010 | HAAF-SP1-2010 | HAAF-SP1-2010 | HAAF-SP1-2010 | HAAF-SP2-2013 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.23 J | 0.28 R | 0.2 J | 0.2 J | 0.2 J | 0.2 J | 0.26 R | |
| Arsenic | 6010B / 6020 | 3.7 J- | 4.7 | 3.6 J- | 3.6 J- | 3.6 J- | 3.6 J- | 5.4 | |
| Barium | 6010B / 6020 | 130 | 150 | 95 | 95 | 95 | 95 | 130 | |
| Beryllium | 6010B / 6020 | 0.69 | 0.72 | 0.57 | 0.57 | 0.57 | 0.57 | 0.63 | |
| Boron | 6010B | 12 | ND < 9.6 | 6.6 | 6.6 | 6.6 | 6.6 | ND < 14 | |
| Cadmium | 6010B / 6020 | 0.31 J- | ND < 0.28 | 0.25 J- | 0.25 J- | 0.25 J- | 0.25 J- | ND < 0.26 | |
| Chromium | 6010B / 6020 | 40 J+ | 41 | 37 J+ | 37 J+ | 37 J+ | 37 J+ | 62 | |
| Cobalt | 6010B / 6020 | 7.1 J- | 8.7 | 7.2 J- | 7.2 J- | 7.2 J- | 7.2 J- | 9.8 | |
| Copper | 6010B / 6020 | 17 J- | 23 | 16 J- | 16 J- | 16 J- | 16 J- | 21 | |
| Lead | 6010B / 6020 | 35 | 12 | 16 | 16 | 16 | 16 | 13 | |
| Manganese | 6010B / 6020 | 350 | 320 | 370 | 370 | 370 | 370 | 360 | |
| Mercury | 7471A | 0.09 | 0.074 | 0.07 | 0.07 | 0.07 | 0.07 | 0.076 | |
| Molybdenum | 6010B / 6020 | 0.51 J | ND < 1.1 UJ | 0.42 J | 0.42 J | 0.42 J | 0.42 J | ND < 1 UJ | |
| Nickel | 6010B / 6020 | 34 | 38 | 32 | 32 | 32 | 32 | 59 | |
| Selenium | 6010B / 6020 | 0.53 J- | ND < 0.23 UJ | 0.54 J- | 0.54 J- | 0.54 J- | 0.54 J- | 0.54 | |
| Silver | 6010B / 6020 | 0.039 J | ND < 0.28 | 0.07 J | 0.07 J | 0.07 J | 0.07 J | 0.44 | |
| Thallium | 6010B / 6020 | ND < 0.25 | 0.76 J- | ND < 0.24 | ND < 0.24 | ND < 0.24 | ND < 0.24 | ND < 0.26 | |
| Vanadium | 6010B / 6020 | 36 | 37 | 33 | 33 | 33 | 33 | 51 | |
| Zinc | 6010B / 6020 | 45 | 56 | 40 | 40 | 40 | 40 | 68 | |

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J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | A6-10, R29 | A6-11, R33 | A6-2 | A6-22 | A6-24 | A6-3 | A6-4 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP2-2015 | HAAF-SP2-2015 | HAAF-SP2-2013 | HAAF-SP2-2202 | HAAF-SP2-2203 | HAAF-SP2-2202 | HAAF-SP2-2203 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.07 J | 0.07 J | 0.26 R | 0.16 J | 0.07 J | 0.16 J | 0.07 J | |
| Arsenic | 6010B / 6020 | 4.6 | 4.6 | 5.4 | 3.3 J- | 4 J- | 3.3 J- | 4 J- | |
| Barium | 6010B / 6020 | 98 J+ | 98 J+ | 130 | 110 | 110 | 110 | 110 | |
| Beryllium | 6010B / 6020 | 0.63 | 0.63 | 0.63 | 0.65 | 0.65 | 0.65 | 0.65 | |
| Boron | 6010B | 12 | 12 | ND < 14 | 7 J | 8 J | 7 J | 8 J | |
| Cadmium | 6010B / 6020 | 0.3 | 0.3 | ND < 0.26 | 0.18 J | 0.29 J- | 0.18 J | 0.29 J- | |
| Chromium | 6010B / 6020 | 47 J+ | 47 J+ | 62 | 32 | 41 | 32 | 41 | |
| Cobalt | 6010B / 6020 | 10 | 10 | 9.8 | 6.8 J- | 7.4 J- | 6.8 J- | 7.4 J- | |
| Copper | 6010B / 6020 | 21 | 21 | 21 | 15 J- | 17 J- | 15 J- | 17 J- | |
| Lead | 6010B / 6020 | 21 | 21 | 13 | 14 | 14 | 14 | 14 | |
| Manganese | 6010B / 6020 | 490 | 490 | 360 | 360 | 330 | 360 | 330 | |
| Mercury | 7471A | 0.064 | 0.064 | 0.076 | 0.13 | 0.066 | 0.13 | 0.066 | |
| Molybdenum | 6010B / 6020 | 0.31 J | 0.31 J | ND < 1 UJ | 0.33 J | 0.34 J | 0.33 J | 0.34 J | |
| Nickel | 6010B / 6020 | 48 J+ | 48 J+ | 59 | 29 | 37 | 29 | 37 | |
| Selenium | 6010B / 6020 | 0.6 | 0.6 | 0.54 | 0.35 J- | 0.4 J- | 0.35 J- | 0.4 J- | |
| Silver | 6010B / 6020 | 0.046 J | 0.046 J | 0.44 | 0.039 J | 0.04 J | 0.039 J | 0.04 J | |
| Thallium | 6010B / 6020 | ND < 0.26 | ND < 0.26 | ND < 0.26 | 0.16 J | 0.22 J | 0.16 J | 0.22 J | |
| Vanadium | 6010B / 6020 | 41 J+ | 41 J+ | 51 | 31 | 35 | 31 | 35 | |
| Zinc | 6010B / 6020 | 50 J+ | 50 J+ | 68 | 39 J | 43 J | 39 J | 43 J | |

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | A6-5 | B99 SD | B99 SD | B99 SD Overburden | B99 SD Overburden | Biocell | Biocell |
|------------|--------------|---|----------------|----------------|-------------------|-------------------|---------------|---------------|
| | Sample # | HAAF-SP2-2203 | HAAF-SP15-2059 | HAAF-SP15-2218 | HAAF-SP15-2059 | HAAF-SP15-2218 | HAAF-SP8-2030 | HAAF-SP8-2031 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | 0.07 J | 0.072 J | 0.26 R | 0.072 J | 0.26 R | 0.27 R | 0.22 R |
| Arsenic | 6010B / 6020 | 4 J- | 6.4 | 6.8 | 6.4 | 6.8 | 4 J- | 5.3 J- |
| Barium | 6010B / 6020 | 110 | 90 | 83 | 90 | 83 | 65 J- | 75 J- |
| Beryllium | 6010B / 6020 | 0.65 | 0.63 | 0.65 | 0.63 | 0.65 | 0.33 | 0.6 |
| Boron | 6010B | 8 J | 9.4 | 9.3 | 9.4 | 9.3 | 12 | 15 |
| Cadmium | 6010B / 6020 | 0.29 J- | 0.75 | 0.89 | 0.75 | 0.89 | ND < 0.27 | 0.15 J |
| Chromium | 6010B / 6020 | 41 | 53 | 58 | 53 | 58 | 48 J | 64 J |
| Cobalt | 6010B / 6020 | 7.4 J- | 9.3 J- | 11 J- | 9.3 J- | 11 J- | 6.5 | 8.2 |
| Copper | 6010B / 6020 | 17 J- | 23 | 25 | 23 | 25 | 16 J- | 21 J- |
| Lead | 6010B / 6020 | 14 | 26 | 27 | 26 | 27 | 14 | 17 |
| Manganese | 6010B / 6020 | 330 | 300 | 320 | 300 | 320 | 180 | 270 |
| Mercury | 7471A | 0.066 | 0.067 | 0.092 | 0.067 | 0.092 | 0.075 J+ | 0.077 J+ |
| Molybdenum | 6010B / 6020 | 0.34 J | 0.9 J | 0.85 J | 0.9 J | 0.85 J | 0.35 J | 0.3 J |
| Nickel | 6010B / 6020 | 37 | 42 | 49 | 42 | 49 | 41 J+ | 64 J+ |
| Selenium | 6010B / 6020 | 0.4 J- | ND < 0.26 UJ | ND < 0.26 UJ | ND < 0.26 UJ | ND < 0.26 UJ | 0.52 | 0.46 |
| Silver | 6010B / 6020 | 0.04 J | ND < 0.26 | ND < 0.26 | ND < 0.26 | ND < 0.26 | ND < 0.27 UJ | 0.34 J- |
| Thallium | 6010B / 6020 | 0.22 J | ND < 0.26 | 0.2 J | ND < 0.26 | 0.2 J | ND < 0.27 | ND < 0.22 |
| Vanadium | 6010B / 6020 | 35 | 47 | 51 | 47 | 51 | 39 J+ | 50 J+ |
| Zinc | 6010B / 6020 | 43 J | 67 | 74 | 67 | 74 | 56 J+ | 70 J+ |

