1220149

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

13-AMRP-0151

APR 04 2013

Mr. D. A. Faulk, Program Manager
Office of Environmental Cleanup
Hanford Project Office
U.S. Environmental Protection Agency
309 Bradley Boulevard, Suite 115
Richland, Washington 99352

Dear Mr. Faulk:

TRANSMITTAL OF APPROVED WASTE SITE RECLASSIFICATION FORM NO. 2012-120 AND SUPPORTING DOCUMENTATION FOR THE 300-15:2, 300 AREA PROCESS SEWER NORTH OF APPLE STREET, REVISION 0

Attached for your use is the approved Waste Site Reclassification Form No. 2012-120 and supporting, "Remaining Sites Verification Package for the 300-15:2, 300 Area Process Sewer North of Apple Street," Rev. 0. If you have questions, please contact me or your staff may contact Rudy Guercia, of my staff, at (509) 376-5494.

Sincerely,

Mark S. French, Federal Project Director
for the River Corridor Closure Project

AMRC:RFG

Attachment

cc w/attach:
L. E. Gadbois, EPA
Administrative Record, H6-08

cc w/o attach:
S. L. Feaster, WCH
T. Q. Howell, WCH
D. L. Plung, WCH
J. P. Shearer, CHPRC
G. B. Snow, WCH
C. P. Strand, WCH

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300.FF.2

WASTE SITE RECLASSIFICATION FORM

Operable Unit: 300-FF-2 **Control No.:** 2012-120

Waste Site Code(s)/Subsite Code(s): 300-15:2

300-15:2, 300 Area Process Sewer North of Apple Street

Reclassification Category: Interim ☒ Final ☐

Reclassification Status: Closed Out ☒ No Action ☐ Rejected ☐

RCRA Postclosure ☐ Consolidated ☐ None ☐

Approvals Needed: DOE ☒ Ecology ☐ EPA ☒

Description of current waste site condition:

The 300-15:2, Fully Excavated Sections of 300 Area Process Sewer North of Apple Street subsite is part of the 300-FF-2 Operable Unit. The 300-15 waste site was identified for remove, treat, and dispose in the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (300-FF-2 ROD), U.S. Environmental Protection Agency, Region 10, Seattle, Washington (EPA 2001). The 300-15:2 subsite consists of the fully excavated sections of the 300 Area Process sewer north of Apple Street. Some segments of the 300-15 pipelines north of Apple Street are not included in the 300-15:2 subsite because they are either retained as active sewer lines or are interfered with by long-term retained facilities and/or utilities and were excluded from the Decision Unit Boundaries as described in the *Remaining Sites Verification Package for the 300-15:2, Fully Excavated Sections North of Apple Street, 300 Area Process Sewer* (attached). Remediated in this subsite are decision units 1, 2, and 3 of "300 Area Site Plan Waste Site 300-15 North of Apple" Drawing H-3-316268, SHT01, Revision 2, Washington Closure Hanford, Richland, Washington.

Remedial action at the 300-15:2 subsite was performed from July 17, 2012, to January 4, 2013, to meet remedial action objectives (RAOs) and remedial action goals (RAGs) of the 300-FF-2 ROD (EPA 2001). The 300-15:2 subsite was excavated to depths of 0.5 m (1.6 ft) to 4.9 m (16.1 ft) below ground surface, resulting in approximately 44,715.8 bank cubic meters (54,488.3 bank cubic yards) of soil and debris disposed at the Environmental Restoration Disposal Facility (ERDF) at the Hanford Site. The selected remedy involved (1) excavating the site to the extent required to meet specified soil cleanup levels, (2) disposing of contaminated excavation materials at ERDF, (3) demonstrating through verification sampling that cleanup goals have been achieved, and (4) proposing the site for reclassification as Interim Closed Out.

Basis for reclassification:

Following remediation, verification sampling of the excavated area and the staging pile areas (SPA) was conducted on July 24 and 25, 2012, December 5, 7, and 10, 2012, and January 2 and 9, 2013. The sample results were evaluated in comparison to the RAGs. In accordance with this evaluation, the verification sampling results support a reclassification of the 300-15:2 subsite to Interim Closed Out. The current site conditions achieve the RAGs established by the 300-FF-2 ROD (EPA 2001) and the *Remedial Design Report/Remedial Action Work Plan for the 300 Area,* (300 Area RDR/RAWP) DOE/RL-2001-47, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington (DOE-RL 2009). The results of verification sampling allow for industrial land use and also demonstrate that the 300-15:2 subsite is protective of groundwater and the Columbia River. The 300-15:2 subsite and SPA do not meet the RAOs and RAGs for unrestricted land use; therefore, institutional controls to maintain industrial land use of the subsite and SPA are required. Site excavation extended slightly into the deep zone soils, however, the remediation footprint was evaluated against the more restrictive shallow zone criteria. Therefore, institutional controls to prevent uncontrolled drilling or excavation into the deep-zone are not required. The basis for reclassification is described in detail in the *Remaining Sites Verification Package for the 300-15:2, 300 Area Process Sewer North of Apple Street* (attached).

WASTE SITE RECLASSIFICATION FORM

Operable Unit: 300-FF-2 **Control No.:** 2012-120

Waste Site Code(s)/Subsite Code(s): 300-15:2

300-15:2, 300 Area Process Sewer North of Apple Street

Regulator comments:

Waste Site Controls:

Engineered Controls: ☐ Yes ☒ No Institutional Controls: ☒ Yes ☐ No O&M Requirements: ☐ Yes ☒ No

If any of the Waste Site Controls are checked Yes, specify control requirements including reference to the Record of Decision, TSD Closure Letter, or other relevant documents:

The 300-15:2 waste subsite and the associated staging pile areas do not meet the RAGs and RAOs for unrestricted land use. Therefore, institutional controls to maintain industrial land use of these areas are required as established in the 300-FF-2 ROD (EPA 2001).

M. S. French	M S French	3/21/13
DOE Federal Project Director (printed)	Signature	Date
N/A		
Ecology Project Manager (printed)	Signature	Date
L. E. Gadbois	Larry Gadbois	3-21-13
EPA Project Manager (printed)	Signature	Date

REMAINING SITES VERIFICATION PACKAGE FOR THE 300-15:2, 300 AREA PROCESS SEWER NORTH OF APPLE STREET

Attachment to Waste Site Reclassification Form 2012-120

March 2013

REMAINING SITES VERIFICATION PACKAGE FOR THE 300-15:2, 300 AREA PROCESS SEWER NORTH OF APPLE STREET

EXECUTIVE SUMMARY

The 300-15:2, 300 Area Process Sewer North of Apple Street subsite is part of the 300-FF-2 Operable Unit (Figure 1). Some segments of the 300-15 pipelines north of Apple Street are not included in the 300-15:2 subsite because they are either retained as active sewer lines or are interfered with by long-term retained facilities and/or utilities and were excluded from the Decision Unit Boundaries of H-3-316268, Revision 2 (WCH 2013c) (Figure 2).

Remedial action at the 300-15:2 subsite was performed from July 17, 2012, to January 4, 2013, to meet remedial action objectives (RAOs) and remedial action goals (RAGs) of the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (300-FF-2 ROD) (EPA 2001). The 300-15:2 subsite was excavated to depths of 0.5 m (1.6 ft) to 4.9 m (16.1 ft) below ground surface, resulting in approximately 44,715.8 bank cubic meters (54,488.3 bank cubic yards) of soil and debris disposed at the Environmental Restoration Disposal Facility (ERDF) of the Hanford Site. The selected remedy involved (1) excavating the site to the extent required to meet specified soil cleanup levels, (2) disposing of contaminated excavation materials at ERDF, (3) demonstrating through verification sampling that cleanup goals have been achieved, and (4) proposing the site for reclassification as Interim Closed Out.

Following remediation, verification sampling of the excavated subsite and the staging pile areas[1] (SPA) decision units was conducted on July 24 and 25, 2012, December 5, 7, and 10, 2012, and January 2 and 9, 2013. The results indicated that the waste removal action achieved compliance with the RAOs and RAGs for the 300-15:2 subsite. A summary of the cleanup evaluation for the soil results against the applicable criteria is presented in Table ES-1. The results of the verification sampling are used to make reclassification decisions for the 300-15:2 subsite in accordance with the TPA-MP-14 procedure in the *Tri-Party Agreement Handbook Management Procedures* (DOE-RL 2011b).

In accordance with this evaluation, the verification sampling results support a reclassification of this site to Interim Closed Out. The current site conditions achieve the RAOs and the corresponding RAGs established in the *Remedial Design Report/Remedial Action Work Plan for the 300 Area* (DOE-RL 2009) and the 300-FF-2 ROD (EPA 2001). These results show that residual soil concentrations support future land uses that can be represented (or bounded) by an industrial land-use scenario and are protective of groundwater and the Columbia River.

[1] The staging piles were originally stockpiles of clean overburden that received potentially polychlorinated-biphenyl -contaminated excavation spoils and were then declared staging piles as a conservative measure.

Table ES-1. Summary of Remedial Action Goals for the 300-15:2 Subsite.

Regulatory Requirement	Remedial Action Goals	Results	Remedial Action Objectives Attained?
Direct Exposure – Radionuclides	Attain ≤15-mrem/yr dose rate above background over 1,000 years.	Maximum dose rate for the 300-15:2 subsite estimated using industrial generic equivalence lookup values is 3.0 mrem/yr above background.	Yes
Direct Exposure – Nonradionuclides	Attain individual COPC RAGs.	All individual COPC concentrations are below the direct exposure criteria for industrial land use.	Yes
Risk Requirements – Nonradionuclides	Attain a hazard quotient of <1 for all individual noncarcinogens.	The hazard quotients for individual nonradionuclide COPCs are <1.	Yes
	Attain a cumulative hazard quotient of <1 for noncarcinogens.	The cumulative hazard quotient for all decision units (1.9×10^{-1}) is <1.	
	Attain an excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	Excess cancer risk values for individual nonradionuclide COPCs are $<1 \times 10^{-6}$.	
	Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	The total excess carcinogenic risk for all decision units (1.3×10^{-7}) is $<1 \times 10^{-5}$.	
Groundwater/River Protection – Radionuclides	Attain single COPC groundwater and river RAGs.	No radionuclide COPCs were quantified above groundwater/river protection lookup values.	Yes
	Attain National Primary Drinking Water Regulations: 4 mrem/yr (beta/gamma) dose standard to target receptor/organ [a].	No radionuclide COPCs were quantified above groundwater/river protection lookup values.	
	Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or 1/25th of the derived concentration guide for DOE Order 5400.5 [b].	No alpha-emitting radionuclide COPCs were quantified above groundwater/river protection lookup values.	
	Meet total uranium standard of 21.2 pCi/L [c].	Uranium was quantified below levels that are protective of 300 Area groundwater.	
Groundwater/River Protection – Nonradionuclides	Attain individual nonradionuclide groundwater and Columbia River cleanup requirements.	Residual concentrations of copper, mercury, PCBs, silver, and zinc exceeded soil RAGs for the protection of groundwater and/or the Columbia River. However, RESRAD modeling predicts that these constituents will not migrate to groundwater (and thus the Columbia River) at concentrations exceeding groundwater or river protection criteria within 1,000 years. Therefore, residual concentrations achieve the remedial action objectives for groundwater and river protection [d].	Yes

[a] "National Primary Drinking Water Regulations" (40 *Code of Federal Regulations* 141).

[b] *Radiation Protection of the Public and Environment* (DOE Order 5400.5).

[c] Based on the isotopic distribution of uranium in the Hanford Site Background, the 30 µg/L MCL (40 *Code of Federal Regulations* 141.66) corresponds to 21.2 pCi/L. Concentration-to-activity calculations are documented in *Calculation of Total Uranium Activity Corresponding to a Maximum Contaminant Level for Total Uranium of 30 Micrograms per Liter in Groundwater* (BHI 2001).

[d] Based on RESRAD modeling using input parameters and soil-partitioning coefficients from the *Remedial Design Report/Remedial Action Work Plan for the 300 Area* (DOE-RL 2009) for an industrial exposure scenario, residual concentrations of copper, mercury, PCBs, silver, and zinc are not expected to migrate vertically in 1,000 years (based on the contaminant with the lowest distribution coefficient [copper] of 22 mL/g). The vadose zone underlying the soil below the site is approximately 9 m (26 ft) thick based on an average ground surface elevation of 120 m (394 ft), a maximum excavation depth of 5 m (16 ft), and a groundwater elevation of approximately 106 m (348 ft) (*Hanford Site Groundwater Monitoring for 2011* [DOE-RL 2012]). Therefore, residual concentrations of these constituents are predicted to be protective of groundwater and the Columbia River.

COPC = contaminant of potential concern
DOE = U.S. Department of Energy
MCL = maximum contaminant level
PCB = polychlorinated biphenyl
RAG = remedial action goal
RESRAD = RESidual RADioactivity (dose assessment model)

The 300-15:2 subsite and associated SPA do not meet the RAGs and RAOs for unrestricted land use; therefore, institutional controls to maintain industrial land use of the subsite and the SPA are required. Site excavation extended slightly into the deep zone soils, however, the remediation footprint was evaluated against the more restrictive shallow zone criteria. Therefore, institutional controls to prevent uncontrolled drilling or excavation into the deep-zone are not required.

Soil cleanup levels were established in the 300-FF-2 ROD (EPA 2001) based, in part, on a limited ecological risk assessment. Although not required by the 300-FF-2 ROD, a comparison against ecological risk screening levels has been made for the site contaminants of potential concern and other constituents. Those constituents exceeding the ecological screening levels in the *Washington Administrative Code* Chapter 173-340, Table 749-3, were boron, copper, mercury, polychlorinated biphenyls (total), silver, uranium, vanadium, and zinc. U.S. Environmental Protection Agency ecological soil screening levels were exceeded for copper, manganese, vanadium, and zinc. Exceedance of screening values is intended to trigger additional evaluation and does not necessarily indicate the existence of risk to ecological receptors. Because the maximum sample levels of manganese and vanadium are below Hanford Site background levels, it is believed that the presence of these constituents does not pose a risk to ecological receptors. All exceedances will be evaluated in the context of additional lines of evidence for ecological effects as a part of the final closeout decision for the Columbia River corridor portion of the Hanford Site.

REMAINING SITES VERIFICATION PACKAGE FOR THE 300-15:2, 300 AREA PROCESS SEWER NORTH OF APPLE STREET

STATEMENT OF PROTECTIVENESS

The 300-15:2, 300 Area Process Sewer North of Apple Street subsite verification sampling data, site evaluations, and supporting documentation demonstrate that this site meets the objectives established in the *Remedial Design Report/Remedial Action Work Plan for the 300 Area* (RDR/RAWP) (DOE-RL 2009) and the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (300-FF-2 ROD) (EPA 2001). These results show that residual soil concentrations support future land uses that can be represented (or bounded) by an industrial land-use scenario and are protective of groundwater and the Columbia River. The 300-15:2 subsite and associated staging pile areas (SPA) do not meet the remedial action goals (RAGs) and remedial action objectives (RAOs) for unrestricted land use; therefore, institutional controls to maintain industrial land use of the subsite and associated SPA is required. Site excavation extended slightly into the deep zone soils, however, the remediation footprint was evaluated against the more restrictive shallow zone criteria. Therefore, institutional controls to prevent uncontrolled drilling or excavation into the deep-zone are not required.

Soil cleanup levels were established in the 300-FF-2 ROD (EPA 2001) based, in part, on a limited ecological risk assessment. Although not required by the 300-FF-2 ROD, a comparison against ecological risk screening levels has been made for the site contaminants of potential concern and other constituents. Those constituents exceeding the ecological screening levels in the *Washington Administrative Code* Chapter 173-340, Table 749-3, were boron, copper, mercury, polychlorinated biphenyls (PCBs) (total), silver, uranium, vanadium, and zinc. U.S. Environmental Protection Agency ecological soil screening levels were exceeded for copper, manganese, vanadium, and zinc. Exceedance of screening values is intended to trigger additional evaluation and does not necessarily indicate the existence of risk to ecological receptors. Because the maximum sample levels of manganese and vanadium are below Hanford Site background levels, it is believed that the presence of these constituents does not pose a risk to ecological receptors. All exceedances will be evaluated in the context of additional lines of evidence for ecological effects as a part of the final closeout decision for the Columbia River corridor portion of the Hanford Site.

GENERAL SITE INFORMATION AND BACKGROUND

The 300-15:2 subsite is part of the 300-15 waste site which is identified as a 300-FF-2 Operable Unit source site in the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (300-FF-2 ROD) (EPA 2001). The 300-15:2 subsite is the inactive, fully excavated portions of the 300-15, 300 Area process sewer north of Apple Street (Figures 1 and 2).

Figure 1. The 300-15:2 Subsite Location Map.

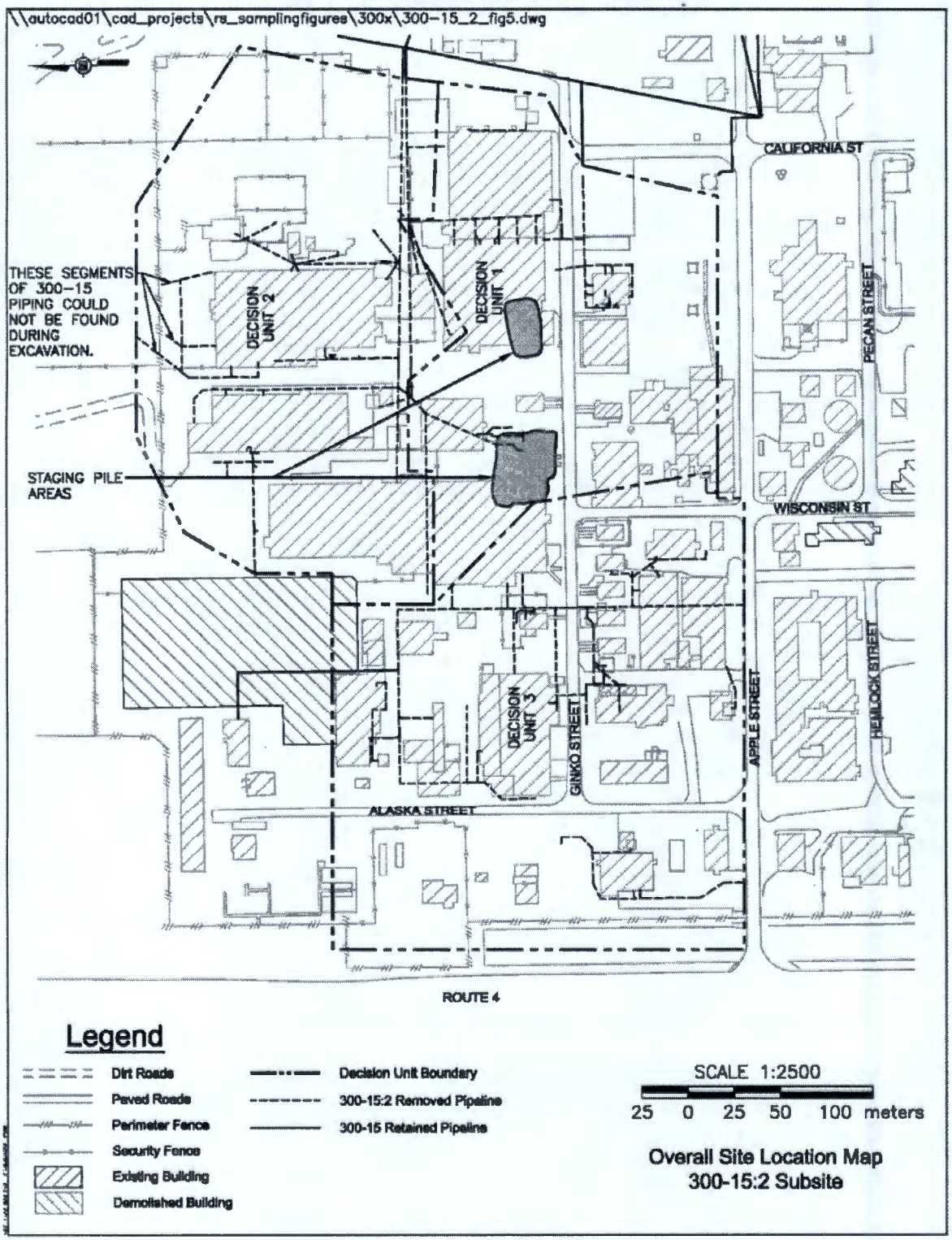
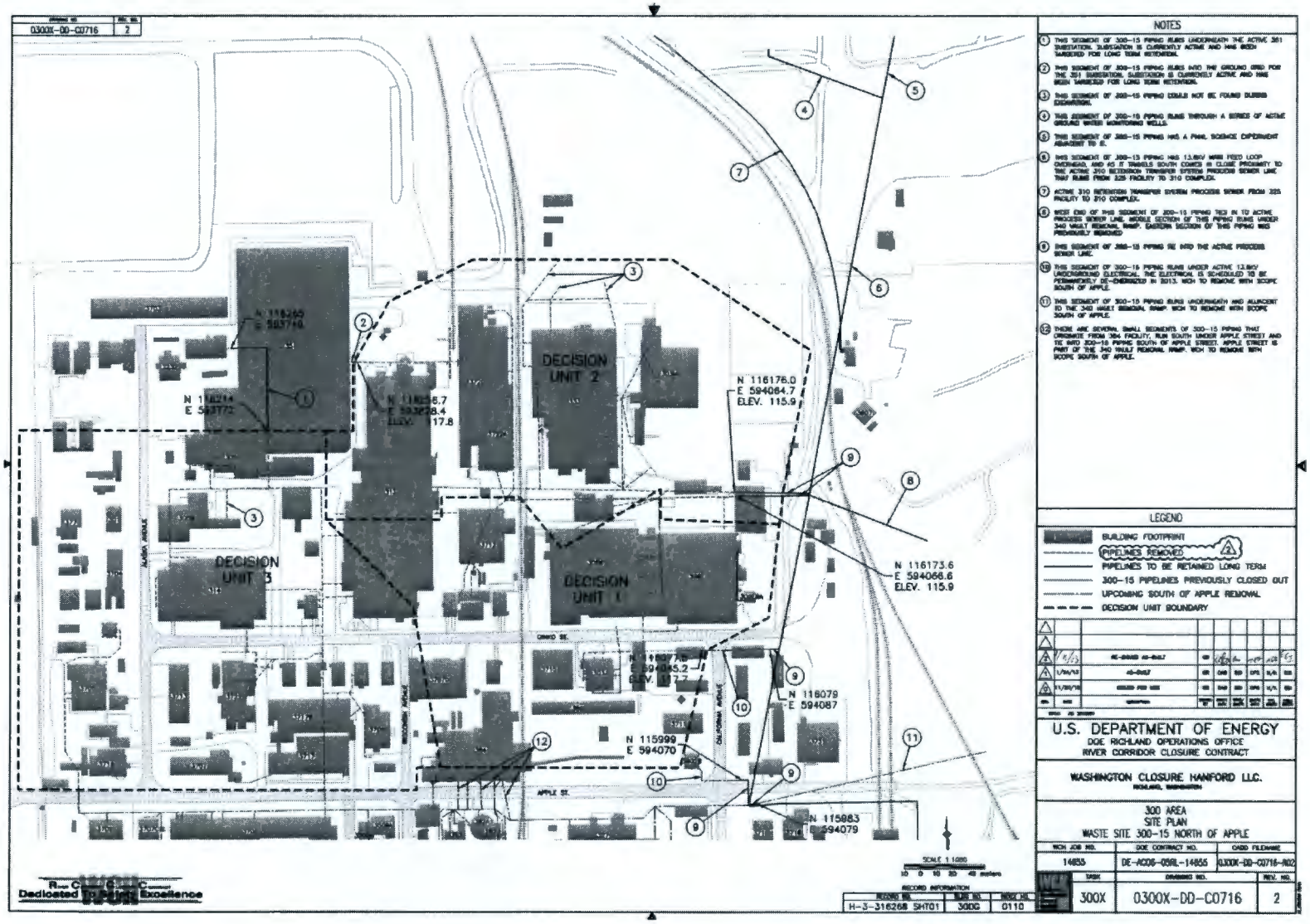


Figure 2. The 300-15:2 Subsite As-Built Drawing



For the purpose of remediation and verification sampling the excavated portion of the 300-15:2 subsite was divided into three decision units and a separate decision unit was determined for the SPA. The boundaries of the decision units are shown on Figures 1, 2 and 3. Previously, the 300-15 waste site north of Apple Street was divided into eight zones for the purpose of engineering calculations and these are the zones shown in Figure 3. Sections of the 300-15 pipelines within a zone are referred to as numbered segments.

Note that the 300-15 pipelines in the 618-1 Burial Ground area were previously removed and interim closed out with the 618-1 Burial Ground waste site (WCH 2010). However, Figures 1 and 2 both show the removed 300-15 pipelines in the 618-1 area as part of the 300-15:2 subsite removed pipelines. This simplification of the figures is clarified by the above text.

Some of the 300-15 pipelines north of Apple Street are currently retained as active pipelines or are interfered with by long-term retained facilities and/or utilities and were excluded from the Decision Unit Boundaries (Figure 1). These 300-15 pipelines are placed into the 300-15:1, Active and Retained Portions of 300 Area Process Sewer subsite for later disposition.

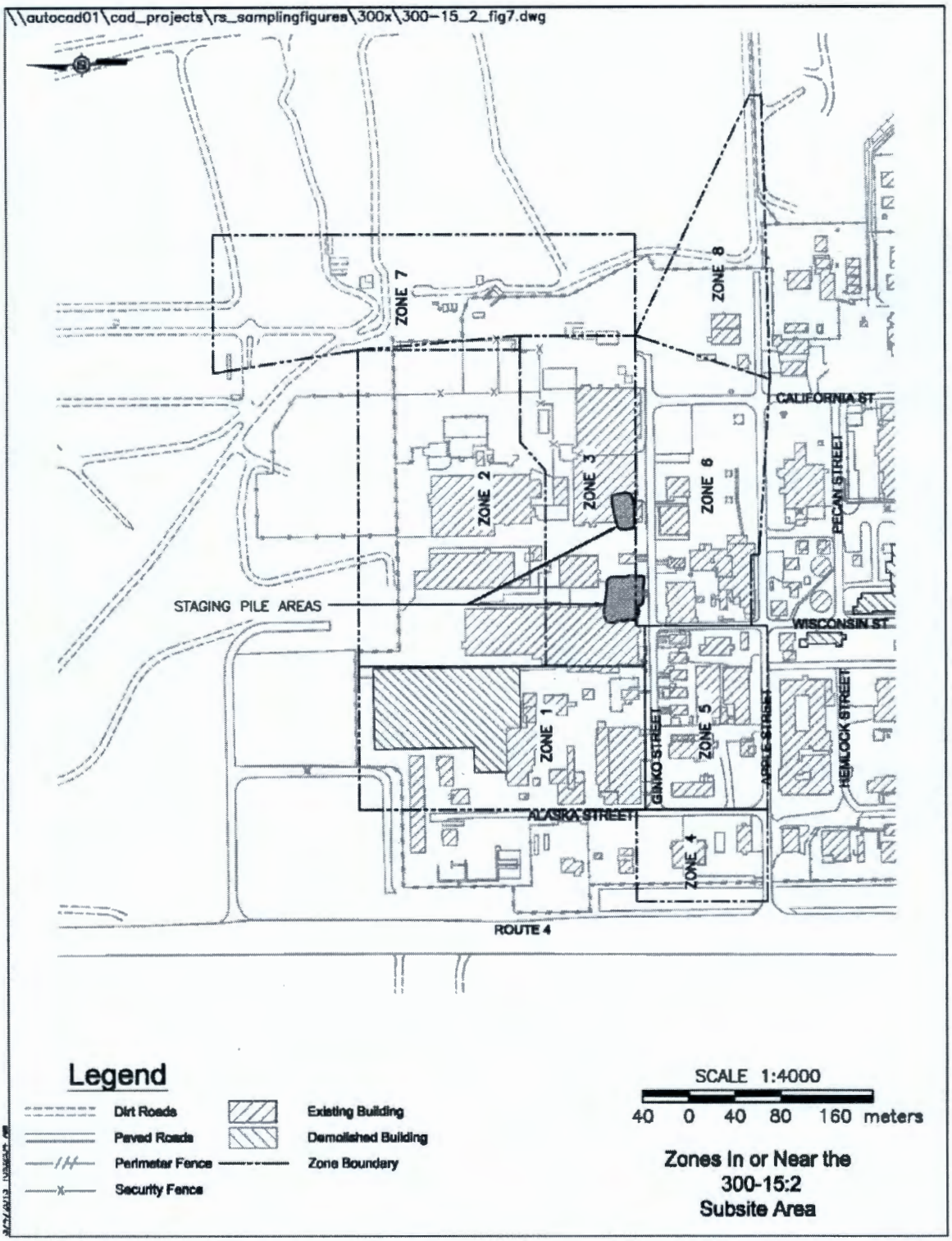
The 300-15 waste site in general is an underground process sewer extending throughout the 300 Area for the disposal of process wastes such as steam condensate, cooling water and nonregulated liquids. The piping consisted primarily of 20 cm (8 in.) vitrified clay pipes with acid-proof joints. Many other materials have been used in more recent retrofits and system modifications, including cast-iron, stainless-steel, carbon steel, and polyvinyl chloride. Large sections of the process sewer were relined with cured-in-place epoxy during the 1995 Project L-070 system upgrade. These process sewer feeder pipes join larger 46-cm (18-in.)-diameter vitrified clay pipes that discharge to the 342 Waste Collection Sump northeast of the former 306 E Building. Prior to 1995, the system discharged to the 316-5 Process Trenches, which were constructed in 1975. Before 1975, the process sewers discharged to the north and south process ponds (WIDS Sites 316-2 and 316-1).

Nearly 70% of the process sewer effluent resulted from once-through cooling for heating, ventilation, and air conditioning systems, pumps, compressors, and other equipment.

Significant sources of chromium, copper, uranium, nitrate, sulfate, and fluoride ions, as well as caustics and degreasing solvents (e.g., perchloroethylene and 1,1,1-trichloroethane) entering the process sewer were past activities from the fuel fabrication facilities in the 313 and 333 Buildings.

Four chief chemical contaminants in the process sewer have been lead, silver, acetone, and cyanide. Silver was most likely contributed from the 3705 photographic processes. Cyanide compounds were detected downstream of the 384 powerhouse, and are attributable to either coal dust or the regeneration salt and softening resin used in water conditioning. Most of the lead is believed to have entered the process sewer from prior 3709 Building (paint shop) processes. Acetone releases appear to have occurred in small quantities when labware was washed.

Figure 3. Zones In or Near the 300-15:2 Subsite Area.



REMEDIAL ACTION SUMMARY

Remediation of the 300-15:2 subsite was performed from July 17, 2012, through January 4, 2013 (WCH 2013g). The majority of the soil within the subsites' footprint was excavated to a depth of 0.5 to 4.9 m (1.6 to 16 ft) below ground surface (bgs). The resulting 44,715.8 bank cubic meters (54,488.3 bank cubic yards) (WCH 2013a) of soil was disposed at the Environmental Restoration Disposal Facility (ERDF).

Figure 4 presents a photograph of the 300-15:2 excavation at Zone 1, Segment 8 in Decision Unit 3. Figure 5 presents a post-excavation photograph of part of Decision Unit 1. Figure 6 presents an aerial view of the 300-15:2 excavation as of December 5, 2012 and Figure 7 presents a close-up aerial view of the 300-15:2 excavation in the area of the 300-51 substation on the same date. Pipelines of the 300-15 process sewer in or near the 300-51 substation were retained since they are not currently accessible.

Table 1 presents a summary listing of the excavated 300-15:2 subsite pipelines by decision unit. The pipe segments are presented in eight maps in 0300-CA-V055, Revision 1 (WCH 2011).

The lengths of excavated pipelines for each 300-15:2 decision unit are (Table 1):

- Decision Unit 1: 693.9 m (2,276.6 ft)
- Decision Unit 2: 1,285.7 m (4,218.2 ft)
- Decision Unit 3: 1,212.4 m (3977.7 ft).

A PCB result in Decision Unit 2 exceeded the 300 Area industrial direct exposure RAG for PCBs, leading to further excavation at that location. The details follow below.

At a location in Decision Unit 2, Zone 2, Segment 3 (N 116,177, E 593,995), a sample (J1R3F4) taken December 10, 2012, had a PCB (aroclor-1254) result of 144 mg/kg. This result exceeded the 300 Area industrial direct exposure RAG for PCBs of 65.6 mg/kg. Due to this PCB exceedance, further excavation was performed at this location and a resample (J1R7R2) was taken January 2, 2013, at the same location, but 3 to 4.6 m (10 to 15 ft) deeper (WCH 2013d). The PCB result for the resample (J1R7R2) passed the 65.6 mg/kg RAG.

Radiological surveys for the 300-15:2 footprint were performed November 30, 2012, through January 11, 2013, using the Global Positioning Environmental Radiological Surveyor (GPERS) with instrumentation specific to detection of gamma (sodium iodide detector) radiation. No elevated gamma activity was detected. All net counts per minute (CPM) were less than 1.5 times the average background CPM.

Backfill Concurrences

Three regulatory agreements were used to obtain backfill concurrences for the 300-15:2 subsite. One agreement was to backfill the 300-15:2 subsite excluding the failed PCB-exceedance area (Gadbois 2013b), another agreement was to backfill the failed PCB-exceedance area (Gadbois 2013c), and a third agreement was to backfill the staging pile areas (Gadbois 2013d).