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Biocell | BRAC-2 | BRAC-3 | BRAC-4 | C12P15 | C13P16 | C18P22 |
|------------|---------------|---|---------------|---------------|----------------|----------------|----------------|-----------|
| Sample # | HAAF-SP8-2032 | HAAF-SP2-2012 | HAAF-SP2-2012 | HAAF-SP2-2013 | HAAF-SP11-2211 | HAAF-SP11-2211 | HAAF-SP11-2211 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | 0.26 R | 0.27 R | 0.27 R | 0.26 R | 0.16 J | 0.16 J | 0.16 J |
| Arsenic | 6010B / 6020 | 4.5 J- | 5 | 5 | 5.4 | 3.9 J- | 3.9 J- | 3.9 J- |
| Barium | 6010B / 6020 | 92 J- | 89 | 89 | 130 | 140 | 140 | 140 |
| Beryllium | 6010B / 6020 | 0.53 | 0.56 | 0.56 | 0.63 | 0.68 | 0.68 | 0.68 |
| Boron | 6010B | 11 | ND < 13 | ND < 13 | ND < 14 | 15 | 15 | 15 |
| Cadmium | 6010B / 6020 | 0.23 J | 0.19 J | 0.19 J | ND < 0.26 | 0.25 J | 0.25 J | 0.25 J |
| Chromium | 6010B / 6020 | 47 J | 58 | 58 | 62 | 44 J+ | 44 J+ | 44 J+ |
| Cobalt | 6010B / 6020 | 6.8 | 9.6 | 9.6 | 9.8 | 9.5 J- | 9.5 J- | 9.5 J- |
| Copper | 6010B / 6020 | 16 J- | 20 | 20 | 21 | 20 J- | 20 J- | 20 J- |
| Lead | 6010B / 6020 | 17 | 24 | 24 | 13 | 21 | 21 | 21 |
| Manganese | 6010B / 6020 | 200 | 380 | 380 | 360 | 400 | 400 | 400 |
| Mercury | 7471A | 0.086 J+ | 0.078 | 0.078 | 0.076 | 0.077 | 0.077 | 0.077 |
| Molybdenum | 6010B / 6020 | 0.44 J | 0.34 J | 0.34 J | ND < 1 UJ | 0.83 J | 0.83 J | 0.83 J |
| Nickel | 6010B / 6020 | 40 J+ | 50 | 50 | 59 | 44 | 44 | 44 |
| Selenium | 6010B / 6020 | 0.4 | 0.41 | 0.41 | 0.54 | 0.43 J- | 0.43 J- | 0.43 J- |
| Silver | 6010B / 6020 | ND < 0.26 UJ | 0.37 | 0.37 | 0.44 | 0.046 J | 0.046 J | 0.046 J |
| Thallium | 6010B / 6020 | ND < 0.26 | ND < 0.27 | ND < 0.27 | ND < 0.26 | ND < 0.28 | ND < 0.28 | ND < 0.28 |
| Vanadium | 6010B / 6020 | 42 J+ | 53 | 53 | 51 | 40 | 40 | 40 |
| Zinc | 6010B / 6020 | 52 J+ | 73 | 73 | 68 | 94 | 94 | 94 |

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J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | C4P5 | Group A2 | Group A2 | Group A3 | Group A3 | Group A4 | Group B2 | |
|------------|--------------|---|----------------|----------------|---------------|---------------|---------------|----------------|--|
| | Sample # | HAAF-SP12-2045 | HAAF-SP13-2046 | HAAF-SP13-2047 | HAAF-SP4-2022 | HAAF-SP4-2023 | HAAF-SP2-2202 | HAAF-SP13-2047 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.27 R | ND < 0.26 | ND < 0.28 | 0.14 J | 0.16 J | 0.16 J | ND < 0.28 | |
| Arsenic | 6010B / 6020 | 7.3 | 5.5 | 5.4 | 3.9 J- | 4.2 J- | 3.3 J- | 5.4 | |
| Barium | 6010B / 6020 | 83 | 69 | 83 | 78 | 90 | 110 | 83 | |
| Beryllium | 6010B / 6020 | 0.66 | 0.49 | 0.57 | 0.5 | 0.58 | 0.65 | 0.57 | |
| Boron | 6010B | 7.7 | ND < 11 | ND < 15 | 13 J | 13 J | 7 J | ND < 15 | |
| Cadmium | 6010B / 6020 | 0.77 | 0.32 | 0.38 | 0.2 J | 0.23 J- | 0.18 J | 0.38 | |
| Chromium | 6010B / 6020 | 54 | 64 | 71 | 39 | 61 | 32 | 71 | |
| Cobalt | 6010B / 6020 | 12 J- | 11 | 11 | 6 J- | 6.6 J- | 6.8 J- | 11 | |
| Copper | 6010B / 6020 | 29 | 23 | 25 | 16 J- | 17 J- | 15 J- | 25 | |
| Lead | 6010B / 6020 | 19 | 16 | 13 | 18 | 18 | 14 | 13 | |
| Manganese | 6010B / 6020 | 450 | 550 | 500 | 250 | 250 | 360 | 500 | |
| Mercury | 7471A | 0.1 | 0.075 | 0.08 | 0.069 | 0.07 | 0.13 | 0.08 | |
| Molybdenum | 6010B / 6020 | 0.6 J | 0.31 J | 0.32 J | 0.58 J | 0.6 J | 0.33 J | 0.32 J | |
| Nickel | 6010B / 6020 | 47 | 66 | 69 | 32 | 35 | 29 | 69 | |
| Selenium | 6010B / 6020 | ND < 0.27 UJ | 0.4 | 0.47 | 0.32 J- | 0.38 J- | 0.35 J- | 0.47 | |
| Silver | 6010B / 6020 | 0.034 J | ND < 0.26 | 0.41 | 0.049 J | 0.044 J | 0.039 J | 0.41 | |
| Thallium | 6010B / 6020 | 0.27 J | ND < 0.26 | ND < 0.28 | ND < 0.23 | 0.13 J | 0.16 J | ND < 0.28 | |
| Vanadium | 6010B / 6020 | 56 | 56 | 60 | 33 | 39 | 31 | 60 | |
| Zinc | 6010B / 6020 | 63 | 75 | 86 | 38 J | 39 J | 39 J | 86 | |

Bolded Values are detections that exceed Action Goal.

Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Group B2 | Group B4 | Group C1 | Group C1 | Group C2 | Group C2 | Group C2 |
|------------|--------------|---|---------------|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP13-2048 | HAAF-SP2-2014 | HAAF-SP10-2039 | HAAF-SP10-2040 | HAAF-SP13-2049 | HAAF-SP13-2212 | HAAF-SP13-2213 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | 0.28 R | 0.28 R | 0.29 R | 0.25 R | 0.28 R | 0.29 R | 0.27 R |
| Arsenic | 6010B / 6020 | 5.4 | 5.7 | 5.6 | 5.3 | 4.9 | 5.8 | 5.6 |
| Barium | 6010B / 6020 | 84 J+ | 88 J+ | 76 | 68 | 61 J+ | 66 J+ | 57 J+ |
| Beryllium | 6010B / 6020 | 0.52 | 0.76 | 0.64 | 0.61 | 0.49 | 0.56 | 0.49 |
| Boron | 6010B | 13 | 13 | 14 | ND < 11 | 12 | 14 | 11 |
| Cadmium | 6010B / 6020 | 0.27 J | 0.25 J | ND < 0.29 | ND < 0.25 | 0.21 J | 0.25 J | 0.19 J |
| Chromium | 6010B / 6020 | 55 J+ | 63 J+ | 47 | 41 | 51 J+ | 55 J+ | 64 J+ |
| Cobalt | 6010B / 6020 | 10 | 11 | 9.6 | 8.5 | 10 | 10 | 11 |
| Copper | 6010B / 6020 | 27 | 23 | 22 | 20 | 22 | 23 | 25 |
| Lead | 6010B / 6020 | 13 | 13 | 19 | 16 | 25 | 42 | 35 |
| Manganese | 6010B / 6020 | 470 | 390 | 280 | 240 | 390 | 420 | 400 |
| Mercury | 7471A | 0.13 | 0.079 | 0.13 | 0.11 | 0.67 | 0.098 | 0.24 |
| Molybdenum | 6010B / 6020 | 0.38 J | 0.44 J | ND < 0.087 UJ | ND < 0.13 UJ | 0.32 J | 0.41 J | 0.31 J |
| Nickel | 6010B / 6020 | 52 J+ | 69 J+ | 40 | 35 | 48 J+ | 54 J+ | 53 J+ |
| Selenium | 6010B / 6020 | 0.52 | 0.76 | ND < 0.29 | ND < 0.25 | 0.53 | 0.59 | 0.55 |
| Silver | 6010B / 6020 | 0.11 J | 0.06 J | 0.069 J | 0.049 J | 0.061 J | 0.067 J | 0.068 J |
| Thallium | 6010B / 6020 | ND < 0.28 | ND < 0.28 | 0.76 J- | 0.73 J- | ND < 0.28 | ND < 0.29 | 0.16 J |
| Vanadium | 6010B / 6020 | 46 J+ | 47 J+ | 47 | 42 | 42 J+ | 46 J+ | 46 J+ |
| Zinc | 6010B / 6020 | 77 J+ | 71 J+ | 51 | 46 | 79 J+ | 82 J+ | 87 J+ |