Figure 4. A 300-15:2 Excavation in Decision Unit 3 (View to North).

Figure 5. A 300-15:2 Post-Excavation View in Decision Unit 1 (View to Northeast).

Figure 6. The 300-15:2 Excavation in December 2012 (View to East). (Yellow lines indicate approximate locations of excavations.)

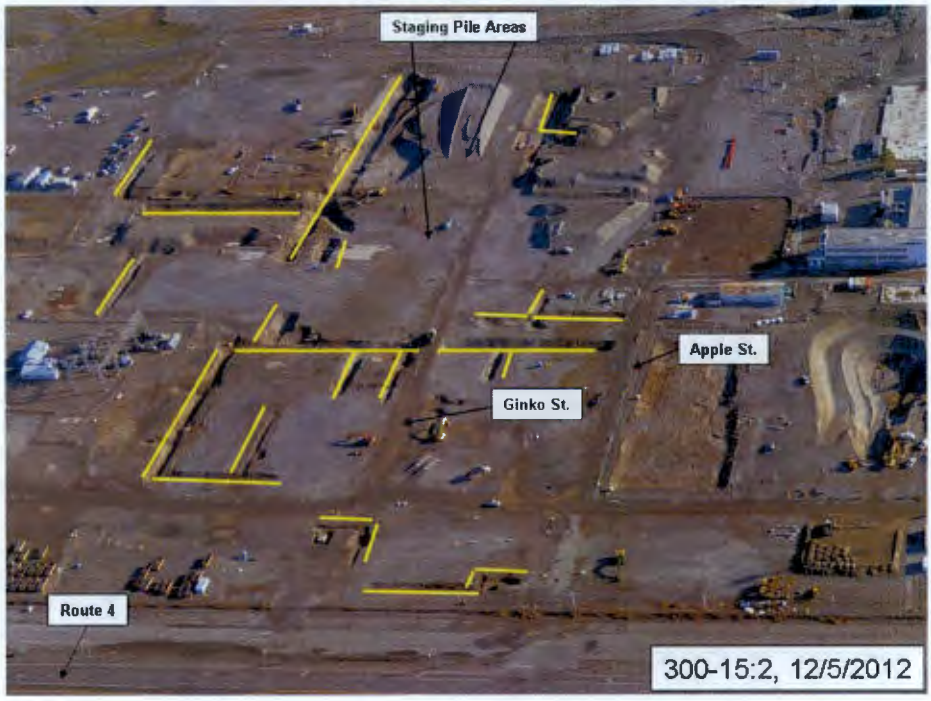


Figure 7. Close-Up of 300-15:2 Excavation Near 351 Substation (View to North).

Table 1. The 300-15:2 Excavated Pipelines by Decision Unit. (2 Pages)

Decision Unit	Zone	Segment	Length (m)	Depth (m)	Piping Description	Removed	Comment[a]
1	3	5	27.3	4.7	Vitreous clay pipe	Yes	Removed with 306 E
1	3	6	174.4	4.8			
1	3	9	47.5	3.3	PVC pipe type		Rad hot spot found, removed
1	3	10	32.3	2.5	Multi-material pipe types		Removed with 3713A
1	3	13	100.7	2.5			Removed with 3712
1	6	1	82.1	3.8			No visual anomalies
1	6	2	48.3	2.2			No comment
1	6	3	28.0	2.2			Stained soil found, removed
1	6	4	125.4	1.9			Portions removed with 303J
1	6	5	27.9	1.1			Removed with 384
Decision Unit 1 Length = 693.9							
2	2	1	26.1	1.9	Multi-material pipe types	Yes	Portions removed with 303J, no visual anomalies
2	2	2	36.0	1.8	Cast iron pipe type		
2	2	3	90.3	2.0	Vitreous clay pipe		Portions removed with 303J, no visual anomalies, sample J1R3F4 failed PCBs, soil removed and resample J1R7R2 passed
2	2	4	41.6	1.9	Multi-material pipe types		Portions removed with 303J, no visual anomalies
2	2	5	50.0	3.8	Vitreous clay pipe		No visual anomalies
2	2	6	82.2	2.5	Cast iron pipe type	Portion removed	Found part of pipeline, remaining part not found presumed to have been removed with 333
2	2	7	14.5	3.5	Multi-material pipe types	Yes	No visual anomalies
2	2	8	46.4	2.2			Garnet sand found, removed rad hot spot found, removed
2	2	9	71.1	2.1	Vitreous clay pipe		No visual anomalies
2	2	10	23.5	1.1			Encountered abandoned steam pipe with asbestos wrap, removed
2	2	11	31.1	1.2	Multi-material pipe types		No visual anomalies
2	2	12	24.9	1.3			
2	2	13	21.3	1.4			
2	2	14	31.6	1.3			Not found
2	2	15	53.9	1.3	PVC pipe type		No visual anomalies
2	2	16	51.1	2.9	Concrete pipe type	Yes	No visual anomalies
2	2	17	26.5	0.6	Vitreous clay pipe		
2	2	18	47.5	0.5			
2	2	19	39.3	0.6			Rad hot spot found, removed
2	3	1	114.5	2.7			Tar ball found, removed, removed to N 116177 E 594095, due to active TEDF line
2	3	2	51.2	4.9		Portion removed	Removed to N 116173 E 594095 due to active TEDF line
2	3	3	19.0	4.3		Yes	Removed with 306 E
2	3	4	39.2	4.6			Rad hot spot found, removed, found 1 L poly bottle, sampled contents, stained soil found, removed
2	3	7	93.7	4.6			Stained soil found, removed found four each 1.2 m (4 ft) sections of transite pipe buried above pipeline, removed
2	3	8	82.2	4.5	Multi-material pipe types		None
2	3	11	62.6	2.7	Vitreous clay pipe		Removed with 313
2	3	12	14.4	2.5			
Decision Unit 2 Length = 1,285.7							

Table 1. The 300-15:2 Excavated Pipelines by Decision Unit. (2 Pages)

Decision Unit	Zone	Segment	Length (m)	Depth (m)	Piping Description	Removed	Comment [a]
3	1	2	86.4	1.9	Vitreous clay pipe	Portion removed	Did not remove section that is inside fence of 351 substation, removed from: N 116180 to N 116212
3	1	3	92.8	1.4		Yes	No visual anomalies
3	1	4	17.1	0.9			
3	1	5	59.8	1.3	Multi-material pipe types		
3	1	6	13.3	0.8	Vitreous clay pipe		
3	1	7	18.4	0.5	Steel pipe type		
3	1	8	45.2	1.2	Vitreous clay pipe		
3	1	9	20.4	1.3	Multi-material pipe types		
3	1	10	19.2	1.4			
3	1	11	16.5	1.6			
3	1	12	30.5	1.3	Vitreous clay pipe	Yes	Rad hot spot found, removed
3	1	13	86.0	1.7			Garnet sand found near surface, removed, rad hot spot found, removed
3	1	14	14.5	1.7			No visual anomalies
3	1	15	14.4	1.7			
3	1	16	15.4	1.6	Multi-material pipe types		
3	1	17	34.3	1.7	Vitreous clay pipe		
3	1	18	22.6	1.6	Multi-material pipe types		
3	1	19	59.8	0.6	Vitreous clay pipe		Rad hot spot found and removed, stained soil found, removed
3	4	1	75.5	0.6	Multi-material pipe types		No visual anomalies
3	4	2	20.0	0.6			
3	4	3	67.5	0.6	Vitreous clay pipe		No visual anomalies, portions of pipeline removed with 3705
3	5	1	15.2	1.4			No visual anomalies
3	5	2	43.1	1.8			
3	5	3	72.0	1.8		Yes	Removed with 3722
3	5	4	35.0	1.8	Multi-material pipe types	Yes	No visual anomalies, did not find road crossing from N 116090 E 593759 to N 116076 E 593760
3	5	5	88.5	1.8	Vitreous clay pipe		No visual anomalies
3	5	6	41.2	2.0			
3	5	7	29.2	1.8	Multi-material pipe types		
3	5	8	30.3	2.1	PVC pipe type		Removed with 3708
3	5	9	28.3	2.0	Multi-material pipe types		Not found, may have been removed with 3706BA and 3717
Decision Unit 3 Length = 1,212.4							

Source: WCH 2013b.

[a] Comments are based on text in reference WCH 2013a. Shading is for a pipe segment where a sample failed the PCB direct exposure remedial action goal, but the resample after additional excavation passed.

PCB = polychlorinated biphenyl
PVC = polyvinyl chloride
rad = radionuclide
TEDF = Treated Effluent Disposal Facility

VERIFICATION SAMPLING ACTIVITIES

Verification sampling for the 300-15:2 subsite excavation and staging pile area was conducted July 24 and 25, 2012, December 5, 7, and 10, 2012, and January 2 and 9, 2013, to support a determination that residual contaminant concentrations at these sites meet the cleanup criteria specified in the RDR/RAWP (DOE-RL 2009) and the 300-FF-2 ROD (EPA 2001). The verification sample results are provided in Appendix A and indicate that the waste removal action achieved compliance with the RAOs for the 300-15:2 subsite. The following subsections provide additional discussion of the information used to develop the verification sampling design. A more detailed discussion of the plan for verification sampling can be found in the *Work Instruction for Verification Sampling of 300-15, Fully Excavated Sections North of Apple Street, 300 Area Process Sewer System* (WCH 2012) and *Work Instruction for Verification Sampling of the 300-15:2, 300 Area Process Sewer, Fully Excavated Sections North of Apple Street Staging Pile Areas* (WCH 2013g) as amended with an additional regulatory agreement (Gadbois 2013a).

The sampling locations are shown in Figures 8 through 11.

Contaminants of Potential Concern

Based on a consideration of the 300-FF-2 ROD contaminants of potential concern (COPCs) (EPA 2001), historical information related to the 300-15 waste site, and in-process or waste designation sample results, the COPCs for verification sampling of the 300-15:2, fully excavated sections north of Apple Street, waste site include uranium, chromium (total), copper, lead, mercury, nickel, selenium, silver, zinc, PCBs, nitrate (as nitrogen), sulfate, fluoride, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, dibenz(a,h)anthracene, perchloroethylene, 1,1,1-trichlorethane, acetone, trichloroethylene, cis-1,2-dichloroethylene, gamma emitting radionuclides, gross alpha, and gross beta. Although not all are considered COPCs, antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total) cobalt, copper, manganese, molybdenum, nickel, selenium, silver, vanadium, and zinc were included as part of the expanded inductively coupled plasma (ICP) metals analytical list. In addition, although not all are considered COPCs, an expanded list of semivolatile organic compounds (SVOCs) and volatile organic compounds (VOC) were evaluated as part of EPA Method 8270 and EPA Method 8260.

The COPCs for the associated 300-15:2 SPA decision unit included PCBs only. Due to the exceedance of sample J1R3F4 for aroclor-1254 in Decision Unit 2 of the 300-15:2 subsite, it was concluded that the 300-15:2 staging pile area footprints would need to be sampled for PCBs. The COPCs for the associated 300-15:2 SPA decision unit included only polychlorinated biphenyls per regulatory agreement (Gadbois 2013b).

Figure 8. The 300-15:2 Subsite Decision Unit 1 Verification Sample Locations.

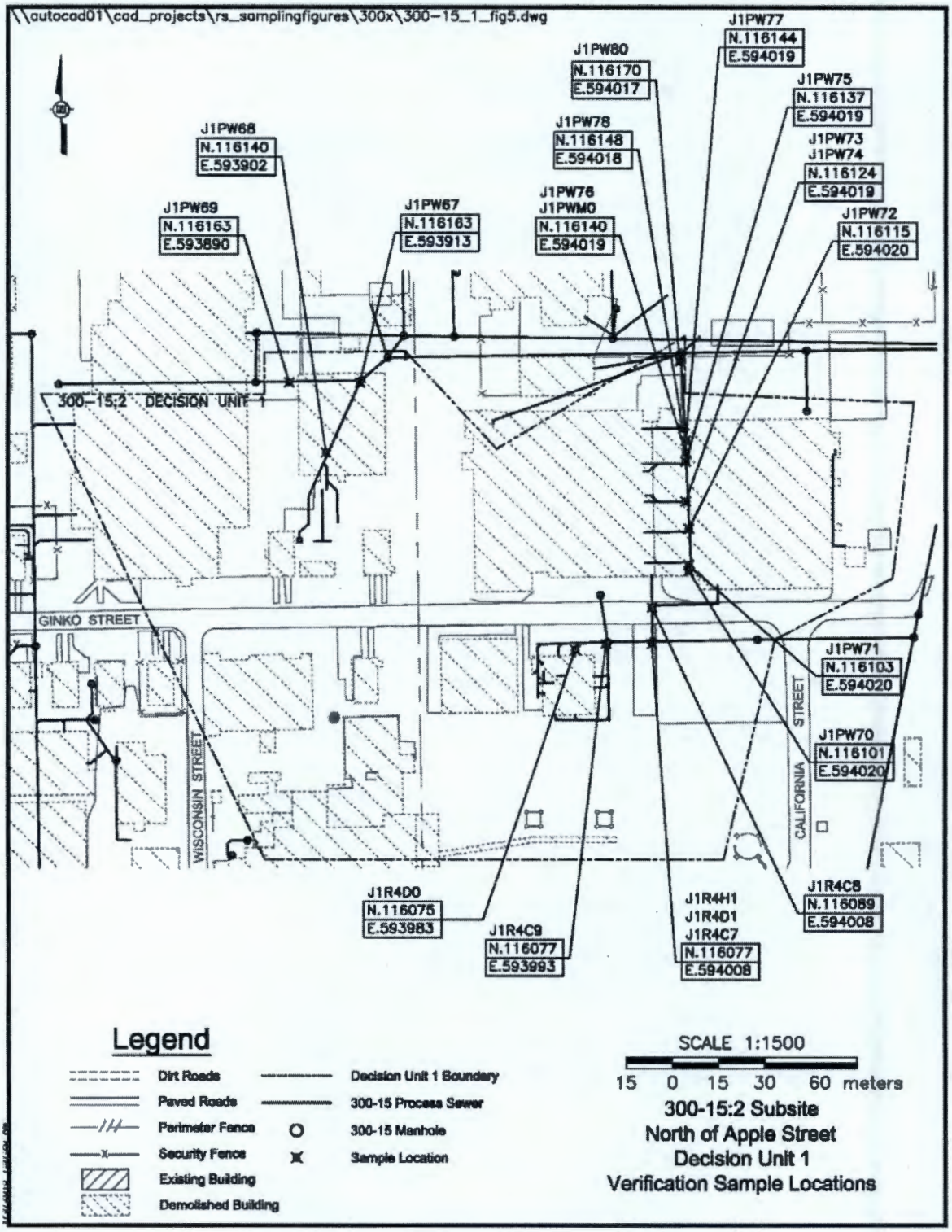


Figure 9. The 300-15:2 Subsite Decision Unit 2 Verification Sample Locations.

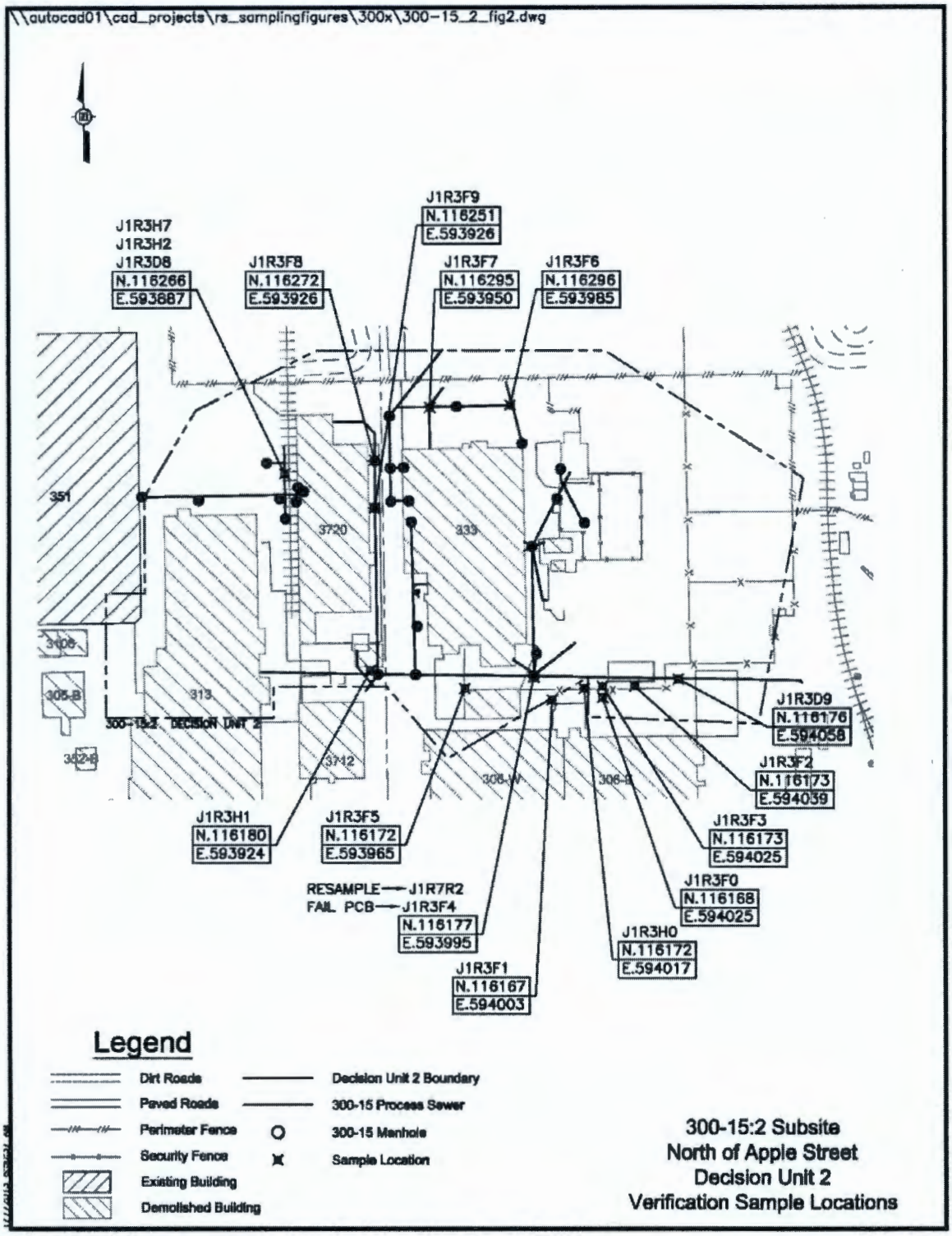


Figure 10. The 300-15:2 Subsite Decision Unit 3 Verification Sample Locations.