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ND < RL = Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Group C4, R40/41/42 | Group C4, R40/41/42 | Group D1 | Group D1 | Group D1 | Group D1 | Group D2 |
|------------|--------------|---|---------------------|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP2-2016 | HAAF-SP2-2017 | HAAF-SP11-2041 | HAAF-SP11-2042 | HAAF-SP11-2043 | HAAF-SP11-2044 | HAAF-SP13-2213 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | 0.27 R | 0.26 R | 0.27 R | 0.25 R | 0.25 R | 0.24 R | 0.27 R |
| Arsenic | 6010B / 6020 | 5.1 | 5.3 | 3.5 | 3.5 | 3.6 | 4.2 | 5.6 |
| Barium | 6010B / 6020 | 66 J+ | 46 J+ | 120 J+ | 110 J+ | 110 J+ | 110 J+ | 57 J+ |
| Beryllium | 6010B / 6020 | 0.54 | 0.5 | 0.73 | 0.69 | 0.72 | 0.68 | 0.49 |
| Boron | 6010B | 11 | 15 | ND < 7.3 | ND < 9.1 | ND < 9.3 | ND < 13 | 11 |
| Cadmium | 6010B / 6020 | 0.31 | 0.28 | 0.16 J | 0.22 J | 0.23 J | ND < 0.24 | 0.19 J |
| Chromium | 6010B / 6020 | 62 J+ | 65 J+ | 37 | 38 | 64 | 47 | 64 J+ |
| Cobalt | 6010B / 6020 | 10 | 11 | 8.3 | 8.5 | 10 | 8.7 | 11 |
| Copper | 6010B / 6020 | 22 | 22 | 16 | 16 | 19 | 17 | 25 |
| Lead | 6010B / 6020 | 32 | 16 | 22 | 21 | 24 | 22 | 35 |
| Manganese | 6010B / 6020 | 390 | 480 | 280 | 280 | 330 | 310 | 400 |
| Mercury | 7471A | 0.082 | 0.08 | 0.1 | 0.089 | 0.11 | 0.076 | 0.24 |
| Molybdenum | 6010B / 6020 | 0.32 J | 0.39 J | ND < 1.1 UJ | ND < 0.98 UJ | ND < 1 UJ | 0.51 J | 0.31 J |
| Nickel | 6010B / 6020 | 49 J+ | 67 J+ | 35 J+ | 37 J+ | 81 J+ | 44 J+ | 53 J+ |
| Selenium | 6010B / 6020 | 0.52 | 0.53 | 0.53 | 0.51 | 0.56 | 0.58 | 0.55 |
| Silver | 6010B / 6020 | 0.073 J | 0.056 J | 0.44 | 0.46 | 0.33 | 0.44 | 0.068 J |
| Thallium | 6010B / 6020 | ND < 0.27 | ND < 0.26 | 0.16 J | 0.12 J | ND < 0.25 | ND < 0.24 | 0.16 J |
| Vanadium | 6010B / 6020 | 41 J+ | 44 J+ | 39 | 39 | 47 | 48 | 46 J+ |
| Zinc | 6010B / 6020 | 72 J+ | 73 J+ | 55 | 55 | 68 | 65 | 87 J+ |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Group D2 | Group D3 | Group D4, R45&46 | Group D4, R45&46 | Group E3 | Group E3 | Group E4, R51-55 |
|------------|--------------|---|---------------|------------------|------------------|---------------|---------------|------------------|
| | Sample # | HAAF-SP13-2214 | HAAF-SP5-2024 | HAAF-SP2-2017 | HAAF-SP2-2018 | HAAF-SP6-2025 | HAAF-SP6-2205 | HAAF-SP2-2019 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | 0.085 J | 0.26 R | 0.26 R | 0.084 J | 0.27 R | 0.27 R | 0.26 R |
| Arsenic | 6010B / 6020 | 6.1 | 5 | 5.3 | 6 | 5.7 | 6.4 | 4.7 |
| Barium | 6010B / 6020 | 55 J+ | 170 | 46 J+ | 54 J+ | 73 | 65 | 70 J+ |
| Beryllium | 6010B / 6020 | 0.56 | 0.57 | 0.5 | 0.5 | 0.55 | 0.51 | 0.54 |
| Boron | 6010B | 14 | 6.1 | 15 | 14 | 14 | 17 | 11 |
| Cadmium | 6010B / 6020 | 0.26 J | 0.64 | 0.28 | 0.25 J | ND < 0.27 | ND < 0.27 | 0.21 J |
| Chromium | 6010B / 6020 | 68 J+ | 41 | 65 J+ | 65 J+ | 54 | 55 | 49 J+ |
| Cobalt | 6010B / 6020 | 11 | 9.3 J- | 11 | 11 | 9 | 9.3 | 8.9 |
| Copper | 6010B / 6020 | 26 | 19 | 22 | 24 | 22 | 23 | 20 |
| Lead | 6010B / 6020 | 20 | 82 | 16 | 20 | 23 | 19 | 15 |
| Manganese | 6010B / 6020 | 430 J+ | 320 | 480 | 480 | 230 | 250 | 340 |
| Mercury | 7471A | 0.066 | 0.1 | 0.08 | 0.075 | 0.074 | 0.12 | 0.081 |
| Molybdenum | 6010B / 6020 | 0.38 J | 0.37 J | 0.39 J | 0.4 J | ND < 1.1 UJ | ND < 1.1 UJ | 0.28 J |
| Nickel | 6010B / 6020 | 66 J+ | 35 | 67 J+ | 67 J+ | 45 | 47 | 44 J+ |
| Selenium | 6010B / 6020 | 0.61 | ND < 0.26 | 0.53 | 0.52 | ND < 0.32 | ND < 0.23 UJ | 0.48 |
| Silver | 6010B / 6020 | 0.073 J | ND < 0.26 UJ | 0.056 J | 0.089 J | 0.03 J | 0.072 J | 0.07 J |
| Thallium | 6010B / 6020 | ND < 0.28 | ND < 0.26 | ND < 0.26 | 0.75 | ND < 0.9 UJ | ND < 0.6 UJ | ND < 0.26 |
| Vanadium | 6010B / 6020 | 50 J+ | 35 | 44 J+ | 47 J+ | 45 | 45 | 39 J+ |
| Zinc | 6010B / 6020 | 83 J+ | 77 | 73 J+ | 77 J+ | 54 | 55 | 68 J+ |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

R = rejected result; presence or absence of constituent not known

UJ = not detected; reporting limit may be higher than reported

Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Group E4, R51-55 | Group E4, R51-55 | Group F3 | Group F3 | Group F3 | Group G3 | Group G3 | |
|------------|--------------|---|------------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP2-2201 | HAAF-SP2-2202 | HAAF-SP7-2028 | HAAF-SP7-2029 | HAAF-SP7-2206 | HAAF-SP7-2026 | HAAF-SP7-2027 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.08 J | 0.16 J | 0.26 R | 0.1 J | 0.19 J | 0.27 R | 0.29 R | |
| Arsenic | 6010B / 6020 | 4 | 3.3 J- | 4.6 J- | 3.9 J- | 3.4 J- | 4.9 | 5.9 | |
| Barium | 6010B / 6020 | 63 J+ | 110 | 86 J- | 95 | 120 | 90 J+ | 71 J+ | |
| Beryllium | 6010B / 6020 | 0.5 | 0.65 | 0.67 | 0.57 | 0.61 | 0.55 | 0.57 | |
| Boron | 6010B | 8.9 | 7 J | 15 | 10 | 12 | ND < 13 | 20 | |
| Cadmium | 6010B / 6020 | 0.15 J | 0.18 J | 0.19 J | 0.19 J | 0.17 J | ND < 0.27 | ND < 0.29 | |
| Chromium | 6010B / 6020 | 39 J+ | 32 | 60 J | 41 J+ | 38 J+ | 71 | 74 | |
| Cobalt | 6010B / 6020 | 8.3 | 6.8 J- | 8.6 | 5.8 J- | 5.8 J- | 8.3 | 9.5 | |
| Copper | 6010B / 6020 | 17 | 15 J- | 20 J- | 16 J- | 16 J- | 20 | 23 | |
| Lead | 6010B / 6020 | 13 | 14 | 16 | 17 | 19 | 15 | 16 | |
| Manganese | 6010B / 6020 | 380 | 360 | 260 | 210 | 240 | 260 | 300 | |
| Mercury | 7471A | 0.08 | 0.13 | 0.097 J+ | 0.072 | 0.093 | 0.084 | 0.096 | |
| Molybdenum | 6010B / 6020 | 0.32 J | 0.33 J | 0.41 J | 0.6 J | 0.66 J | ND < 1.1 UJ | ND < 1.1 UJ | |
| Nickel | 6010B / 6020 | 37 J+ | 29 | 51 J+ | 31 | 31 | 63 J+ | 61 J+ | |
| Selenium | 6010B / 6020 | 0.5 | 0.35 J- | 0.51 | 0.31 J- | 0.41 J- | 0.45 | 0.54 | |
| Silver | 6010B / 6020 | 0.046 J | 0.039 J | 0.34 J- | 0.12 J | 0.23 J- | 0.32 | 0.45 | |
| Thallium | 6010B / 6020 | ND < 0.27 | 0.16 J | ND < 0.26 | 0.16 J | 0.11 J | ND < 0.27 | ND < 0.29 | |
| Vanadium | 6010B / 6020 | 33 J+ | 31 | 49 J+ | 35 | 34 | 53 | 63 | |
| Zinc | 6010B / 6020 | 48 J+ | 39 J | 61 J+ | 39 | 39 | 66 | 72 | |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Group G3 | Group H3 | LTTD1 | R11C1 | R12C1 | R13C1 |
|------------|---------------|---|----------------|---------------|---------------|---------------|---------------|
| Sample # | HAAF-SP7-2028 | HAAF-SP7-2207 | HAAF-SP15-2301 | HAAF-SP9-2033 | HAAF-SP9-2033 | HAAF-SP9-2033 | HAAF-SP9-2033 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| Antimony | 6020 | 0.26 R | 0.13 J | 0.26 R | 0.27 R | 0.27 R | 0.27 R |
| Arsenic | 6010B / 6020 | 4.6 J- | 3.4 J- | ND < 4.5 UJ | 6.3 J- | 6.3 J- | 6.3 J- |
| Barium | 6010B / 6020 | 86 J- | 100 | 63 J+ | 54 J- | 54 J- | 54 J- |
| Beryllium | 6010B / 6020 | 0.67 | 0.56 | 0.47 | 0.46 | 0.46 | 0.46 |
| Boron | 6010B | 15 | 9.7 | ND < 9.3 | 16 | 16 | 16 |
| Cadmium | 6010B / 6020 | 0.19 J | 0.26 J- | 0.27 J- | ND < 0.27 | ND < 0.27 | ND < 0.27 |
| Chromium | 6010B / 6020 | 60 J | 38 J+ | 40 J+ | 75 J | 75 J | 75 J |
| Cobalt | 6010B / 6020 | 8.6 | 6.3 J- | 9.6 | 8.6 | 8.6 | 8.6 |
| Copper | 6010B / 6020 | 20 J- | 17 J- | 18 | 23 J- | 23 J- | 23 J- |
| Lead | 6010B / 6020 | 16 | 26 | 20 | 16 | 16 | 16 |
| Manganese | 6010B / 6020 | 260 | 290 | 410 | 260 | 260 | 260 |
| Mercury | 7471A | 0.097 J+ | 0.13 | 0.032 | 0.12 J+ | 0.12 J+ | 0.12 J+ |
| Molybdenum | 6010B / 6020 | 0.41 J | 0.58 J | 0.21 J | 0.5 J | 0.5 J | 0.5 J |
| Nickel | 6010B / 6020 | 51 J+ | 29 | 44 | 58 J+ | 58 J+ | 58 J+ |
| Selenium | 6010B / 6020 | 0.51 | 0.41 J- | 0.46 J- | 0.51 | 0.51 | 0.51 |
| Silver | 6010B / 6020 | 0.34 J- | 0.044 J | 0.045 J | ND < 0.27 UJ | ND < 0.27 UJ | ND < 0.27 UJ |
| Thallium | 6010B / 6020 | ND < 0.26 | ND < 0.24 | 0.45 | ND < 0.27 | ND < 0.27 | ND < 0.27 |
| Vanadium | 6010B / 6020 | 49 J+ | 37 | 31 J+ | 57 J+ | 57 J+ | 57 J+ |
| Zinc | 6010B / 6020 | 61 J+ | 37 | 52 J | 67 J+ | 67 J+ | 67 J+ |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | R16C2 | R28C1 | R29C1 | R3C2 | R43C1 | R54C4 | R54C6 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP6-2257 | HAAF-SP9-2035 | HAAF-SP9-2034 | HAAF-SP9-2034 | HAAF-SP9-2034 | HAAF-SP9-2209 | HAAF-SP9-2038 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.26 R | 0.27 R | 0.27 R | 0.27 R | 0.27 R | 0.27 R | 0.23 R | |
| Arsenic | 6010B / 6020 | 3.9 | 6 J- | 6.3 J- | 6.3 J- | 6.3 J- | 3.5 J- | 6.5 J- | |
| Barium | 6010B / 6020 | 90 | 39 J- | 68 J- | 68 J- | 68 J- | 61 J- | 94 J- | |
| Beryllium | 6010B / 6020 | 0.58 | 0.28 | 0.51 | 0.51 | 0.51 | 0.49 | 0.37 | |
| Boron | 6010B | ND < 3.9 UJ | 19 | 22 | 22 | 22 | 12 | 14 | |
| Cadmium | 6010B / 6020 | ND < 0.26 | 0.23 J | 0.22 J | 0.22 J | 0.22 J | 0.22 J | ND < 0.46 | |
| Chromium | 6010B / 6020 | 22 | 76 J | 75 J | 75 J | 75 J | 47 J | 66 J | |
| Cobalt | 6010B / 6020 | 5.8 | 7.8 | 8.5 | 8.5 | 8.5 | 6.4 | 7.1 | |
| Copper | 6010B / 6020 | 9.8 | 22 J- | 23 J- | 23 J- | 23 J- | 16 J- | 19 J- | |
| Lead | 6010B / 6020 | 17 | 12 | 21 | 21 | 21 | 13 | 15 | |
| Manganese | 6010B / 6020 | 160 | 260 | 260 | 260 | 260 | 200 | 280 | |
| Mercury | 7471A | 0.07 | 0.082 J+ | 0.059 J+ | 0.059 J+ | 0.059 J+ | 0.14 J+ | 0.091 J+ | |
| Molybdenum | 6010B / 6020 | ND < 1 UJ | 0.59 J | 1.2 J | 1.2 J | 1.2 J | 0.31 J | 0.42 J | |
| Nickel | 6010B / 6020 | 23 | 70 J+ | 62 J+ | 62 J+ | 62 J+ | 40 J+ | 49 J+ | |
| Selenium | 6010B / 6020 | ND < 0.26 | 0.17 J | 0.52 | 0.52 | 0.52 | 0.38 | 0.13 J | |
| Silver | 6010B / 6020 | ND < 0.26 | 0.73 J- | 0.3 J- | 0.3 J- | 0.3 J- | 0.33 J- | ND < 0.46 UJ | |
| Thallium | 6010B / 6020 | ND < 0.28 UJ | ND < 0.27 | 0.32 | 0.32 | 0.32 | ND < 0.27 | ND < 0.23 | |
| Vanadium | 6010B / 6020 | 22 | 59 J+ | 63 J+ | 63 J+ | 63 J+ | 39 J+ | 55 J+ | |
| Zinc | 6010B / 6020 | 29 | 71 J+ | 82 J+ | 82 J+ | 82 J+ | 61 J+ | 67 J+ | |