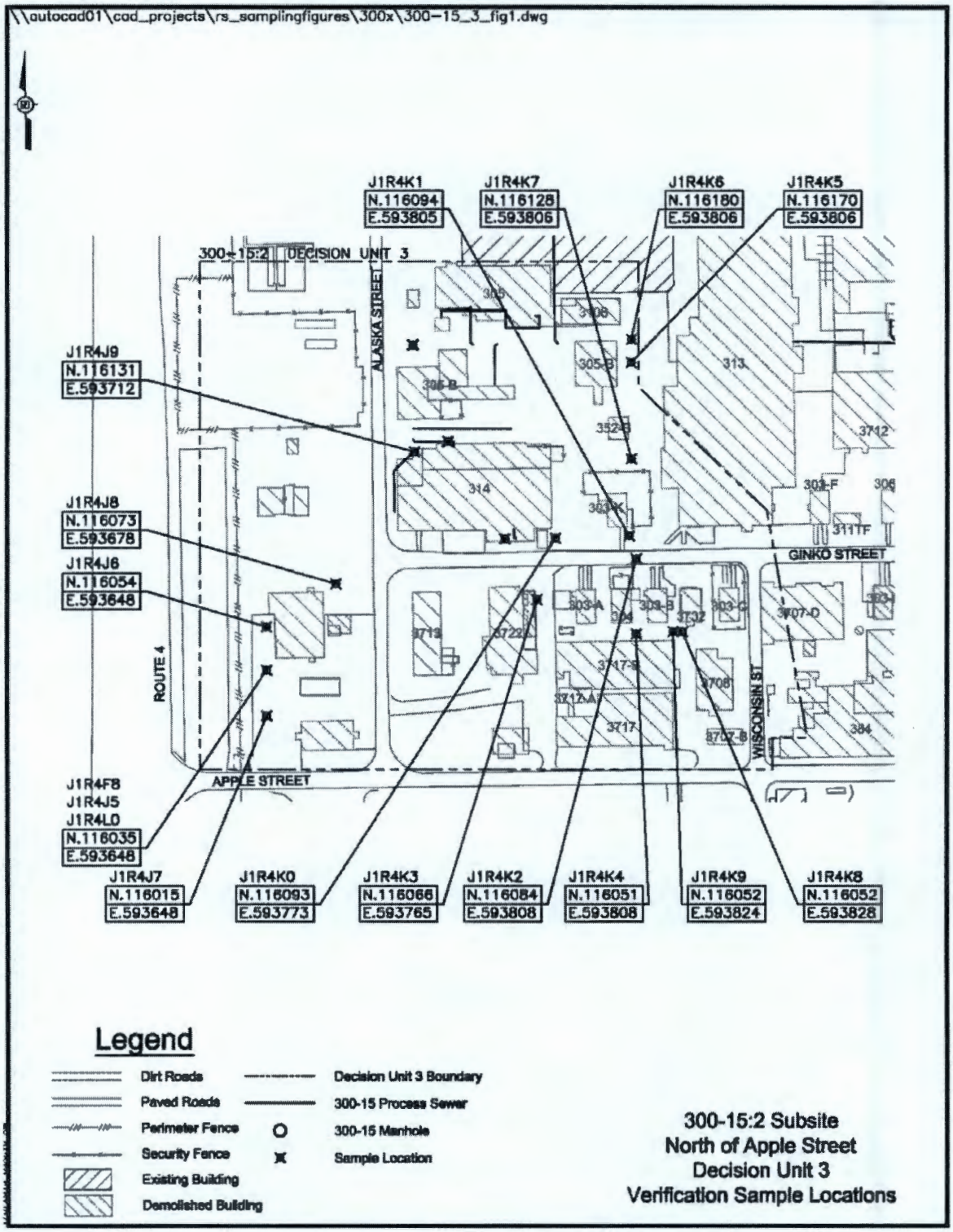
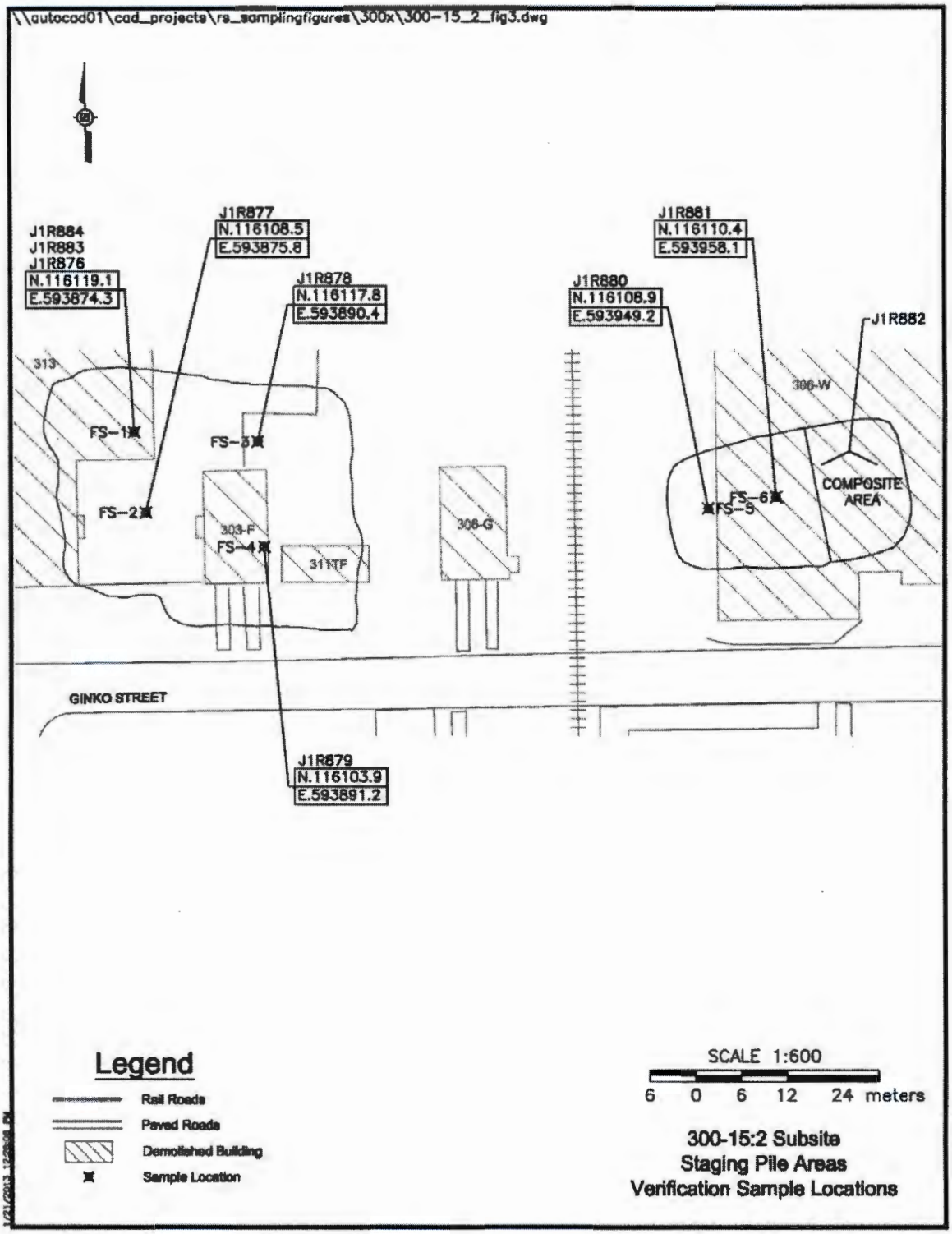


Figure 11. The 300-15:2 Staging Pile Areas Verification Sample Locations.



Cleanup verification samples were analyzed using U.S. Environmental Protection Agency (EPA)-approved analytical methods. Table 2 identifies the analyses for verification sampling.

Table 2. 300-15:2, Fully Excavated Sections North of Apple Street – Laboratory Analytical Methods and Contaminants of Potential Concern.

Analysis	Analytical Method	Contaminants of Potential Concern
ICP metals [a]	EPA Method 6010	Chromium, copper, and lead
Mercury	EPA Method 7471	Mercury
Uranium (total)	Kinetic phosphorescence analysis	Uranium (total)
IC anions [b]	EPA Method 300.0	Sulfate and fluoride
NO_2/NO_3 [c]	EPA Method 353.2	Nitrogen in nitrate and nitrite
PCBs	EPA Method 8082	Polychlorinated biphenyls
SVOA	EPA Method 8270	Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, dibenz(a,h)anthracene
VOA	EPA Method 8260	Perchloroethylene, 1,1,1-trichlorethane, acetone, trichloroethylene, cis-1,2-dichloroethylene
Total cyanides	EPA Method 9010	Cyanide
TPH	EPA Method 418.1	Petroleum hydrocarbons
GEA	Gamma spectroscopy	Gamma-emitting radionuclides
Gross alpha [d]	Proportional counting	Alpha-emitting radionuclides
Gross beta [e]	Proportional counting	Beta-emitting radionuclides

[a] Analysis was performed for the expanded list of ICP metals to include antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, vanadium, and zinc.
[b] Analysis was performed for the expanded list of IC anions to include bromide, chloride, fluoride, nitrate, nitrite, phosphate, and sulfate.
[c] To preclude holding time issues associated with EPA Method 300.0 for nitrites and nitrates, EPA Method 353.2 was performed.
[d] If gross alpha was detected above 15 pCi/g, the GEA data was to be evaluated to determine if further alpha-specific analysis is needed.
[e] If gross beta activity was detected above 23 pCi/g, the data was to be evaluated and stronium-90 analysis performed.

EPA = U.S. Environmental Protection Agency
GEA = gamma energy analysis
IC = ion chromatography
ICP = inductively coupled plasma
PCB = polychlorinated biphenyl
SVOA = semivolatile organic compound
TPH = total petroleum hydrocarbons
VOA = volatile organic analysis

Verification Sample Design

This section describes the basis for selection of a verification sampling design for the 300-15:2 subsite. The sampling was performed to verify that residual contaminant concentrations do not exceed soil cleanup levels for the protection of human health and the environment as established by the 300-FF-2 ROD (EPA 2001).

The 300 Area SAP (DOE-RL 2011a) recommends focused sampling to "the extent practicable" for sites listed in Tables 1-2 and 1-3 of that document. The 300-15 waste site is listed in the 300 Area SAP, Table 1-3 (DOE-RL 2011a). A focused sampling design was selected for the 300-15:2 subsite based primarily on "locations where leaking is most probable: where the

pipeline appears to have lost integrity, endpoints of the pipelines, pipeline intersections, and at manholes" (WCH 2012). All verification samples, except the composite sample collected at the SPA ramp, were collected as discrete grabs at the prescribed sample coordinates. The SPA ramp was sampled as a multi-aliquot composite sample added by a subsequent regulatory agreement (Gadbois 2013a).

Field quality control samples consisted of equipment blank samples, field duplicate samples, split samples, and trip blanks as listed in Tables 3 through 6. All samples were submitted for full protocol laboratory analysis.

Table 3. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 1. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations (WSP, m)	Sample Analysis
DU-1 #1	Shallow	J1PW67	7/24/2012	N 116163 E 593913	ICP metals [a], mercury, IC anions, nitrite/nitrate, total cyanides/sulfates, VOA, SVOA, PCB, TPH, GEA, gross alpha, gross beta, total uranium
DU-1 #2		J1PW68		N 116140 E 593902	
DU-1 #3		J1PW69		N 116163 E 593890	
DU-1 #4		J1PW70		N 116101 E 594020	
DU-1 #5		J1PW71		N 116103 E 594020	
DU-1 #6		J1PW72		N 116115 E 594020	
DU-1 #7		J1PW73	7/25/2012	N 116124 E 594019	
Duplicate of J1PW73		J1PW74			
DU-1 #8		J1PW75		N 116137 E 594019	
DU-1 #9		J1PW76		N 116140 E 594019	
Split of J1PW76		J1PWM0			
DU-1 #10		J1PW77		N 116144 E 594019	
DU-1 #11		J1PW78		N 116148 E 594018	
DU-1 #12		J1PW80		N 116170 E 594017	
Equipment blank		J1PW79		NA	ICP metals [a], mercury
Zone 6, Segment 1		J1R4C7	12/5/2012	N 116077 E 594008	ICP metals [a], mercury, IC anions, nitrite/nitrate, total cyanides/sulfates, VOA, SVOA, PCB, TPH, GEA, gross alpha, gross beta, total uranium
Duplicate of J1R4C7		J1R4D1			
Split of J1R4C7		J1R4H1			
Zone 6, Segment 2		J1R4C8		N 116089 E 594008	
Zone 6, Segment 3		J1R4C9		N 116077 E 593993	
Zone 6, Segment 4		J1R4D0		N 116075 E 593983	

Table 3. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 1. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations (WSP, m)	Sample Analysis
Trip blank	NA	J1R4D4	12/5/2012	NA	VOA
Equipment blank		J1R4D3			ICP metals [a], mercury

Source: Field logbooks EL-1663-03 (WCH 2013d) and EL-1665 (WCH 2013e).

[a] Analysis for the expanded list of ICP metals included antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, vanadium, and zinc in the analytical results package.

GEA = gamma energy analysis
HEIS = Hanford Environmental Information System
IC = ion chromatography
ICP = inductively coupled plasma
NA = not applicable
PCB = polychlorinated biphenyl
SVOA = semivolatile organic analysis
TPH = total petroleum hydrocarbons
VOA = volatile organic analysis
WSP = Washington State Plane

Table 4. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 2. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations, (WSP, m)	Sample Analysis
Zone 2, Segment 19	Shallow	J1R3D8	12/10/2012	N 116266 E 593887	ICP metals [a], mercury, IC anions, nitrite/nitrate, total cyanides/sulfates, VOA, SVOA, PCB, TPH, GEA, gross alpha, gross beta, total uranium
Duplicate of J1R3D8		J1R3H2			
Split of J1R3D8		J1R3H7			
Zone 2, Segment 1	Deep	J1R3D9		N 116176 E 594058	
Zone 3, Drum Crushing Area		J1R3F0		N 116168 E 594025	
Zone 3, Segment 7		J1R3F1		N 116167 E 594003	
Zone 3, Segment 4		J1R3F2		N 116173 E 594039	
Zone 3, Segment 4		J1R3F3		N 116173 E 594025	
Zone 2, Segment 3		J1R3F4 [b]		N 116177 E 593995	
		J1R7R2 [b]	1/2/2013		PCB
Zone 3, Segment 8		J1R3F5	12/10/2012	N 116172 E 593965	ICP metals [a], mercury, IC anions, nitrite/nitrate, total cyanides/sulfates, VOA, SVOA, PCB, TPH, GEA, gross alpha, gross beta, total uranium
Zone 2, Segment 16	Shallow`	J1R3F6		N 116296 E 593985	
Zone 2, Segment 15		J1R3F7		N 116295 E 593950	
Zone 2, Segment 10		J1R3F8		N 116272 E 593926	
Zone 2, Segment 10		J1R3F9		N 116251 E 593926	
Zone 2, Segment 5	Deep	J1R3H0		N 116172 E 594017	
Zone 2, Segment 8		J1R3H1		N 116180 E 593924	

Table 4. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 2. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations, (WSP, m)	Sample Analysis
Trip blank	NA	J1R3H3	12/10/2012	NA	VOA
Equipment blank		J1R3H4			ICP metals [a], mercury

Source: Field logbook EL-1665 (WCH 2013e).