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ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | R56C2 | R57C2 | R58C9 | R60C1 | R62C2 | R63C3 | R64C3 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|---------------|---------------|--|
| | Sample # | HAAF-SP9-2210 | HAAF-SP9-2209 | HAAF-SP9-2035 | HAAF-SP9-2210 | HAAF-SP9-2209 | HAAF-SP9-2208 | HAAF-SP9-2036 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.28 R | 0.27 R | 0.27 R | 0.28 R | 0.27 R | 0.22 R | 0.27 R | |
| Arsenic | 6010B / 6020 | 5.9 J- | 3.5 J- | 6 J- | 5.9 J- | 3.5 J- | 2.4 J- | 4.6 J- | |
| Barium | 6010B / 6020 | 50 J- | 61 J- | 39 J- | 50 J- | 61 J- | 150 J- | 110 J- | |
| Beryllium | 6010B / 6020 | 0.53 | 0.49 | 0.28 | 0.53 | 0.49 | 0.9 | 0.68 | |
| Boron | 6010B | 23 | 12 | 19 | 23 | 12 | ND < 6.8 | 12 | |
| Cadmium | 6010B / 6020 | ND < 0.28 | 0.22 J | 0.23 J | ND < 0.28 | 0.22 J | ND < 0.22 | 0.27 J | |
| Chromium | 6010B / 6020 | 71 J | 47 J | 76 J | 71 J | 47 J | 24 J | 70 J | |
| Cobalt | 6010B / 6020 | 8 | 6.4 | 7.8 | 8 | 6.4 | 5.9 | 9.8 | |
| Copper | 6010B / 6020 | 20 J- | 16 J- | 22 J- | 20 J- | 16 J- | 9 J- | 28 J- | |
| Lead | 6010B / 6020 | 11 | 13 | 12 | 11 | 13 | 11 | 12 | |
| Manganese | 6010B / 6020 | 260 | 200 | 260 | 260 | 200 | 210 | 490 | |
| Mercury | 7471A | 0.11 J+ | 0.14 J+ | 0.082 J+ | 0.11 J+ | 0.14 J+ | 0.11 J+ | 0.093 J+ | |
| Molybdenum | 6010B / 6020 | 0.9 J | 0.31 J | 0.59 J | 0.9 J | 0.31 J | 0.15 J | 0.38 J | |
| Nickel | 6010B / 6020 | 62 J+ | 40 J+ | 70 J+ | 62 J+ | 40 J+ | 22 J+ | 64 J+ | |
| Selenium | 6010B / 6020 | 0.4 | 0.38 | 0.17 J | 0.4 | 0.38 | 0.52 | 0.43 | |
| Silver | 6010B / 6020 | ND < 0.28 UJ | 0.33 J- | 0.73 J- | ND < 0.28 UJ | 0.33 J- | ND < 0.22 UJ | ND < 0.27 UJ | |
| Thallium | 6010B / 6020 | ND < 0.28 | ND < 0.27 | ND < 0.27 | ND < 0.28 | ND < 0.27 | ND < 0.22 | ND < 0.27 | |
| Vanadium | 6010B / 6020 | 59 J+ | 39 J+ | 59 J+ | 59 J+ | 39 J+ | 31 J+ | 50 J+ | |
| Zinc | 6010B / 6020 | 68 J+ | 61 J+ | 71 J+ | 68 J+ | 61 J+ | 36 J+ | 61 J+ | |

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Shaded Values are reporting limits for undetected results that exceed the Action Goal.

ND < RL= Not detected above reporting limit

J = estimated value

J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | R6C2 | RCI R1C1 | RCI R1C2 | RCI R1C3 | RCI R5C1 | Row 17 | Row 28 | |
|------------|--------------|---|---------------|---------------|---------------|---------------|----------------|----------------|--|
| | Sample # | HAAF-SP9-2034 | HAAF-SP9-2038 | HAAF-SP9-2037 | HAAF-SP9-2036 | HAAF-SP9-2210 | HAAF-SP14-2052 | HAAF-SP14-2056 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | | |
| Antimony | 6020 | 0.27 R | 0.23 R | 0.23 R | 0.27 R | 0.28 R | 0.28 R | ND < 0.28 | |
| Arsenic | 6010B / 6020 | 6.3 J- | 6.5 J- | 5.2 J- | 4.6 J- | 5.9 J- | 6.1 | 5.6 | |
| Barium | 6010B / 6020 | 68 J- | 94 J- | 70 J- | 110 J- | 50 J- | 68 J+ | 77 | |
| Beryllium | 6010B / 6020 | 0.51 | 0.37 | 0.48 | 0.68 | 0.53 | 0.57 | 0.64 | |
| Boron | 6010B | 22 | 14 | 16 | 12 | 23 | ND < 14 | ND < 14 | |
| Cadmium | 6010B / 6020 | 0.22 J | ND < 0.46 | 0.22 J | 0.27 J | ND < 0.28 | 0.44 | 0.23 J | |
| Chromium | 6010B / 6020 | 75 J | 66 J | 73 J | 70 J | 71 J | 70 | 70 | |
| Cobalt | 6010B / 6020 | 8.5 | 7.1 | 8.8 | 9.8 | 8 | 11 | 13 | |
| Copper | 6010B / 6020 | 23 J- | 19 J- | 24 J- | 28 J- | 20 J- | 25 | 22 | |
| Lead | 6010B / 6020 | 21 | 15 | 17 | 12 | 11 | 41 | 13 | |
| Manganese | 6010B / 6020 | 260 | 280 | 340 | 490 | 260 | 350 | 480 | |
| Mercury | 7471A | 0.059 J+ | 0.091 J+ | 0.027 J+ | 0.093 J+ | 0.11 J+ | 0.16 | 0.054 | |
| Molybdenum | 6010B / 6020 | 1.2 J | 0.42 J | 0.36 J | 0.38 J | 0.9 J | 0.32 J | 0.3 J | |
| Nickel | 6010B / 6020 | 62 J+ | 49 J+ | 63 J+ | 64 J+ | 62 J+ | 63 J+ | 65 | |
| Selenium | 6010B / 6020 | 0.52 | 0.13 J | 0.56 | 0.43 | 0.4 | 0.52 | 0.51 | |
| Silver | 6010B / 6020 | 0.3 J- | ND < 0.46 UJ | 0.31 | ND < 0.27 | ND < 0.28 UJ | 0.38 | ND < 0.28 | |
| Thallium | 6010B / 6020 | 0.32 | ND < 0.23 | 0.28 | ND < 0.27 | ND < 0.28 | ND < 0.28 | ND < 0.28 | |
| Vanadium | 6010B / 6020 | 63 J+ | 55 J+ | 56 J+ | 50 J+ | 59 J+ | 57 | 57 | |
| Zinc | 6010B / 6020 | 82 J+ | 67 J+ | 74 J+ | 61 J+ | 68 J+ | 76 | 77 | |

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ND < RL= Not detected above reporting limit

J = estimated value

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Row 32 | Row 34 | Rows 12&13 | Rows 22&23 | Rows 24&25 | Rows 3&4 | Rows 30&31 |
|------------|--------------|---|----------------|----------------|----------------|----------------|----------------|----------------|
| | Sample # | HAAF-SP14-2056 | HAAF-SP14-2057 | HAAF-SP14-2052 | HAAF-SP14-2053 | HAAF-SP14-2054 | HAAF-SP14-2050 | HAAF-SP14-2055 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | ND < 0.28 | ND < 0.26 | 0.28 R | 0.27 R | 0.26 R | 0.26 R | ND < 0.26 |
| Arsenic | 6010B / 6020 | 5.6 | 5.5 | 6.1 | 4.5 | 4.8 | 6.2 | 4.9 |
| Barium | 6010B / 6020 | 77 | 72 | 68 J+ | 90 J+ | 100 J+ | 59 J+ | 76 |
| Beryllium | 6010B / 6020 | 0.64 | 0.54 | 0.57 | 0.6 | 0.7 | 0.58 | 0.59 |
| Boron | 6010B | ND < 14 | ND < 13 | ND < 14 | 13 | 12 | ND < 13 | ND < 15 |
| Cadmium | 6010B / 6020 | 0.23 J | 0.26 J | 0.44 | 0.21 J | 0.23 J | 0.17 J | 0.31 |
| Chromium | 6010B / 6020 | 70 | 71 | 70 | 50 J+ | 53 J+ | 66 | 68 |
| Cobalt | 6010B / 6020 | 13 | 9.7 | 11 | 11 | 11 | 10 | 12 |
| Copper | 6010B / 6020 | 22 | 24 | 25 | 20 | 21 | 23 | 22 |
| Lead | 6010B / 6020 | 13 | 16 | 41 | 15 | 14 | 21 | 10 |
| Manganese | 6010B / 6020 | 480 | 390 | 350 | 420 | 430 J+ | 360 | 590 |
| Mercury | 7471A | 0.054 | 0.23 | 0.16 | 0.11 | 0.1 | 0.068 | 0.084 |
| Molybdenum | 6010B / 6020 | 0.3 J | 0.29 J | 0.32 J | 0.36 J | 0.37 J | ND < 1 UJ | 0.31 J |
| Nickel | 6010B / 6020 | 65 | 67 | 63 J+ | 49 J+ | 51 J+ | 59 J+ | 71 |
| Selenium | 6010B / 6020 | 0.51 | 0.5 | 0.52 | 0.48 | 0.64 | 0.55 | 0.52 |
| Silver | 6010B / 6020 | ND < 0.28 | 0.33 | 0.38 | 0.039 J | 0.069 J | 0.45 | 0.26 J |
| Thallium | 6010B / 6020 | ND < 0.28 | ND < 0.26 | ND < 0.28 | ND < 0.27 | ND < 0.26 | 0.29 | ND < 0.26 |
| Vanadium | 6010B / 6020 | 57 | 61 | 57 | 41 J+ | 43 J+ | 57 | 57 |
| Zinc | 6010B / 6020 | 77 | 78 | 76 | 53 J+ | 80 J+ | 73 | 75 |

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J = estimated value

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J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Metals

| | Stockpile | Rows 35&36 | Rows 43&44 | Rows 47&48 | Rows 49&50 | Rows 5&6 | Rows 56&57 | |
|------------|--------------|---|----------------|----------------|----------------|----------------|----------------|--|
| | Sample # | HAAF-SP14-2057 | HAAF-SP14-2058 | HAAF-SP14-2215 | HAAF-SP14-2216 | HAAF-SP14-2051 | HAAF-SP14-2217 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| Antimony | 6020 | ND < 0.26 | ND < 0.27 | 0.074 J | 0.28 R | 0.27 R | 0.066 J | |
| Arsenic | 6010B / 6020 | 5.5 | 5.8 | 5.8 | 6.5 | 5.9 | 5.8 | |
| Barium | 6010B / 6020 | 72 | 49 | 48 J+ | 55 J+ | 76 J+ | 52 J+ | |
| Beryllium | 6010B / 6020 | 0.54 | 0.51 | 0.51 | 0.54 | 0.55 | 0.59 | |
| Boron | 6010B | ND < 13 | ND < 13 | 13 | 14 | ND < 13 | 13 | |
| Cadmium | 6010B / 6020 | 0.26 J | 0.44 | 0.32 | 0.23 J | 0.17 J | 0.26 | |
| Chromium | 6010B / 6020 | 71 | 70 | 56 J+ | 61 J+ | 65 | 65 J+ | |
| Cobalt | 6010B / 6020 | 9.7 | 12 | 14 | 11 | 12 | 9.9 | |
| Copper | 6010B / 6020 | 24 | 21 | 24 | 24 | 24 | 24 | |
| Lead | 6010B / 6020 | 16 | 13 | 32 | 18 | 15 | 24 | |
| Manganese | 6010B / 6020 | 390 | 410 | 690 | 380 J+ | 460 | 310 | |
| Mercury | 7471A | 0.23 | 0.072 | 0.11 | 0.26 | 0.064 | 0.097 | |
| Molybdenum | 6010B / 6020 | 0.29 J | 0.24 J | 0.36 J | 0.37 J | ND < 1.1 UJ | 0.41 J | |
| Nickel | 6010B / 6020 | 67 | 66 | 65 J+ | 55 J+ | 58 J+ | 63 J+ | |
| Selenium | 6010B / 6020 | 0.5 | 0.42 | 0.55 | 0.48 | 0.52 | 0.52 | |
| Silver | 6010B / 6020 | 0.33 | ND < 0.27 | 0.1 J | 0.055 J | 0.35 | 0.067 J | |
| Thallium | 6010B / 6020 | ND < 0.26 | ND < 0.27 | 0.15 J | ND < 0.28 | 0.19 J | ND < 0.22 | |
| Vanadium | 6010B / 6020 | 61 | 56 | 45 J+ | 50 J+ | 56 | 45 J+ | |
| Zinc | 6010B / 6020 | 78 | 74 | 78 J+ | 72 J+ | 76 | 79 J+ | |

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J- = estimated value biased low

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Appendix A
HAAF Runway Stockpile Data
Polynuclear Aromatic Hydrocarbons

| | Stockpile | A5-12 | A5-12 | A5-12 | A5-12 | A5-12 | B99 SD Overburden | BRAC-2 |
|------------------------|------------|---|----------------|----------------|----------------|----------------|-------------------|-----------------|
| | Sample # | HAAF-A512-2071 | HAAF-A512-2072 | HAAF-A512-2073 | HAAF-A512-2074 | HAAF-A512-2075 | HAAF-B990-2220 | HAAF-BRAC2-2076 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 2-Methylnaphthalene | 8270C, SIM | ND < 0.0055 | 0.0033 J | 0.0063 | 0.0052 J | 0.0038 J | ND < 0.0054 | ND < 0.0055 |
| Acenaphthene | 8270C, SIM | ND < 0.0055 | 0.0041 J | 0.0069 | 0.0035 J | ND < 0.0053 | 0.011 | ND < 0.0055 |
| Acenaphthylene | 8270C, SIM | ND < 0.0055 | 0.0023 J | ND < 0.0054 UJ | 0.004 J | 0.0017 J | 0.0027 J | ND < 0.0055 |
| Anthracene | 8270C, SIM | 0.0058 | 0.01 J- | 0.014 | 0.012 | 0.0071 | 0.015 | 0.0075 |
| Benzo(a)anthracene | 8270C, SIM | 0.012 | 0.016 J | 0.022 | 0.046 | 0.082 | 0.05 | 0.039 |
| Benzo(a)pyrene | 8270C, SIM | 0.016 | 0.027 J | 0.035 | 0.061 | 0.066 | 0.046 | 0.039 |
| Benzo(b)fluoranthene | 8270C, SIM | 0.024 | 0.038 J | 0.058 | 0.12 | 0.12 | 0.12 | 0.047 |
| Benzo(g,h,i)perylene | 8270C, SIM | 0.021 | 0.019 J | 0.036 | 0.092 | 0.035 | 0.05 | 0.024 |
| Benzo(k)fluoranthene | 8270C, SIM | 0.02 | 0.029 J | 0.035 | 0.07 | 0.1 | 0.027 | 0.026 |
| Chrysene | 8270C, SIM | 0.022 | 0.032 J | 0.04 | 0.074 | 0.1 | 0.061 | 0.042 |
| Dibenz(a,h)anthracene | 8270C, SIM | 0.005 J | ND < 0.0054 UJ | 0.012 | 0.021 | 0.013 | 0.0099 | 0.0093 |
| Fluoranthene | 8270C, SIM | 0.0096 | 0.039 J | 0.024 | 0.061 | 0.089 | 0.11 | 0.057 |
| Fluorene | 8270C, SIM | 0.0021 J | 0.0067 | 0.0086 | 0.0033 J | 0.0016 J | 0.013 | 0.0022 J |
| Indeno(1,2,3-cd)pyrene | 8270C, SIM | 0.017 | ND < 0.0054 UJ | 0.03 | 0.077 | 0.038 | 0.037 | 0.02 |
| Naphthalene | 8270C, SIM | 0.0036 J | 0.0035 J | 0.0057 | 0.0065 | 0.003 J | 0.0026 J | ND < 0.0055 |
| Phenanthrene | 8270C, SIM | 0.0093 | 0.05 J | 0.031 | 0.031 | 0.016 | 0.12 | 0.021 |
| Pyrene | 8270C, SIM | 0.014 | 0.027 J | 0.028 | 0.071 | 0.13 | 0.14 | 0.049 |
| Total PAHs | 8270C, SIM | 0.1814 | 0.3069 | 0.3925 | 0.7585 | 0.8062 | 0.8152 | 0.383 |

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Appendix A
HAAF Runway Stockpile Data
Polynuclear Aromatic Hydrocarbons

| | Stockpile | BRAC-2 | Group A3 | Group A3 | Group D1 | Group D1 | Group D1 | Group D1 |
|------------------------|------------|---|----------------|----------------|--------------|--------------|--------------|--------------|
| | Sample # | HAAF-BRAC2-2077 | HAAF-SP4-2021 | HAAF-SP4-2204 | HAAF-D1-2078 | HAAF-D1-2079 | HAAF-D1-2080 | HAAF-D1-2081 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 2-Methylnaphthalene | 8270C, SIM | ND < 0.0057 | 0.0046 J | 0.004 J | ND < 0.0054 | ND < 0.0055 | ND < 0.0055 | ND < 0.0053 |
| Acenaphthene | 8270C, SIM | ND < 0.0057 | 0.0051 J | 0.0098 | 0.0029 J | 0.014 | ND < 0.0055 | 0.0056 |
| Acenaphthylene | 8270C, SIM | 0.0049 J | ND < 0.0057 UJ | ND < 0.0055 UJ | 0.0088 J+ | 0.0027 J | 0.0023 J | 0.0029 J |
| Anthracene | 8270C, SIM | 0.011 | 0.014 | 0.016 | 0.014 | 0.053 | 0.0059 | 0.029 |
| Benzo(a)anthracene | 8270C, SIM | 0.054 | 0.079 | 0.045 | 0.13 | 0.18 | 0.05 | 0.13 |
| Benzo(a)pyrene | 8270C, SIM | 0.072 | 0.047 | 0.025 | 0.066 | 0.095 | 0.038 | 0.081 |
| Benzo(b)fluoranthene | 8270C, SIM | 0.14 | 0.11 | 0.081 | 0.11 | 0.16 | 0.063 | 0.12 |
| Benzo(g,h,i)perylene | 8270C, SIM | 0.069 | 0.021 | 0.013 | 0.028 | 0.036 | 0.017 | 0.05 |
| Benzo(k)fluoranthene | 8270C, SIM | 0.052 | 0.073 | 0.038 | 0.046 | 0.11 | 0.023 | 0.044 |
| Chrysene | 8270C, SIM | 0.079 | 0.13 | 0.07 | 0.12 | 0.18 | 0.052 | 0.14 |
| Dibenz(a,h)anthracene | 8270C, SIM | 0.02 | 0.0086 | 0.0067 | 0.011 | 0.017 | 0.0079 | 0.016 |
| Fluoranthene | 8270C, SIM | 0.067 | 0.12 | 0.11 | 0.14 | 0.23 | 0.056 | 0.14 |
| Fluorene | 8270C, SIM | 0.0022 J | 0.0034 J | 0.011 | 0.0028 J | 0.016 | 0.0012 J | 0.0034 J |
| Indeno(1,2,3-cd)pyrene | 8270C, SIM | 0.065 | 0.02 | 0.014 | 0.027 | 0.032 | 0.017 | 0.04 |
| Naphthalene | 8270C, SIM | ND < 0.0057 | 0.0028 J | 0.0025 J | 0.0018 J | 0.0037 J | 0.002 J | 0.0014 J |
| Phenanthrene | 8270C, SIM | 0.024 | 0.045 | 0.089 | 0.039 | 0.19 | 0.02 | 0.085 |
| Pyrene | 8270C, SIM | 0.061 | 0.19 | 0.18 | 0.18 | 0.33 | 0.078 | 0.3 |
| Total PAHs | 8270C, SIM | 0.7211 | 0.8735 | 0.715 | 0.9273 | 1.6494 | 0.4333 | 1.1883 |