[a] Analysis for the expanded list of ICP metals included antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, vanadium, and zinc in the analytical results package.

[b] J1R7R2 was collected after further excavation due to the high PCB result for the original sample, J1R3F4. The PCB data for J1R7R2 replaces the PCB data for J1R3F4. The remaining J1R3F4 data is used for verification purposes.

GEA = gamma energy analysis
HEIS = Hanford Environmental Information System
IC = ion chromatography
ICP = inductively coupled plasma
NA = not applicable
PCB = polychlorinated biphenyl
SVOA = semivolatile organic analysis
TPH = total petroleum hydrocarbons
VOA = volatile organic analysis
WSP = Washington State Plane

Table 5. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 3. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations (WSP, m)	Sample Analysis
Zone 4, Segment 3	Shallow	J1R4J5	12/7/2012	N 116035 E 593648	ICP metals [a], mercury, IC anions, nitrite/nitrate, total cyanides/sulfates, VOA, SVOA, PCB, TPH, GEA, gross alpha, gross beta, total uranium
Duplicate of J1R4J5		J1R4L0			
Split of J1R4J5		J1R4F8			
Zone 4, Segment 1		J1R4J6		N 116054 E 593648	
Zone 4, Segment 3		J1R4J7		N 116015 E 593648	
Zone 4, Segment 1		J1R4J8		N 116073 E 593678	
Zone 1, Segment 12		J1R4J9		N 116131 E 593712	
Zone 1, Segment 19		J1R4K0		N 116093 E 593773	
Zone 1, Segment 19		J1R4K1		N 116094 E 593805	
Zone 5, Segment 1		J1R4K2		N 116084 E 593808	
Zone 5, Segment 4		J1R4K3		N 116066 E 593765	
Zone 5, Segment 5		J1R4K4		N 116051 E 593808	
Zone 1, Segment 13		J1R4K5		N 116170 E 593806	
Zone 1, Segment 13		J1R4K6		N 116180 E 593806	
Zone 1, Segment 13		J1R4K7		N 116128 E 593806	
Zone 5, Segment 6		J1R4K8		N 116052 E 593828	
Zone 5, Segment 7		J1R4K9		N 116052 E 593824	
Trip blank	NA	J1R4L1		NA	VOA

Table 5. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 3. (2 Pages)

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations (WSP, m)	Sample Analysis
Equipment blank		J1R4L2	12/7/2012		ICP metals [a], mercury

Source: Field logbook EL-1665 (WCH 2013e).

[a] Analysis for the expanded list of ICP metals included antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, vanadium, and zinc in the analytical results package.

GEA = gamma energy analysis
HEIS = Hanford Environmental Information System
IC = ion chromatography
ICP = inductively coupled plasma
NA = not applicable
PCB = polychlorinated biphenyl
SVOA = semivolatile organic analysis
TPH = total petroleum hydrocarbons
VOA = volatile organic analysis
WSP = Washington State Plane

Table 6. Verification Sample Summary Table for 300-15:2, Fully Excavated Sections North of Apple Street, Staging Pile Areas.

Sample Location	Deep or Shallow Zone	HEIS Number	Sample Date	Coordinate Locations (WSP, m)	Sample Analysis
FS-1	Shallow	J1R876	1/9/2013	N 116119.1 E 593874.3	PCB
FS-2		J1R877		N 116108.5 E 593875.8	
FS-3		J1R878		N 116117.8 E 593890.4	
FS-4		J1R879		N 116103.9 E 593891.2	
FS-5		J1R880		N 116108.9 E 593946.6	
FS-6		J1R881		N 116110.4 E 593958.1	
Composite for ramp area		J1R882		NA	
Duplicate of FS-1		J1R883		N 116119.1 E 593874.3	
Split of FS-1		J1R884			
Equipment blank	NA	J1R8T5		NA	

Source: Field logbook EL-1665 (WCH 2013e).

HEIS = Hanford Environmental Information System
NA = not applicable
PCB = polychlorinated biphenyl
WSP = Washington State Plane

Maps of the verification sample locations for Decision Unit 1, Decision Unit 2, Decision Unit 3, and the Staging Pile Areas are provided in Figures 8 through 11, and summaries of verification samples collected for each 300-15:2 subsite Decision Unit and the Staging Pile Areas are provided in Tables 3 through 6.

Verification Sample Results

Focused soil samples were collected as described in the Verification Sample Design section. Statistical analysis (e.g., calculation of a 95% UCL value) is inappropriate for evaluation of

focused samples; therefore, the results from each sample are evaluated using the maximum detected result for each COPC and comparing the value directly to the cleanup level.

Table 7 provides a comparison of the maximum results for the focused verification samples taken in each of the three decision units against the RAGs. Table 8 provides a comparison of the maximum result for the focused verification samples taken in the two staging pile areas. These maximum results are compared against soil cleanup levels for direct exposure and groundwater and Columbia River protection. All individual verification sample results are provided in Appendix A.

Contaminants that were not detected by laboratory analysis are excluded from Tables 7 and 8. Calculated cleanup levels for calcium, magnesium, potassium, silicon, and sodium are not presented in the RDR/RAWP (DOE-RL 2009). Parameters to calculate cleanup levels for these constituents are not presented in the Cleanup Levels and Risk Calculations (CLARC) Database (Ecology 2013) under WAC 173-340-740(3) or other reference databases. The EPA's *Risk Assessment Guidance for Superfund* (EPA 1989) recommends that aluminum and iron not be considered in site risk evaluations. Therefore, aluminum, calcium, iron, magnesium, potassium, silicon, and sodium are not considered site COPCs and are also not included in these tables. The laboratory-reported data results for all constituents are stored in the Environmental Restoration (ENRE) project-specific database prior to provision to the Hanford Environmental Information System (HEIS) and are presented as an attachment to the relative percent difference (RPD) and direct contact hazard quotient calculation in Appendix A.

Table 7. Comparison of Maximum Contaminant Concentrations to Remedial Action Goals for the 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 1, Decision Unit 2, and Decision Unit 3, Verification Sampling Data. (2 Pages)

COPC	Maximum Result (pCi/g)	Industrial Soil Lookup Values [a] (pCi/g)			Does the Maximum Result Exceed RAGs?	Do the Results Pass RESRAD Modeling?
		Direct Exposure	Protective of Groundwater	Protective of the River		
Uranium-235	1.43	16	13.2	13.2	No	--
Uranium-238	21.2	167	127.4	127.4	No	--
COPC	**Maximum Result (mg/kg)**	**Soil Cleanup Levels [a] (mg/kg)**			**Does the Maximum Result Exceed RAGs?**	**Do the Results Pass RESRAD Modeling?**
		Industrial Direct Exposure	**Protective of Groundwater**	**Protective of the River**		
Arsenic	3.97 (<BG)	58	20 [b]	20 [b]	No	--
Barium	89.7 (<BG)	4,900 [c]	200	400	No	--
Beryllium	0.389 (<BG)	104 [c]	1.51 [d]	1.51 [d]	No	--
Boron [e]	2.51	700,000	320	NA	No	--
Cadmium	0.291 (<BG)	139 [c]	0.81 [d]	0.81 [d]	No	--
Chromium (total)	15.4 (<BG)	5.25E+06	18.5 [d]	18.5 [d]	No	--
Cobalt	9.09 (<BG)	1,050	15.7 [d]	NA	No	--
Copper	105	130,000	59.2	22.0 [d]	Yes	Yes [f]
Lead	10.8	1,000	NA [g]	NA [g]	No	--
Lithium	11.3 (<BG)	7,000	33.5 [d]	NA	No	--
Manganese	435 (<BG)	165,000	512 [d]	NA	No	--

Table 7. Comparison of Maximum Contaminant Concentrations to Remedial Action Goals for the 300-15:2, Fully Excavated Sections North of Apple Street, Decision Unit 1, Decision Unit 2, and Decision Unit 3, Verification Sampling Data. (2 Pages)

COPC	Maximum Result (mg/kg)	Soil Cleanup Levels [a] (mg/kg)			Does the Maximum Result Exceed RAGs?	Do the Results Pass RESRAD Modeling?
		Industrial Direct Exposure	Protective of Groundwater	Protective of the River		
Mercury	1.05	1,050	0.33 [d]	0.33 [d]	Yes	Yes [f]
Molybdenum [e]	0.659	17,500	8	NA	No	--
Nickel	14.7 (<BG)	70,000	19.1 [d]	27.4	No	--
Silver	2.20	17,500	8	0.73 [d]	Yes	Yes [f]
Uranium (total) KPA	47.1	505	53	106	No	--
Vanadium	83.2 (<BG)	24,500	85.1 [d]	NA	No	--
Zinc	106	1.05E+06	480	67.8 [d]	Yes	Yes [f]
Chloride	116	NA	25,000	NA	No	--
Nitrate (as nitrogen)	1.7 (<BG)	5.60E+06	1,000	2,000	No	--
Sulfate	129 (<BG)	NA	25,000	NA	No	--
TPH – diesel + motor oil	89.2	200	200	200	No	--
Aroclor-1242	0.0562	65.6	0.017 [h]	0.017 [h]	Yes	Yes [f]
Aroclor-1248	0.559	65.6	0.017 [h]	0.017 [h]	Yes	Yes [f]
Aroclor-1254	6.80	65.6	0.017 [h]	0.017 [h]	Yes	Yes [f]
Aroclor-1260	1.43	65.6	0.017 [h]	0.017 [h]	Yes	Yes [f]
Total PCBs	8.845	65.6	0.017 [h]	0.017 [h]	Yes	Yes [f]
Butylbenzylphthalate	0.307	700,000	320	250	No	--
Acetone	0.0170	3.15E+06	720	NA	No	--
Methylene chloride	0.0100	17,500	0.5	0.94	No	--
Xylenes	0.00414	700,000	160	NA	No	--

[a] Lookup values and RAGs obtained from the RDR/RAWP (DOE-RL 2009) as amended by Tri-Party Agreement Change Notice TPA-CN-407 (DOE-RL 2010) unless otherwise noted.

[b] The arsenic cleanup level of 20 mg/kg has been agreed to by the Tri-Party Agreement Project Managers.

[c] Carcinogenic cleanup level calculated based on the inhalation exposure pathway (WAC 173-340-750[3]) (Ecology 1996) using an airborne particulate mass-loading rate of 0.0001 g/m^3 (WDOH 1997).

[d] Where cleanup levels are less than background cleanup levels default to background per WAC 173-340-700(4)(d) (Ecology 1996).

[e] No Hanford Site-specific or Washington State background value available.

[f] Based on RESRAD modeling using input parameters and soil-partitioning coefficients from the RDR/RAWP (DOE-RL 2009) for an industrial exposure scenario, residual concentrations of copper, mercury, silver, zinc, and PCBs are not expected to migrate vertically in 1,000 years (based on the contaminant with the lowest distribution coefficient [copper] of 22 mL/g). The vadose zone underlying the soil below the site is approximately 9 m (29.5 ft) thick based on an average ground surface elevation of 120 m (394 ft), a maximum excavation depth of 5 m (16 ft), and a groundwater elevation of approximately 106 m (348 ft) (*Hanford Site Groundwater Monitoring for 2011* [DOE-RL 2012]). Therefore, residual concentrations of these constituents are predicted to be protective of groundwater and the Columbia River.

[g] The RESRAD model predicts that lead will not reach groundwater within 1,000 years based on a generic site profile (4.6-m [15-ft] contaminated zone and 6-m [19.6-ft] uncontaminated zone). Anomalous lead concentrations will be assessed at the time of final subsite closeout to verify protection of groundwater and river pathways (EPA 2004). See Tri-Party Agreement Change Notice TPA-CN-407 (DOE-RL 2010).

[h] Where cleanup levels are less than RDLs, cleanup levels default to RDLs per WAC 173-340-707(2) (Ecology 1996).

--	= not applicable	RAG	= remedial action goal
BG	= background	RDL	= required detection limit
COPC	= contaminant of potential concern	RDR/RAWP	= *Remedial Design Report/Remedial Action Work Plan for the 300 Area*
KPA	= kinetic phosphorescence analysis	RESRAD	= RESidual RADioactivity (dose model)
NA	= not applicable	TPH	= total petroleum hydrocarbons
PCB	= polychlorinated biphenyl	WAC	= *Washington Administrative Code*

Table 8. Comparison of Maximum Contaminant Concentrations to Remedial Action Goals for the 300-15:2, Fully Excavated Sections North of Apple Street, Staging Pile Areas, Verification Sampling Data.

COPC	Maximum Result (mg/kg)	Soil Cleanup Levels [a] (mg/kg)			Does the Maximum Result Exceed RAGs?	Do the Results Pass RESRAD Modeling?
		Industrial Direct Exposure	Protective of Groundwater	Protective of the River		
Aroclor-1248	0.506	65.6	0.017 [b]	0.017 [b]	Yes	Yes [c]
Total PCBs	0.506	65.6	0.017 [b]	0.017 [b]	Yes	Yes [c]

[a] Lookup values and RAGs obtained from the RDR/RAWP (DOE-RL 2009) as amended by Tri-Party Agreement Change Notice TPA-CN-407 (DOE-RL 2010) unless otherwise noted.

[b] Where cleanup levels are less than RDLs, cleanup levels default to RDLs per WAC 173-340-707(2) (Ecology 1996).

[c] Based on RESRAD modeling using input parameters and soil-partitioning coefficients from the RDR/RAWP (DOE-RL 2009) for an industrial exposure scenario, residual concentrations of PCBs are not expected to migrate vertically in 1,000 years (based on the distribution coefficient for aroclor-1248 [43.9 mL/g]). The vadose zone underlying the soil below the staging pile area is approximately 14 m (46 ft) thick based on an average ground surface elevation of 120 m (394 ft) and a groundwater elevation of approximately 106 m (348 ft) (*Hanford Site Groundwater Monitoring for 2011* [DOE-RL 2012]). Therefore, residual concentrations of PCBs are predicted to be protective of groundwater and the Columbia River.

COPC = contaminant of potential concern
PCB = polychlorinated biphenyl
RAG = remedial action goal
RDL = required detection limit
RDR/RAWP = *Remedial Design Report/Remedial Action Work Plan for the 300 Area*
RESRAD = RESidual RADioactivity (dose model)
WAC = *Washington Administrative Code*

DATA EVALUATION

This section demonstrates that contaminant concentrations at the 300-15:2 subsite excavation and SPA decision units achieve the applicable RAGs developed to support industrial land use in the 300 Area as established in the 300-FF-2 ROD (EPA 2001) and documented in the RDR/RAWP (DOE-RL 2009). Tables 7 and 8 compare the maximum cleanup verification focused sample results to the applicable soil RAGs for direct exposure, protection of groundwater, and protection of the Columbia River.

Nonradionuclide Direct Contact Hazard Quotient and Carcinogenic Risk RAGs Attained

Nonradionuclide risk requirements include an individual hazard quotient of less than 1.0, a cumulative hazard quotient of less than 1.0, an individual contaminant carcinogenic risk of less than 1×10^{-6}, and a cumulative carcinogenic risk of less than 1×10^{-5}. For the 300-15:2 subsite, these risk values were not calculated for constituents that were either not detected or were detected at concentrations below Hanford Site or Washington State background levels. The individual and cumulative hazard quotients for noncarcinogenic constituents were less than 1.0. The cumulative hazard quotient for those noncarcinogenic constituents above background or detected levels is 1.9×10^{-1}. Excess cancer risk values for individual nonradionuclide constituents are less than 1×10^{-6}. The total carcinogenic risk value for the carcinogenic constituents above background or detected levels is 1.3×10^{-7}, which is less than the criteria of 1×10^{-5}.

Nonradionuclide Soil RAGs for Groundwater and River Protection Attained

All focused sample results listed in Tables 7 and 8 from verification sampling at the 300-15:2 subsite are below soil RAGs, except for soil cleanup levels protective of groundwater

and the Columbia River for copper, mercury, and PCBs, and the river protection cleanup level for silver and zinc. Data were not collected on the vertical extent of these contaminants, but based on RESidual RADioactivity (RESRAD) input parameters and soil-partitioning coefficients from the RDR/RAWP (DOE-RL 2009) for an industrial exposure scenario, residual concentrations of these contaminants are not expected to migrate vertically in 1,000 years (based on the contaminant with the lowest distribution coefficient [copper] of 22 mL/g). The vadose zone underlying the soil below the site is approximately 9 m (26 ft) thick based on an average ground surface elevation of 120 m (394 ft), a maximum excavation depth of 5 m (16 ft), and a groundwater elevation of approximately 106 m (348 ft) (*Hanford Site Groundwater Monitoring for 2011* [DOE-RL 2012]). Therefore, residual concentrations of these contaminants are predicted to be protective of groundwater and the Columbia River.

Radionuclides

Table 9 compares the radionuclide cleanup verification results above background for the 300-15:2 subsite to direct exposure single radionuclide 15 mrem/yr dose-equivalence values and shows the sum of fractions evaluations. The columns on the left side of the table are the COPCs and the radionuclide activities for the samples, corrected for background, as appropriate. The third column presents the single radionuclide 15 mrem/yr dose-equivalence activity, and the last column presents the maximum values divided by the dose-equivalence activity. As demonstrated by the summation of these fractions, the cumulative dose contributed by residual radionuclide populations will be less than the 15 mrem/yr criterion.

Table 9. Attainment of Radionuclide Industrial Direct Exposure Remedial Action Goal.

Contaminants of Potential Concern	Maximum Values Above Background [a] (pCi/g)	Activity Equivalent to 15 mrem/yr Industrial Dose [b] (pCi/g)	Fraction
Uranium-235	1.32	16	0.083
Uranium-238	20.1	167	0.120
		Total	0.203
		Equivalent Dose (mrem/yr)	3.0

[a] Hanford Site background values for uranium-235 (0.11 pCi/g) and uranium-238 (1.1 pCi/g) (*Hanford Site Background: Part 2, Soil Background for Radionuclides* [DOE-RL 1996]) have been subtracted from the maximum values.

[b] Single radionuclide 15 mrem/yr dose-equivalence values and derivation methodology are presented in the *Remedial Design Report/Remedial Action Work Plan for the 300 Area* (DOE-RL 2009, Table D-5).

In addition, gross alpha and gross beta screening analyses were performed to evaluate if additional isotopic analysis was required. The conclusion was that the maximum gross alpha result was due to elevated uranium concentration in the sample and the maximum gross beta result is almost certainly anomalous and would not be confirmed if the material was reanalyzed (Weiss 2013).

DATA QUALITY ASSESSMENT

A data quality assessment (DQA) was performed to compare the verification sampling approach (WCH 2012), the field logbooks (WCH 2013d, WCH 2013e), and resulting analytical data with the sampling and data quality requirements specified by the project objectives and performance specifications.

The DQA for the 300-15:2 subsite established that the data are of the right type, quality, and quantity to support site verification decisions within specified error tolerances. The evaluation verified that the sample design was sufficient for the purpose of clean site verification. The cleanup verification sample analytical data are stored in the ENRE project-specific database for data evaluation prior to archival in the HEIS and are provided as an attachment to the RPD and direct contact hazard quotient calculation in Appendix A. The detailed DQA is presented in Appendix B.

SUMMARY FOR INTERIM CLOSURE

The 300-15:2 subsite and associated SPA have been evaluated in accordance with the 300-FF-2 ROD (EPA 2001) and the RDR/RAWP (DOE-RL 2009). Verification sampling was performed, and the analytical results indicate that the residual concentrations of COPCs at this site meet the RAGs and corresponding RAOs for direct exposure, groundwater protection, and river protection. In accordance with this evaluation, the verification sampling results support a reclassification of the 300-15:2 subsite to Interim Closed Out. These results show that residual soil concentrations support future land uses that can be represented (or bounded) by an industrial land-use scenario and are protective of groundwater and the Columbia River. The 300-15:2 subsite and associated SPA do not meet the RAGs and RAOs for unrestricted land use; therefore, institutional controls to maintain industrial land use of the site are required. Site excavation extended slightly into the deep zone soils, however, the remediation footprint was evaluated against the more restrictive shallow zone criteria. Therefore, institutional controls to prevent uncontrolled drilling or excavation into the deep-zone are not required.

REFERENCES

40 CFR 141, "National Primary Drinking Water Regulations," *Code of Federal Regulations*, as amended.

BHI, 2001, *Calculation of Total Uranium Activity Corresponding to a Maximum Contaminant Level for Total Uranium of 30 Micrograms per Liter in Groundwater*, 0100X-CA-V0038, Rev. 0, Bechtel Hanford, Inc., Richland, Washington.

DOE Order 5400.5, *Radiation Protection of the Public and the Environment,* as amended, U.S. Department of Energy, Washington, D.C.

DOE-RL, 1996, *Hanford Site Background: Part 2, Soil Background for Radionuclides*, DOE/RL-96-12, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2009, *Remedial Design Report/Remedial Action Work Plan for the 300 Area*, DOE/RL-2001-47, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2010, *Tri Party Agreement Change Notice Form DOE/RL-2001-47 Rev 3 Remedial Design Report Remedial Action Work Plan for the 300 Area*, TPA-CN-407, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2011a, *300 Area Remedial Action Sampling and Analysis Plan*, DOE/RL-2001-48, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2011b, *Tri-Party Agreement Handbook Management Procedures*, RL-TPA-90-0001, Guideline Number TPA-MP-14, "Maintenance of the Waste Information Data System (WIDS)," Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2012, *Hanford Site Groundwater Monitoring for 2011*, DOE/RL-2011-118, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Ecology, 1996, "Model Toxics Control Act – Cleanup," *Washington Administrative Code* (WAC) 173-340, Washington State Department of Ecology, Olympia, Washington.

Ecology, 2013, Cleanup Levels and Risk Calculations (CLARC) Database, Washington State Department of Ecology, Olympia, Washington, https://fortress.wa.gov/ecy/clarc.CLARCHome.aspx.

EPA, 1989, *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A)*, Interim Final, EPA/540/1-89/002, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 2001, *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

EPA, 2004, *Explanation of Significant Differences for the 300-FF-2 Operable Unit Interim Record of Decision*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

Gadbois, L. E., 2013a, "EPA Approval of Clarification to the 300-15:2 Staging Piles Sampling Plan, CCN 169205 to R. F. Guercia, T. Q. Howell, and C. P. Strand, from U.S. Environmental Protection Agency, Richland, Washington, January 9, 2013.

Gadbois, L. E., 2013b, "EPA Approval to Backfill 3 DU, 300-15 North of Apple, Excluding Failed PCB Location," CCN 169579 to R. F. Guercia, T. Q. Howell, and C. P. Strand, from U.S. Environmental Protection Agency, Richland, Washington, January 3, 2013.

Gadbois, L. E., 2013c, "EPA Concurrence to Backfill the 300-15 Failed Focus Sample Location," CCN 169275 to R. F. Guercia, T. Q. Howell, and C. P. Strand, from U.S. Environmental Protection Agency, Richland, Washington, January 15, 2013.

Gadbois, L. E., 2013d, "EPA Concurrence to Backfill Two 300-15 Staging Pile Locations," CCN 169536 to R. F. Guercia , T. Q. Howell, and C. P. Strand, from U.S. Environmental Protection Agency, Richland, Washington, January 22, 2013.

WAC 173-340, 1996, "Model Toxics Control Act – Cleanup," *Washington Administrative Code*.

WCH 2010, *Cleanup Verification Package for the 618-1 Burial Ground*, CVP-2010-00001, Rev. 0, Washington Closure Hanford, Richland, Washington.

WCH, 2011, *Volume Estimate for the 300-15 Pipeline North-of-Apple-Street*, 0300X-CA-V0055, Rev. 1, Washington Closure Hanford, Richland, Washington.

WCH, 2012, *Work Instruction for Verification Sampling of 300-15, Fully Excavated Sections North of Apple Street, 300 Area Process Sewer System,* 0300X-WI-G0034, Rev. 0, Washington Closure Hanford, Richland, Washington.

WCH, 2013a, *300-15:2 BCM Shipped to ERDF*, CCN 169728, Washington Closure Hanford, Richland, Washington, February 5.

WCH, 2013b, *300-15:2 Subsite Pipeline Excavation Information*, CCN 169752, Washington Closure Hanford, Richland, Washington, February 7.

WCH, 2013c, "300 Area Site Plan Waste Site 300-15 North of Apple" Drawing H-3-316268, SHT01, Revision 2, Washington Closure Hanford, Richland, Washington.

WCH, 2013cd, *D4 Waste Site Miscellaneous Sampling*, Logbook EL-1663-03, pp. 9-19,Washington Closure Hanford, Richland, Washington.

WCH, 2013de, *D4 Waste Site Sampling*, Logbook EL-1665, pp. 46-61, 72-73, and 78-81,Washington Closure Hanford, Richland, Washington.

WCH, 2013ef, *Start & Finish Dates for 300-15 North of Apple Remediation (Excavation Only)*, CCN 169727, Washington Closure Hanford, Richland, Washington, February 5.

WCH, 2013fg, *Work Instruction for Verification Sampling of the 300-15:2, 300 Area Process Sewer, Fully Excavated Sections North of Apple Street Staging Pile Areas,* 0300X-WI-G0041, Rev. 0, Washington Closure Hanford, Richland, Washington.

WDOH, 1997, *Hanford Guidance for Radiological Cleanup*, WDOH/320-015, Rev. 1, Washington State Department of Health, Olympia, Washington.

Weiss, R. L., 2013, "Cross Tab File for 300-15 High Beta for Sample J1PW76," CCN 169157 to J. R. Davidson, N. K. Schiffern, and J. H. Kessner, Washington Closure Hanford, Richland, Washington, January 3, 2013.

APPENDIX A

RELATIVE PERCENT DIFFERENCE (RPD), DIRECT CONTACT HAZARD QUOTIENT, AND CARCINOGENIC RISK CALCULATIONS

APPENDIX A

CALCULATION BRIEF

The calculations in this appendix are kept in the active Washington Closure Hanford project files and are available upon request. When the project is completed, the file will be stored in a U.S. Department of Energy, Richland Operations Office repository. This calculation has been prepared in accordance with ENG-1, *Engineering Services*, ENG-1-4.5, "Project Calculation," Washington Closure Hanford, Richland, Washington. The following calculations are provided in this appendix:

300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculation, 0300X-CA-V0166, Rev. 0, Washington Closure Hanford, Richland, Washington.

DISCLAIMER FOR CALCULATIONS

The calculations that are provided in this appendix have been generated to document compliance with established cleanup levels. These calculations should be used in conjunction with other relevant documents in the administrative record.

Acrobat 8.0

CALCULATION COVER SHEET

Project Title: 300 Area Field Remediation **Job No. 14655**

Area: 300 Area Remaining Sites

Discipline: Environmental Calculation No: 0300X-CA-V0166

Subject: 300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculation

Computer Program: Excel Program No: Excel 2003

The attached calculations have been generated to document compliance with established cleanup levels. These calculations should be used in conjunction with other relevant documents in the administrative record.

Committed Calculation ☒ Preliminary ☐ Superseded ☐ Voided ☐

Rev.	Sheet Numbers	Originator	Checker	Reviewer	Approval	Date
0	Cover = 1 Summary = 17 Attachment 1 = 49 Total = 67	N. K. Schiffern N.K. Schiffern	I. B. Berezovskiy I.B. Berezovskiy	J. D. Skoglie J.D. Skoglie	T. Q. Howell T.Q. Howell	3/25/13

SUMMARY OF REVISION

WCH-DE-018 (05/08/2007)

DE01-437.03

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	3/12/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	3/12/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 1 of 17	

PURPOSE:

Provide documentation to support the calculation of the direct contact hazard quotient (HQ) and excess carcinogenic risk for the 300-15:2, *300 Area Process Sewer North of Apple Street* subsite. In accordance with the remedial action goals (RAGs) in the remedial design report/remedial action work plan (RDR/RAWP) (DOE-RL 2009), the following criteria must be met:

1) An HQ of <1.0 for all individual noncarcinogens
2) A cumulative HQ of <1.0 for noncarcinogens
3) An excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens
4) A cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.

Also, calculate the relative percent difference (RPD) for primary-duplicate and primary- split sample pairs from the 300-15:2 subsite verification sampling, as necessary.

GIVEN/REFERENCES:

1) DOE-RL, 2009, *Remedial Design Report/Remedial Action Work Plan for the 300 Area*, DOE/RL-2001-47, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

2) DOE-RL, 2011, *300 Area Remedial Action Sampling and Analysis Plan*, DOE/RL-2001-48, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

3) EPA, 1994, *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA 540/R-94/013, U.S. Environmental Protection Agency, Washington, D.C.

4) WAC 173-340, "Model Toxics Control Act – Cleanup," *Washington Administrative Code*, 1996.

5) WCH, 2013, *Remaining Sites Verification Package for the 300-15:2, 300 Area Process Sewer North of Apple Street*, Attachment to Waste Site Reclassification Form 2012-120, Washington Closure Hanford, Inc., Richland, Washington.

SOLUTION:

1) Generate an HQ for each noncarcinogenic constituent detected above background or required detection limit/practical quantitation limit and compare it to the individual HQ of <1.0 (DOE-RL 2009).

2) Sum the HQs and compare this value to the cumulative HQ of <1.0.

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/21/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 2 of 17	

3) Generate an excess cancer risk value for each carcinogenic constituent detected above background or required detection limit/practical quantitation limit and compare it to the excess cancer risk of $<1 \times 10^{-6}$ (DOE-RL 2009).

4) Sum the excess cancer risk value(s) and compare it to the cumulative cancer risk of $<1 \times 10^{-5}$.

5) Use data from WCH (2013) to perform the RPD calculations for primary-duplicate and primary-split sample pairs, as required.

METHODOLOGY:

The 300-15:2 subsite underwent verification sampling at four decision units; sixteen focused samples from Decision Unit 1, fourteen from Decision Unit 2, fifteen from Decision Unit 3, and 6 focused and one composite sample from the staging pile area were collected. Also taken were four pairs of duplicate and split samples and five equipment blanks. A total of forty five focused samples were collected for the 300-15:2 subsite. The direct contact hazard quotient and carcinogenic risk calculations for the 300-15:2 sibsite were conservatively calculated for the entire waste site using the greatest of the maximum soil sample results (WCH 2013). Of the contaminants of potential concern (COPCs) for this subsite, copper, mercury, silver, uranium, and zinc require HQ and risk calculations because these analytes were detected above background values. Boron, molybdenum, detected polychlorinated biphenyls (PCB), butylbenzylphthalate, and detected volatile organic compounds (VOCs) require HQ and risk calculations because these analytes were detected and a Washington State or Hanford Site background value is not available. Lead was detected above background; however, lead does not have a reference dose for calculation of a hazard quotient because toxic effects of lead are correlated with blood-lead levels rather than exposure levels or daily intake. Although total petroleum hydrocarbons (diesel range plus motor oil) were detected and no background value is available, the risk associated with total petroleum hydrocarbons do not contribute to the cumulative toxicity calculation. All other site nonradionuclide COPCs were not detected or were quantified below background levels. Due to an exceedance of the residential carcinogenic risk criteria for PCBs, the entire data set was evaluated against the industrial HQ and risk standards. An example of the HQ and risk calculations is presented below:

1) For example, the maximum value for boron is 2.51 mg/kg, divided by the noncarcinogenic RAG value of 700,000 mg/kg (calculated in accordance with the noncarcinogenic toxics effects formula in WAC 173-340-740[3]), produces a HQ value of 3.6×10^{-6}. Comparing this value, and all other individual values, to the requirement of <1.0, this criterion is met.

2) After the HQ calculation is completed for the appropriate analytes, the cumulative HQ can be obtained by summing the individual values. To avoid errors due to intermediate rounding, the individual HQ values prior to rounding are used for this calculation. The sum of the HQ values is 1.9×10^{-1}. Comparing this value to the requirement of <1.0, this criterion is met.

3) To calculate the excess cancer risk, the maximum value is divided by the carcinogenic RAG value, then multiplied by 1.0×10^{-6}. For example, the maximum value for methylene chloride is 0.0100 mg/kg; divided by 17,500 mg/kg, and multiplied as indicated, is 5.7×10^{-13}. Comparing this value to the requirement of $<1 \times 10^{-6}$, this criterion is met.

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/21/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 3 of 17	

4) After these calculations are completed for the carcinogenic analytes, the cumulative excess cancer risk is obtained by summing the individual values. The excess cancer risk for the carcinogenic constituents detected is 1.3×10^{-7}. Comparing this value to the requirement of $<1 \times 10^{-5}$, this criterion is met.

5) The RPD is calculated when both the primary value and the duplicate value for a given analyte are above detection limits and are greater than 5 times the target detection limit (TDL). The TDL is a laboratory detection limit pre-determined for each analytical method and is listed for certain analytes in Table II-1 of the SAP (DOE-RL 2011). Other analytes will have their own pre-determined constituents and will have their own TDLs based on the laboratory and method used. Where direct evaluation of the attached sample data showed that a given analyte was not detected in the primary and/or duplicate sample, further evaluation of the RPD value was not performed. The RPD calculations use the following formula:

$$RPD = [\ |M-D|/((M+D)/2)]*100$$

where, M = main sample value D = duplicate sample value

When an analyte is detected in the primary or duplicate sample, but was quantified at less than 5 times the TDL in one or both samples, an additional parameter is evaluated. In this case, if the difference between the primary and duplicate results exceeds a control limit of 2 times the TDL, further assessment regarding the usability of the data is performed. This assessment is provided in the data quality assessment section of the RSVP.