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J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Polynuclear Aromatic Hydrocarbons

| | Stockpile | Group D1 | Group D1 | Group D1 | Group D1 | Group F3 | Group F3 | Group G3 |
|------------------------|--------------|---|--------------|--------------|---------------|---------------|---------------|----------|
| Sample # | HAAF-D1-2082 | HAAF-D1-2083 | HAAF-D1-2084 | HAAF-D1-2085 | HAAF-SP7-2029 | HAAF-SP7-2206 | HAAF-SP7-2026 | |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 2-Methylnaphthalene | 8270C, SIM | ND < 0.0056 | ND < 0.0054 | 0.064 | ND < 0.0053 | ND < 0.027 | ND < 0.0054 | 0.0036 J |
| Acenaphthene | 8270C, SIM | 0.0022 J | 0.0056 | 0.078 | ND < 0.0053 | 0.017 J | ND < 0.0054 | 0.0021 J |
| Acenaphthylene | 8270C, SIM | 0.0025 J | 0.0024 J | 0.0054 J | ND < 0.0053 | ND < 0.027 | ND < 0.0054 | 0.0013 J |
| Anthracene | 8270C, SIM | 0.071 | 0.023 | 0.13 | 0.0054 | 0.082 J- | 0.0081 | 0.012 |
| Benzo(a)anthracene | 8270C, SIM | 0.15 | 0.1 | 0.29 | 0.086 | 0.54 | 0.013 | 0.11 |
| Benzo(a)pyrene | 8270C, SIM | 0.086 | 0.11 | 0.18 | 0.066 | 0.31 | 0.011 | 0.061 |
| Benzo(b)fluoranthene | 8270C, SIM | 0.14 | 0.15 | 0.2 | 0.11 | 0.43 | 0.025 | 0.11 |
| Benzo(g,h,i)perylene | 8270C, SIM | 0.027 | 0.031 | 0.066 | 0.029 | 0.077 J | 0.0056 | 0.027 |
| Benzo(k)fluoranthene | 8270C, SIM | 0.08 | 0.074 | 0.094 | 0.042 | 0.29 | 0.015 | 0.043 |
| Chrysene | 8270C, SIM | 0.15 | 0.11 | 0.25 | 0.079 | 0.5 | 0.019 | 0.099 |
| Dibenz(a,h)anthracene | 8270C, SIM | ND < 0.0056 | ND < 0.0054 | 0.033 | 0.012 | 0.055 J- | ND < 0.0054 | 0.0045 J |
| Fluoranthene | 8270C, SIM | 0.17 | 0.14 | 0.69 | 0.083 | 1.1 | 0.02 | 0.12 |
| Fluorene | 8270C, SIM | 0.0033 J | 0.0046 J | 0.057 | 0.00093 J | 0.01 J | ND < 0.0054 | 0.0027 J |
| Indeno(1,2,3-cd)pyrene | 8270C, SIM | 0.027 | 0.03 | 0.071 | 0.029 | 0.097 J- | 0.0051 J | 0.025 |
| Naphthalene | 8270C, SIM | ND < 0.0056 | ND < 0.0054 | 0.13 | 0.0016 J | ND < 0.027 | ND < 0.0054 | 0.0037 J |
| Phenanthrene | 8270C, SIM | 0.062 | 0.091 | 0.6 | 0.021 | 0.36 | 0.0073 | 0.039 |
| Pyrene | 8270C, SIM | 0.32 | 0.23 | 0.72 | 0.1 | 0.89 | 0.017 | 0.13 |
| Total PAHs | 8270C, SIM | 1.291 | 1.1016 | 3.6584 | 0.66493 | 4.758 | 0.1461 | 0.7939 |

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Appendix A
HAAF Runway Stockpile Data
Polynuclear Aromatic Hydrocarbons

| | Stockpile | Group G3 | Group H3 | OSFL-1 | Rows 12&13 | Rows 12&13 | Rows 5&6 | Rows 5&6 |
|------------------------|------------|---|---------------|---------------|------------------|------------------|----------------|----------------|
| | Sample # | HAAF-SP7-2027 | HAAF-SP7-2207 | HAAF-SP3-2020 | HAAF-R12+13-2088 | HAAF-R12+13-2089 | HAAF-R5+6-2086 | HAAF-R5+6-2087 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| 2-Methylnaphthalene | 8270C, SIM | ND < 0.0062 | ND < 0.0055 | ND < 0.018 | 0.0035 J | 0.0047 J | 0.0037 J | ND < 0.0058 |
| Acenaphthene | 8270C, SIM | ND < 0.0062 | ND < 0.0055 | ND < 0.014 | ND < 0.0056 | ND < 0.0058 | 0.016 | ND < 0.0058 |
| Acenaphthylene | 8270C, SIM | 0.0016 J | ND < 0.0055 | 0.014 | ND < 0.0056 | ND < 0.0058 UJ | ND < 0.0055 | ND < 0.0058 |
| Anthracene | 8270C, SIM | 0.0057 J | 0.0033 J | 0.026 | ND < 0.0056 | ND < 0.0058 | 0.013 | 0.0037 J |
| Benzo(a)anthracene | 8270C, SIM | 0.033 | 0.03 | 0.5 | ND < 0.0056 | ND < 0.0058 UJ | 0.049 | 0.036 |
| Benzo(a)pyrene | 8270C, SIM | 0.035 | 0.04 | 0.37 | 0.0092 | 0.0049 J | 0.041 | 0.024 |
| Benzo(b)fluoranthene | 8270C, SIM | 0.074 | 0.062 | 0.75 | 0.022 | 0.019 J | 0.066 | 0.051 |
| Benzo(g,h,i)perylene | 8270C, SIM | 0.018 | 0.013 | 0.29 | 0.0063 | 0.0081 | 0.02 | 0.007 |
| Benzo(k)fluoranthene | 8270C, SIM | 0.027 | 0.042 | 0.29 | 0.007 | 0.0052 J | 0.04 | 0.029 |
| Chrysene | 8270C, SIM | 0.041 | 0.051 | 0.61 | 0.017 | 0.0097 J | 0.065 | 0.092 |
| Dibenz(a,h)anthracene | 8270C, SIM | ND < 0.0062 | 0.0054 J | 0.087 | ND < 0.0056 | 0.0027 J | 0.008 | ND < 0.0058 |
| Fluoranthene | 8270C, SIM | 0.041 | 0.046 | 0.91 | 0.019 | 0.014 J | 0.11 | 0.048 |
| Fluorene | 8270C, SIM | 0.0019 J | ND < 0.0055 | 0.0059 J | 0.0019 J | 0.0014 J | 0.0092 | ND < 0.0058 |
| Indeno(1,2,3-cd)pyrene | 8270C, SIM | 0.017 | 0.012 | 0.28 | 0.0054 J | 0.0058 | 0.019 | 0.0083 |
| Naphthalene | 8270C, SIM | 0.0028 J | ND < 0.0055 | 0.0043 J | 0.0024 J | 0.0029 J | 0.0031 J | ND < 0.0058 |
| Phenanthrene | 8270C, SIM | 0.019 | 0.015 | 0.19 | 0.012 | 0.013 J | 0.076 | 0.013 |
| Pyrene | 8270C, SIM | 0.052 | 0.054 | 0.79 | 0.024 | 0.0098 J | 0.14 | 0.063 |
| Total PAHs | 8270C, SIM | 0.369 | 0.3737 | 5.1172 | 0.1297 | 0.1012 | 0.679 | 0.375 |

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Appendix A
HAAF Runway Stockpile Data
Total Petroleum Hydrocarbons

| | Stockpile | A5-4 | A5-4 | B99 SD Overburden | C12P15 | C4P5 | C4P5 |
|----------------------------|-----------|---|---------------|-------------------|---------------|----------------|----------------|
| | Sample # | HAAF-A54-2068 | HAAF-A54-2069 | HAAF-B990-2220 | HAAF-P15-2064 | HAAF-C4P5-2065 | HAAF-C4P5-2066 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| TPH-E, diesel (C12-C24) | 8015B DRO | 44 | 36 | 30 | | | |
| TPH-E, motor oil (C24-C36) | 8015B DRO | 150 | 140 | 220 | | | |
| TPH-Purgeable (C6-C12) | 8015B GRO | | | ND < 0.27 UJ | ND < 0.27 UJ | ND < 0.32 UJ | ND < 0.62 UJ |