For quality assurance/quality control (QA/QC) duplicate RPD calculations, a value less than 30% indicates the data compare favorably. For regulatory splits, a threshold of 35% is used (EPA 1994). If the RPD is greater than 30% (or 35% for regulatory split data), further investigation regarding the usability of the data is performed. No split samples were collected for the confirmatory sampling of the subject site. Additional discussion is provided in the data quality assessment section of the applicable RSVP (WCH 2013), as necessary.

RESULTS:

1) List individual noncarcinogens and corresponding HQs >1.0: None
2) List the cumulative noncarcinogenic HQ >1.0: None
3) List individual carcinogens and corresponding excess cancer risk $>1 \times 10^{-6}$: None
4) List the cumulative excess cancer risk for carcinogens $>1 \times 10^{-5}$: None

Table 1 shows the results of the industrial direct contact calculations.

5) The evaluation of the QA/QC duplicate and split RPD calculations are performed within the data quality assessment section of the RSVP.

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/22/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/22/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 4 of 17	

Table 2 through 6 show the results of the RPD calculations for the 300-15:2 subsite.

Table 1. Industrial Direct Contact HQ and Excess Cancer Risk Results for the 300-15:2 Subsite.

Contaminants of Potential Concern	Maximum Value[a] (mg/kg)	Industrial Noncarcinogen RAG[b] (mg/kg)	Hazard Quotient	Industrial Carcinogen RAG[b] (mg/kg)	Carcinogen Risk
Metals					
Boron	2.51	700,000	3.6E-06	--	--
Copper	105	130,000	8.1E-04	--	--
Lead	10.8	1,000	--	--	--
Mercury	1.05	1,050	1.0E-03	--	--
Molybdenum	0.659	17,500	3.8E-05	--	--
Silver	2.20	17,500	1.3E-04	--	--
Uranium	47.1	505	9.3E-02	--	--
Zinc	106	1,050,000	1.0E-04	--	--
Volatiles					
Acetone	0.0170	3,150,000	5.4E-09	--	--
Methylenechloride	0.0100	210,000	4.8E-08	17,500	5.7E-13
Xylene	0.00414	700,000	5.9E-09	--	--
Semivolatiles					
Butylbenzylphthalate	0.307	700,000	4.4E-07	--	--
Total Petroleum Hydrocarbons					
TPH - Diesel and Motor Oil[c]	89.2	200	--	--	--
Polychlorinated Biphenyls					
Aroclor-1242	0.0562	--	--	65.6	8.6E-10
Aroclor-1248	0.559	--	--	65.6	8.5E-09
Aroclor-1254	6.80	70	9.7E-02	65.6	1.0E-07
Aroclor-1260	1.43	--	--	65.6	2.2E-08
Totals					
Cumulative Hazard Quotient:			**1.9E-01**		
Cumulative Excess Cancer Risk:					**1.3E-07**

Notes:

[a] = From WCH (2013).

[b] = Value obtained from the RDR/RAWP (DOE-RL 2001-47) or *Washington Administrative Code* (WAC) 173-340-740(3), Method B, 1996, unless otherwise noted.

[c] = The risk associated with total petroleum hydrocarbons do not contribute to the cumulative toxicity calculation.

-- = not applicable

RAG = remedial action goal

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/21/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 5 of 17	

Table 2. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Analysis. (2 pages)

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Potassium-40			Radium-226			Radium-228			Thorium-228		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
DU-1 #7	J1PW73	7/25/2012	16.1		0.278	0.428		0.048	0.805		0.124	0.972		0.052
Duplicate of J1PW73	J1PW74	7/25/2012	15.5		0.196	0.430		0.044	0.743		0.102	0.708		0.034

Analysis:

TDL		0.5	0.1	0.2	1
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	3.8%			
	Difference > 2 TDL?	Not applicable	No - acceptable	No - acceptable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Thorium-232			Gross alpha			Gross beta			Aluminum		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	0.805		0.124	7.95		2.19	16.6		3.73	5470		4.41
Duplicate of J1PW73	J1PW74	7/25/2012	0.743		0.102	8.75		3.21	23.0		6.14	5560		4.34

Analysis:

TDL		1	10	5	5
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	Yes (calc RPD)
	RPD				1.6%
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	Not applicable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Arsenic			Barium			Beryllium			Boron		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	2.46		0.882	54.2		0.441	0.214		0.176	1.03	B	1.76
Duplicate of J1PW73	J1PW74	7/25/2012	2.13		0.868	63.8		0.434	0.219		0.174	0.953	B	1.74

Analysis:

TDL		10	2	0.5	2
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD		16.3%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Cadmium			Calcium			Chromium			Cobalt		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	0.112	B	0.176	4140		88.2	8.31		0.176	5.06		1.76
Duplicate of J1PW73	J1PW74	7/25/2012	0.134	B	0.174	3920		86.8	8.65		0.174	4.86		1.74

Analysis:

TDL		0.5	100	1	2
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		5.5%	4.0%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Copper			Iron			Lead			Lithium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	9.44		0.882	16600		17.6	2.94		0.441	5.75		2.21
Duplicate of J1PW73	J1PW74	7/25/2012	9.00		0.868	16400		17.4	2.71		0.434	6.36		2.17

Analysis:

TDL		1	5	5	2.5
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	4.8%	1.2%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/21/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 6 of 17	

Table 2. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Analysis. (2 pages)

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Magnesium			Manganese			Molybdenum			Nickel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	3470		66.2	242		4.41	0.272	B	1.76	7.98		3.53
Duplicate of J1PW73	J1PW74	7/25/2012	3680		65.1	253		4.34	0.422	B	1.74	7.74		3.47

Analysis:

TDL		75	5	2	4
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		No-Stop (acceptable)
	RPD	5.9%	4.4%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Potassium			Silicon			Sodium			Uranium -KPA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	979		353	411		1.76	169		44.1	2.58		0.088
Duplicate of J1PW73	J1PW74	7/25/2012	1050		347	465		1.74	175		43.4	2.90		0.088

Analysis:

TDL		400	2	50	3
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		12.3%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Vanadium			Zinc			Zirconium			Nitrate		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	45.7		2.21	37.1		8.82	16.7		2.21	2.9		1.0
Duplicate of J1PW73	J1PW74	7/25/2012	44.5		2.17	36.9		8.68	17.9		2.17	3.0		1.0

Analysis:

TDL		2.5	1	2.5	2.5
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD	2.7%	0.5%	6.9%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Nitrogen in Nitrite and Nitrate			Phosphate			Sulfate			TPH - diesel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	ug/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	0.62		0.10	2.0		2.0	7.3		1.0	13500		3310
Duplicate of J1PW73	J1PW74	7/25/2012	0.69		0.10	2.1		2.0	7.2		1.0	6160		3300

Analysis:

TDL		0.75	5	5	5000
Duplicate Analysis	Both > PQL?	Yes (continue)	No-Stop (acceptable)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)		No-Stop (acceptable)	No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable

300-15:2 Duplicate Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	TPH - motor oil			Aroclor-1254			Aroclor-1260		
			ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
DU-1 #7	J1PW73	7/25/2012	19600		9920	5340	D	543	1150	D	543
Duplicate of J1PW73	J1PW74	7/25/2012	9870	J	9910	6800	D	532	1430	D	532

Analysis:

TDL		5000	16.5	16.5
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)
	RPD		24.1%	21.7%
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern YD	Date:	1/22/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/22/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 7 of 17	

Table 3. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Split Analysis. (2 pages)

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Radium-226			Radium-228			Gross beta			Aluminum		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	0.536		0.0620	1.07		0.133	71.1		6.07	5910		4.04
Split of J1PW76	J1PWM0	7/25/2012	0.403		0.0627	0.599		0.128	24.7		2.28	8040		1.60

Analysis:

TDL		0.1	0.2	5	5
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	Yes (calc RPD)
	RPD				*30.5%*
	Difference > 2 TDL?	No - acceptable	Yes - assess further	Yes - assess further	Not applicable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Arsenic			Barium			Beryllium			Boron		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	2.18		0.809	66.6		0.404	0.226		0.162	0.92	B	1.62
Split of J1PW76	J1PWM0	7/25/2012	2.1		0.66	79.9	X	0.076	0.15	B	0.033	1.3	B	0.98

Analysis:

TDL		10	2	0.5	2
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD		18.2%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Cadmium			Calcium			Chromium			Cobalt		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	0.0854	B	0.162	3290		80.9	7.50		0.162	4.83		1.62
Split of J1PW76	J1PWM0	7/25/2012	0.12	B	0.041	4590	X	14.2	11.7		0.058	7.7	X	0.10

Analysis:

TDL		0.5	100	1	2
Split Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		*33.0%*	*43.8%*	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Copper			Iron			Lead			Lithium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	10.1		0.809	15500		16.2	2.78		0.404	6.52		2.02
Split of J1PW76	J1PWM0	7/25/2012	13.6	X	0.22	21600	X	3.8	3.7		0.27	7.40		0.30

Analysis:

TDL		1	5	5	75
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	29.5%	*32.9%*		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Magnesium			Manganese			Molybdenum			Nickel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	3440		60.7	241		4.04	0.238	B	1.62	8.04		3.24
Split of J1PW76	J1PWM0	7/25/2012	4840	X	3.7	336	X	0.10	0.36	B	0.26	13.1	X	0.12

Analysis:

TDL		75	5	2	4
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		No-Stop (acceptable)
	RPD	*33.8%*	*32.9%*		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

Washington Closure Hanford, Inc. CALCULATION SHEET

Originator:	N. K. Schiffern	Date:	1/22/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/22/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 8 of 17	

Table 3. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Split Analysis. (2 pages)

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Potassium			Silicon			Sodium			Uranium -KPA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	1070		324	357		1.62	232		40.4	5.21		0.088
Split of J1PW76	J1PWM0	7/25/2012	1520		41.2	360	N	5.7	330		59.3	4.69		0.33

Analysis:

TDL		400	2	50	3
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		0.8%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Vanadium			Zinc			Zirconium			Chloride		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	41.8		2.02	34.8		8.09	17.3		2.02	8.3		1.0
Split of J1PW76	J1PWM0	7/25/2012	55.2		0.094	44.7	X	0.40	20.1	X	0.36	9.7		2.0

Analysis:

TDL		3	1	2.5	2.0
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD	27.6%	24.9%	15.0%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable

300-15:2 Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Nitrate [a]			Nitrogen in Nitrite and Nitrate			Sulfate			TPH - diesel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	ug/kg	Q	PQL
DU-1 #9	J1PW76	7/25/2012	2.4		1.0	0.57		0.10	27.7		1.0	6290		3300
Split of J1PW76	J1PWM0	7/25/2012	3.9	B	1.4	0.36	B	0.31	24.5		1.7	3200	J	700

Analysis:

TDL		2.5	0.75	5	5000
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable

[a] nitrate valus of the sample J1PWM0 was converted from nitrogen in nitrate value.

Table 4. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Bismuth-214			Lead-212			Potassium-40			Radium-226		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Zone 6 Seg.1	J1R4C7	12/5/2012	0.431		0.150	0.571		0.095	12.1		0.723	0.418		0.146
Duplicate of J1R4C7	J1R4D1	12/5/2012	0.362		0.053	0.533		0.039	13.2		0.272	0.351		0.052
Split of J1R4C7	J1R4H1	12/5/2012										0.430		0.0361

Analysis:

TDL		0.25	0.25	0.5	0.1
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)
	RPD			8.7%	
	Difference > 2 TDL?	No - acceptable	No - acceptable	Not applicable	No - acceptable
Split Analysis	Both > PQL?				Yes (continue)
	Both >5xTDL?				No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?				No - acceptable

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Originator:	N. K. Schiffern	Date:	1/21/2013	Calc. No.:	0300X-CA-V0166	Rev.:	0
Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 9 of 17	

Table 4. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Radium-228			Thorium-228			Thorium-232			Gross alpha		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Zone 6 Seg.1	J1R4C7	12/5/2012	0.885		0.234	0.552		0.092	0.885		0.234	6.94		3.50
Duplicate of J1R4C7	J1R4D1	12/5/2012	0.577		0.101	0.516		0.038	0.577		0.101	5.55		3.57
Split of J1R4C7	J1R4H1	12/5/2012	0.660		0.0808							9.98		7.00

Analysis:

TDL		0.2	1	1	10
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)			Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)			No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable			No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Gross beta			Aluminum			Arsenic			Barium		
			pCi/g	Q	MDA	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	16.4		5.67	7100		14.4	2.61	B	2.87	80.7		1.44
Duplicate of J1R4C7	J1R4D1	12/5/2012	22.3		6.92	6770		15.1	2.65	B	3.02	71.9		1.51
Split of J1R4C7	J1R4H1	12/5/2012	25.8		2.12	6480		1.6	2.2		0.68	78.0		0.079

Analysis:

TDL		5	5	10	2
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)		Yes (calc RPD)
	RPD		4.8%		11.5%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)		Yes (calc RPD)
	RPD		9.1%		6.0%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Beryllium			Calcium			Chromium			Cobalt		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	0.264	B	0.575	5120		287	8.97		0.575	6.56		5.75
Duplicate of J1R4C7	J1R4D1	12/5/2012	0.273	B	0.603	5160		302	8.49		0.603	6.49		6.03
Split of J1R4C7	J1R4H1	12/5/2012	0.034	U	0.034	4750	X	14.8	7.8	X	0.060	6.9	X	0.10

Analysis:

TDL		0.5	100	1	2
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		0.8%	5.5%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?		Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		7.5%	14.0%	
	Difference > 2 TDL?		Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Copper			Iron			Lead			Lithium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	14.8		2.87	21500		57.5	4.81		1.44	7.88		7.18
Duplicate of J1R4C7	J1R4D1	12/5/2012	13.0		3.02	22100		60.3	4.92		1.51	6.39	B	7.54
Split of J1R4C7	J1R4H1	12/5/2012	16.0	X	0.23	19900		3.9	5.6		0.28	6.6		0.31

Analysis:

TDL		1	5	5	75
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD	12.9%	2.8%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	7.8%	7.7%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

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Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 10 of 17	

Table 4. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Magnesium			Manganese			Mercury			Nickel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	4550		216	341		14.4	1.05		0.0311	9.10	B	11.5
Duplicate of J1R4C7	J1R4D1	12/5/2012	4010		226	286		15.1	0.18		0.0282	8.07	B	12.1
Split of J1R4C7	J1R4H1	12/5/2012	3910		3.8	337		0.10	0.0057	U	0.0057	9.0		0.13

Analysis:

TDL		75	5	0.2	4
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD	12.6%	17.5%		
	Difference > 2 TDL?	Not applicable	Not applicable	Yes - assess further	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)		No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		
	RPD	15.1%	1.2%		
	Difference > 2 TDL?	Not applicable	Not applicable		No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Potassium			Silicon			Sodium			Uranium -KPA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	1280		1150	408		5.75	231		144	4.69		0.089
Duplicate of J1R4C7	J1R4D1	12/5/2012	1160	B	1210	367		6.03	313		151	3.73		0.089
Split of J1R4C7	J1R4H1	12/5/2012	1050		42.5	324	XN	5.9	237		61.2	6.27		0.134

Analysis:

TDL		400	2	50	3
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		10.6%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		23.0%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Vanadium			Zinc			Zirconium			Nitrogen in Nitrite and Nitrate		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	54.9		7.18	48.6		28.7	19.3		7.18	0.23	B	0.10
Duplicate of J1R4C7	J1R4D1	12/5/2012	58.7		7.54	48.7		30.2	22.6		7.54	0.24	B	0.10
Split of J1R4C7	J1R4H1	12/5/2012	53.7		0.098	47.1	X	0.41	19.4		0.37	0.32	U	0.32

Analysis:

TDL		3	1	2.5	0.75
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD	6.7%	0.2%	15.8%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	
	RPD	2.2%	3.1%	0.5%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	

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Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 11 of 17	

Table 4. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 1_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Phosphate			Sulfate			TPH - motor oil			Aroclor-1242		
			mg/kg	Q	PQL	mg/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	2.1	B	2.1	4.5	B	1.0	9660	J	10700	4.52	J	14.2
Duplicate of J1R4C7	J1R4D1	12/5/2012	2.4	B	2.0	4.8	B	1.0	13800		10600	3.89	J	14.0
Split of J1R4C7	J1R4H1	12/5/2012				4.9	B	1.8				4.90	U	4.9

Analysis:

TDL		10	5	5000	16.5
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	**Yes (continue)**	No-Stop (acceptable)	No-Stop (acceptable)
	Both >5xTDL?		No-Stop (acceptable)		
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?		**Yes (continue)**		
	Both >5xTDL?		No-Stop (acceptable)		
	RPD				
	Difference > 2 TDL?		No - acceptable		

300-15:2 Duplicate Split Analysis - Decision Unit 1

Sampling Area	HEIS Number	Sample Date	Aroclor-1254		
			ug/kg	Q	PQL
Zone 6 Seg.1	J1R4C7	12/5/2012	7.84	J	14.2
Duplicate of J1R4C7	J1R4D1	12/5/2012	6.97	J	14.0
Split of J1R4C7	J1R4H1	12/5/2012	2.7	U	2.7

Analysis:

TDL		16.5
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)
	Both >5xTDL?	
	RPD	
	Difference > 2 TDL?	No - acceptable
Split Analysis	Both > PQL?	
	Both >5xTDL?	
	RPD	
	Difference > 2 TDL?	