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Appendix A
HAAF Runway Stockpile Data
Total Petroleum Hydrocarbons

| | Stockpile | C4P5 | Group D3 | Group F3 | Group F3 | Group F3 | Group G3 | Group G3 |
|----------------------------|-----------|---|--------------|---------------|---------------|---------------|---------------|---------------|
| | Sample # | HAAF-C4P5-2067 | HAAF-D3-2061 | HAAF-SP7-2028 | HAAF-SP7-2029 | HAAF-SP7-2206 | HAAF-SP7-2026 | HAAF-SP7-2027 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | | |
| TPH-E, diesel (C12-C24) | 8015B DRO | | | 15 | 13 | 41 | 15 | |
| TPH-E, motor oil (C24-C36) | 8015B DRO | | | 110 | 76 | 200 | 77 | |
| TPH-Purgeable (C6-C12) | 8015B GRO | ND < 0.25 UJ | ND < 0.30 UJ | ND < 0.26 UJ | ND < 0.27 UJ | ND < 0.26 UJ | ND < 0.23 UJ | ND < 0.23 UJ |

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J- = estimated value biased low

J+ = estimated value biased high

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Appendix A
HAAF Runway Stockpile Data
Total Petroleum Hydrocarbons

| | Stockpile | Group G3 | Group H3 | OSFL-1 | R29C1 | RCI R1C1 | RCI R1C2 |
|----------------------------|-----------|---|---------------|---------------|---------------|----------------|----------------|
| | Sample # | HAAF-SP7-2028 | HAAF-SP7-2207 | HAAF-SP3-2020 | HAAF-R29-2070 | HAAF-R1C1-2063 | HAAF-R1C2-2062 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| TPH-E, diesel (C12-C24) | 8015B DRO | | 51 | 21 | 14 | | |
| TPH-E, motor oil (C24-C36) | 8015B DRO | | 300 | 78 | 58 | | |
| TPH-Purgeable (C6-C12) | 8015B GRO | ND < 0.26 UJ | ND < 0.28 UJ | | | ND < 0.26 UJ | ND < 0.31 UJ |

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Appendix A
HAAF Runway Stockpile Data
TCE and Breakdown Products

| | Stockpile | Group A2 | Group A2 | Group A2 | Group B2 | Group B2 | Group C4, R40/41/42 |
|--------------------------|-----------|---|--------------|--------------|--------------|--------------|---------------------|
| | Sample # | HAAF-A2-2227 | HAAF-A2-2228 | HAAF-A2-2229 | HAAF-B2-2230 | HAAF-B2-2231 | HAAF-R40/41/42-2222 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 1,1-Dichloroethene | 8260B | ND < 6.8 | ND < 6.9 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.1 |
| Chloroethane | 8260B | ND < 14 | ND < 14 | ND < 14 | ND < 13 | ND < 14 | ND < 14 |
| cis-1,2-Dichloroethene | 8260B | ND < 6.8 | ND < 6.9 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.1 |
| trans-1,2-Dichloroethene | 8260B | ND < 6.8 | ND < 6.9 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.1 |
| Trichloroethene | 8260B | ND < 6.8 | ND < 6.9 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.1 |
| Vinyl Chloride | 8260B | ND < 14 | ND < 14 | ND < 14 | ND < 13 | ND < 14 | ND < 14 |

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Appendix A
HAAF Runway Stockpile Data
TCE and Breakdown Products

| | Stockpile | Group C4, R40/41/42 | Group C4, R40/41/42 | Group C4, R40/41/42 | Group D2 | Group D2 |
|--------------------------|-----------|---|---------------------|----------------------|--------------|--------------|
| | Sample # | HAAF-R40/41/42-2223 | HAAF-R40/41/42-2224 | HAAF-R40/41/4242-222 | HAAF-D2-2241 | HAAF-D2-2242 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | |
| 1,1-Dichloroethene | 8260B | ND < 6.8 | ND < 8.1 | ND < 7.8 | ND < 6.9 | ND < 7.1 |
| Chloroethane | 8260B | ND < 14 | ND < 16 | ND < 16 | ND < 14 | ND < 14 |
| cis-1,2-Dichloroethene | 8260B | ND < 6.8 | ND < 8.1 | ND < 7.8 | ND < 6.9 | ND < 7.1 |
| trans-1,2-Dichloroethene | 8260B | ND < 6.8 | ND < 8.1 | ND < 7.8 | ND < 6.9 | ND < 7.1 |
| Trichloroethene | 8260B | ND < 6.8 | ND < 8.1 | ND < 7.8 | ND < 6.9 | ND < 7.1 |
| Vinyl Chloride | 8260B | ND < 14 | ND < 16 | ND < 16 | ND < 14 | ND < 14 |

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Appendix A
HAAF Runway Stockpile Data
TCE and Breakdown Products

| | Stockpile | Group D2 | Group D4, R45&46 | Group D4, R45&46 | LTTD1 | Row 32 | Row 34 |
|--------------------------|-----------|---|------------------|------------------|----------------|---------------|---------------|
| | Sample # | HAAF-D2-2243 | HAAF-D4-2225 | HAAF-D4-2226 | HAAF-LTFD-2254 | HAAF-B32-2244 | HAAF-R34-2245 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | | |
| 1,1-Dichloroethene | 8260B | ND < 6.4 | ND < 6.1 | ND < 5.6 UJ | ND < 7.6 | ND < 6.4 | ND < 6.9 |
| Chloroethane | 8260B | ND < 13 | ND < 12 | ND < 11 | ND < 15 | ND < 13 | ND < 14 |
| cis-1,2-Dichloroethene | 8260B | ND < 6.4 | ND < 6.1 | ND < 5.6 UJ | ND < 7.6 | ND < 6.4 | ND < 6.9 |
| trans-1,2-Dichloroethene | 8260B | ND < 6.4 | ND < 6.1 | ND < 5.6 UJ | ND < 7.6 | ND < 6.4 | ND < 6.9 |
| Trichloroethene | 8260B | ND < 6.4 | ND < 6.1 | ND < 5.6 UJ | ND < 7.6 | ND < 6.4 | ND < 6.9 |
| Vinyl Chloride | 8260B | ND < 13 | ND < 12 | ND < 11 | ND < 15 | ND < 13 | ND < 14 |

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Appendix A
HAAF Runway Stockpile Data
TCE and Breakdown Products

| | Stockpile | Rows 35&36 | Rows 35&36 | Rows 43&44 | Rows 43&44 | Rows 47&48 |
|--------------------------|-----------|---|------------------|------------------|------------------|------------------|
| | Sample # | HAAF-R35+36-2255 | HAAF-R35+36-2256 | HAAF-R43+44-2246 | HAAF-R43+44-2247 | HAAF-R47+48-2248 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | |
| 1,1-Dichloroethene | 8260B | ND < 7.8 | ND < 7.6 | ND < 5.8 | ND < 6.8 | ND < 6.8 |
| Chloroethane | 8260B | ND < 16 | ND < 15 | ND < 12 | ND < 14 | ND < 14 |
| cis-1,2-Dichloroethene | 8260B | ND < 7.8 | ND < 7.6 | ND < 5.8 | ND < 6.8 | ND < 6.8 |
| trans-1,2-Dichloroethene | 8260B | ND < 7.8 | ND < 7.6 | ND < 5.8 | ND < 6.8 | ND < 6.8 |
| Trichloroethene | 8260B | ND < 7.8 | ND < 7.6 | ND < 5.8 | ND < 6.8 | ND < 6.8 |
| Vinyl Chloride | 8260B | ND < 16 | ND < 15 | ND < 12 | ND < 14 | ND < 14 |

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Appendix A
HAAF Runway Stockpile Data
TCE and Breakdown Products

| | Stockpile | Rows 47&48 | Rows 49&50 | Rows 49&50 | Rows 56 & 57 | Rows 56 & 57 |
|--------------------------|-----------|---|------------------|------------------|------------------|------------------|
| | Sample # | HAAF-R47+48-2249 | HAAF-R49+50-2250 | HAAF-R49+50-2251 | HAAF-R56+57-2252 | HAAF-R56+57-2253 |
| Analyte | Method | Results are in mg/kg unless otherwise indicated | | | | |
| 1,1-Dichloroethene | 8260B | ND < 6.4 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.4 |
| Chloroethane | 8260B | ND < 13 | ND < 14 | ND < 13 | ND < 14 | ND < 15 |
| cis-1,2-Dichloroethene | 8260B | ND < 6.4 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.4 |
| trans-1,2-Dichloroethene | 8260B | ND < 6.4 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.4 |
| Trichloroethene | 8260B | ND < 6.4 | ND < 6.9 | ND < 6.3 | ND < 6.9 | ND < 7.4 |
| Vinyl Chloride | 8260B | ND < 13 | ND < 14 | ND < 13 | ND < 14 | ND < 15 |

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J+ = estimated value biased high

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