Table 5. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 2_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Bismuth-214			Lead-212			Potassium-40			Radium-226		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Zone 2 Seg. 19	J1R3D8	12/10/2012	0.354		0.160	0.605		0.155	11.4		0.449	0.344		0.156
Duplicate of J1R3D8	J1R3H2	12/10/2012	0.368		0.135	0.528		0.102	11.0		0.882	0.357		0.132
Split of J1R3D8	J1R3H7	12/10/2012										0.356		0.0411

Analysis:

TDL		0.25	0.25	0.5	0.1
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	**Yes (calc RPD)**	No-Stop (acceptable)
	RPD			3.6%	
	Difference > 2 TDL?	No - acceptable	No - acceptable	Not applicable	No - acceptable
Split Analysis	Both > PQL?				**Yes (continue)**
	Both >5xTDL?				No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?				No - acceptable

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Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 12 of 17	

Table 5. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 2_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Radium-228			Thorium-228			Thorium-232			Gross alpha		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Zone 2 Seg. 19	J1R3D8	12/10/2012	0.496		0.313	0.585		0.149	0.496		0.313	6.12		3.40
Duplicate of J1R3D8	J1R3H2	12/10/2012	0.728		0.204	0.510		0.098	0.728		0.204	4.44		3.51
Split of J1R3D8	J1R3H7	12/10/2012	0.640		0.0863							3.52	U	6.90

Analysis:

TDL		0.2	1	1	10
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)			No-Stop (acceptable)
	Both >5xTDL?	No-Stop (acceptable)			
	RPD				
	Difference > 2 TDL?	No - acceptable			No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Gross beta			Aluminum			Arsenic			Barium		
			pCi/g	Q	MDA	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	16.5		5.65	7690		14.7	3.29		2.93	72.3		1.47
Duplicate of J1R3D8	J1R3H2	12/10/2012	16.0		4.93	8010		14.0	3.29		2.81	78.3		1.40
Split of J1R3D8	J1R3H7	12/10/2012	20.1		2.30	7110	X	1.6	3.2		0.67	65.1	X	0.077

Analysis:

TDL		5	5	10	2
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	Yes (calc RPD)
	RPD		4.1%		8.0%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)	No-Stop (acceptable)	Yes (calc RPD)
	RPD		7.8%		10.5%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Beryllium			Calcium			Chromium			Cobalt		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	0.332	B	0.587	8890		293	9.71		0.587	8.03		5.87
Duplicate of J1R3D8	J1R3H2	12/10/2012	0.333	B	0.562	8610		281	9.55		0.562	8.03		5.62
Split of J1R3D8	J1R3H7	12/10/2012	0.43		0.034	7160	X	14.4	7.7	X	0.059	6.7	X	0.10

Analysis:

TDL		0.5	100	1	2
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		3.2%	1.7%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		21.6%	23.1%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Copper			Iron			Lead			Lithium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	14.4		2.93	25200		58.7	4.31		1.47	8.16		7.33
Duplicate of J1R3D8	J1R3H2	12/10/2012	14.4		2.81	24600		56.2	4.48		1.40	7.79		7.02
Split of J1R3D8	J1R3H7	12/10/2012	14.3	X	0.22	21700	X	3.9	3.6		0.28	7.6		0.31

Analysis:

TDL		1	5	5	75
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	0.0%	2.4%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD	0.7%	14.9%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

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Project:	300 Area Field Remediation	Job No:	14655	Checked:	I. B. Berezovskiy	Date:	1/21/2013
Subject:	300-15:2 Subsite Relative Percent Difference (RPD) and Direct Contact Hazard Quotient and Carcinogenic Risk Calculations					Sheet No. 13 of 17	

Table 5. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 2_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Magnesium			Manganese			Mercury			Nickel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	5320		220	354		14.7	0.0174	B	0.0293	10.7	B	11.7
Duplicate of J1R3D8	J1R3H2	12/10/2012	5080		211	355		14.0	0.0225	B	0.0253	10.9	B	11.2
Split of J1R3D8	J1R3H7	12/10/2012	5030	X	3.8	290	X	0.10	0.0058	U	0.0058	10.3	X	0.13

Analysis:

TDL		Magnesium: 75	Manganese: 5	Mercury: 0.2	Nickel: 4
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		
	RPD	4.6%	0.3%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)		No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		
	RPD	5.6%	19.9%		
	Difference > 2 TDL?	Not applicable	Not applicable		No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Potassium			Silicon			Sodium			Uranium -KPA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	1140	B	1170	825		5.87	327		147	1.67		0.076
Duplicate of J1R3D8	J1R3H2	12/10/2012	1210		1120	624		5.62	334		140	1.39		0.076
Split of J1R3D8	J1R3H7	12/10/2012	1080		41.8	232		5.8	289		60.1	0.879		0.142

Analysis:

TDL		Potassium: 400	Silicon: 2	Sodium: 50	Uranium -KPA: 3
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		27.7%	2.1%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		*112.2%*	12.3%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Vanadium			Zinc			Zirconium			Sulfate		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	71.9		7.33	47.8		29.3	26.9		7.33	2.5	B	1.0
Duplicate of J1R3D8	J1R3H2	12/10/2012	71.3		7.02	46.1		28.1	26.3		7.02	2.3		1.0
Split of J1R3D8	J1R3H7	12/10/2012	61.2	X	0.096	47.5	X	0.41	21.1		0.36	3.7	B	1.8

Analysis:

TDL		Vanadium: 2.5	Zinc: 1	Zirconium: 2.5	Sulfate: 5
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD	0.8%	3.6%	2.3%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD	16.1%	0.6%	24.2%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	TPH - motor oil			Aroclor-1254			Aroclor-1260			Acetone		
			ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	29000		10600	19.5		14.2	6.63	J	14.2	14.3		11.9
Duplicate of J1R3D8	J1R3H2	12/10/2012	89200		51400	19.1		13.8	6.91	J	13.8	5.59	J	12.3
Split of J1R3D8	J1R3H7	12/10/2012				24	P	2.6	17		2.6	6.0	U	6.0

Analysis:

TDL		TPH - motor oil: 5000	Aroclor-1254: 16.5	Aroclor-1260: 17	Acetone: 10
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	No-Stop (acceptable)		
	RPD	*101.9%*			
	Difference > 2 TDL?	Not applicable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?		Yes (continue)	No-Stop (acceptable)	
	Both >5xTDL?		No-Stop (acceptable)		
	RPD				
	Difference > 2 TDL?		No - acceptable	No - acceptable	

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Table 5. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 2_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 2

Sampling Area	HEIS Number	Sample Date	Methylenechloride ug/kg	Q	PQL
Zone 2 Seg. 19	J1R3D8	12/10/2012	2.94	J	5.96
Duplicate of J1R3D8	J1R3H2	12/10/2012	2.07	J	6.16
Split of J1R3D8	J1R3H7	12/10/2012	1.8	U	1.8

Analysis:

TDL		10
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)
	Both >5xTDL?	
	RPD	
	Difference > 2 TDL?	No - acceptable
Split Analysis	Both > PQL?	
	Both >5xTDL?	
	RPD	
	Difference > 2 TDL?	

Table 6. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 3_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Bismuth-214 pCi/g	Q	MDA	Lead-212 pCi/g	Q	MDA	Potassium-40 pCi/g	Q	MDA	Radium-226 pCi/g	Q	MDA
Zone 4 Seg. 3	J1R4J5	12/7/2012	0.522		0.050	0.827		0.042	16.8		0.186	0.507		0.049
Duplicate of J1R4J5	J1R4L0	12/7/2012	0.557		0.089	1.14		0.061	19.4		0.497	0.541		0.087
Split of J1R4J5	J1R4F8	12/7/2012										0.389		0.0429

Analysis:

TDL		0.25	0.25	0.5	0.1
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	**Yes (calc RPD)**	**Yes (calc RPD)**
	RPD			14.4%	6.5%
	Difference > 2 TDL?	No - acceptable	No - acceptable	Not applicable	Not applicable
Split Analysis	Both > PQL?				**Yes (continue)**
	Both >5xTDL?				No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?				No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Radium-228 pCi/g	Q	MDA	Thorium-228 pCi/g	Q	MDA	Thorium-232 pCi/g	Q	MDA	Gross alpha pCi/g	Q	MDA
Zone 4 Seg. 3	J1R4J5	12/7/2012	0.777		0.085	0.801		0.041	0.777		0.085	4.89		3.52
Duplicate of J1R4J5	J1R4L0	12/7/2012	0.871		0.181	1.10		0.059	0.871		0.181	7.56		3.04
Split of J1R4J5	J1R4F8	12/7/2012	0.674		0.0837							7.11		6.31

Analysis:

TDL		0.2	1	1	10
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	**Yes (continue)**			**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)			No-Stop (acceptable)
	RPD				
	Difference > 2 TDL?	No - acceptable			No - acceptable

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Table 6. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 3_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Gross beta			Aluminum			Arsenic			Barium		
			pCi/g	Q	MDA	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	13.9		5.75	8260		15.4	2.96	B	3.08	89.7		1.54
Duplicate of J1R4J5	J1R4L0	12/7/2012	16.2		5.92	8280		12.8	2.95		2.56	88.8		1.28
Split of J1R4J5	J1R4F8	12/7/2012	21.9		2.35	7550		1.5	3.0		0.65	86.0		0.075

Analysis:

TDL		5	5	10	2
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)		Yes (calc RPD)
	RPD		0.2%		1.0%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	Yes (continue)
	Both >5xTDL?	No-Stop (acceptable)	Yes (calc RPD)		Yes (calc RPD)
	RPD		9.0%		4.2%
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	Not applicable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Beryllium			Calcium			Chromium			Cobalt		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	0.303	B	0.615	3840		308	10.4		0.615	7.11		6.15
Duplicate of J1R4J5	J1R4L0	12/7/2012	0.315	B	0.513	3960		256	10.4		0.513	6.94		5.13
Split of J1R4J5	J1R4F8	12/7/2012	0.43		0.033	3210		14	8.2	X	0.058	6.4	X	0.099

Analysis:

TDL		0.5	100	1	2
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		3.1%	0.0%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	No-Stop (acceptable)	Yes (continue)	Yes (continue)	Yes (continue)
	Both >5xTDL?		Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)
	RPD		17.9%	23.7%	
	Difference > 2 TDL?	No - acceptable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Copper			Iron			Lead			Lithium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	11.1		3.08	23700		61.5	5.25		1.54	7.31	B	7.69
Duplicate of J1R4J5	J1R4L0	12/7/2012	11.7		2.56	22700		51.3	5.56		1.28	7.67		6.41
Split of J1R4J5	J1R4F8	12/7/2012	15.1		0.22	20600		3.8	5.2		0.27	7.2		0.30

Analysis:

TDL		1	5	5	75
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD	5.3%	4.3%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)	Yes (continue)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)	No-Stop (acceptable)	
	RPD	*30.5%*	14.0%		
	Difference > 2 TDL?	Not applicable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Magnesium			Manganese			Mercury			Nickel		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	4180		231	389		15.4	0.0202	B	0.0277	9.41	B	12.3
Duplicate of J1R4J5	J1R4L0	12/7/2012	4000		192	354		12.8	0.0195	B	0.0286	9.25	B	10.3
Split of J1R4J5	J1R4F8	12/7/2012	4100	X	3.7	336	X	0.099	0.0056	U	0.0056	10.2		0.12

Analysis:

TDL		75	5	0.2	4
Duplicate Analysis	Both > PQL?	Yes (continue)	Yes (continue)	No-Stop (acceptable)	No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		
	RPD	4.4%	9.4%		
	Difference > 2 TDL?	Not applicable	Not applicable		No - acceptable
Split Analysis	Both > PQL?	Yes (continue)	Yes (continue)		No-Stop (acceptable)
	Both >5xTDL?	Yes (calc RPD)	Yes (calc RPD)		
	RPD	1.9%	14.6%		
	Difference > 2 TDL?	Not applicable	Not applicable		No - acceptable

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Table 6. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 3_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Potassium			Silicon			Sodium			Uranium -KPA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	1680		1230	662		6.15	211		154	1.92		0.085
Duplicate of J1R4J5	J1R4L0	12/7/2012	1630		1030	610		5.13	217		128	1.83		0.085
Split of J1R4J5	J1R4F8	12/7/2012	1540		40.7	316	X	5.60	189		58.5	1.19		0.131

Analysis:

TDL		400	2	50	3
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)	**Yes (calc RPD)**	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		8.2%		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	No-Stop (acceptable)	**Yes (calc RPD)**	No-Stop (acceptable)	No-Stop (acceptable)
	RPD		*70.8%*		
	Difference > 2 TDL?	No - acceptable	Not applicable	No - acceptable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Vanadium			Zinc			Zirconium			Nitrate [a]		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	59.4		7.69	42.6		30.8	24.0		7.69	2.4	B	1.0
Duplicate of J1R4J5	J1R4L0	12/7/2012	59.7		6.41	42.4		25.6	24.4		6.41	2.0	B	1.0
Split of J1R4J5	J1R4F8	12/7/2012	51.8		0.093	42.0	X	0.39	19.9		0.35	5.3	B	1.5

Analysis:

TDL		3	1	2.5	2.5
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	**Yes (calc RPD)**	**Yes (calc RPD)**	**Yes (calc RPD)**	No-Stop (acceptable)
	RPD	0.5%	0.5%	1.7%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable
Split Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**
	Both >5xTDL?	**Yes (calc RPD)**	**Yes (calc RPD)**	**Yes (calc RPD)**	No-Stop (acceptable)
	RPD	13.7%	1.4%	18.7%	
	Difference > 2 TDL?	Not applicable	Not applicable	Not applicable	No - acceptable

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Nitrogen in Nitrite and Nitrate			Phosphate [b]			Sulfate			TPH - motor oil		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	ug/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	0.55		0.10	3.6	B	2.0	3.2	B	1.0	17300	J	22000
Duplicate of J1R4J5	J1R4L0	12/7/2012	0.54		0.10	2.8	B	2.0	3.0	B	1.0	19000		10900
Split of J1R4J5	J1R4F8	12/7/2012	0.47	B	0.34	4.9	BN	4.3	7.1		1.9			

Analysis:

TDL		0.75	10	5	5000
Duplicate Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	No-Stop (acceptable)
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	No - acceptable
Split Analysis	Both > PQL?	**Yes (continue)**	**Yes (continue)**	**Yes (continue)**	
	Both >5xTDL?	No-Stop (acceptable)	No-Stop (acceptable)	No-Stop (acceptable)	
	RPD				
	Difference > 2 TDL?	No - acceptable	No - acceptable	No - acceptable	

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Table 6. Relative Percent Difference Calculations for the 300-15:2 Subsite Decision Unit 3_ Duplicate Split Analysis. (4 pages)

300-15:2 Duplicate Split Analysis - Decision Unit 3

Sampling Area	HEIS Number	Sample Date	Acetone			Methylenechloride		
			ug/kg	Q	PQL	ug/kg	Q	PQL
Zone 4 Seg. 3	J1R4J5	12/7/2012	8.61	J	11.60	2.00	J	5.81
Duplicate of J1R4J5	J1R4L0	12/7/2012	6.92	J	12.50	2.46	J	6.26
Split of J1R4J5	J1R4F8	12/7/2012	6.3	U	6.3	1.9	U	1.9

Analysis:

TDL		10	10
Duplicate Analysis	Both > PQL?	No-Stop (acceptable)	No-Stop (acceptable)
	Both >5xTDL?		
	RPD		
	Difference > 2 TDL?	No - acceptable	No - acceptable
Split Analysis	Both > PQL?		
	Both >5xTDL?		
	RPD		
	Difference > 2 TDL?		

[a] nitrate value for the sample J1R4F8 was converted from nitrogen in nitrate value.
[b] phosphate value for the sample J1R4F8 was converted from phosphorus value.

CONCLUSION:

The calculations in Tables 1 through 6 demonstrate that the 300-15:2 subsite meets the requirements for the industrial direct contact hazard quotients and carcinogenic (excess cancer) risk and RPDs, respectively, as identified in the RDR/RAWP (DOE-RL 2009). The hazard quotients and carcinogenic (excess cancer) risk and RPD calculations are for use in the RSVP for this subsite.

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Americium-241			Antimony-125			Bismuth-214			Cerium-144		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	0.166	U	0.166	0.056	U	0.056				0.133	U	0.133
	Duplicate of J1PW73	J1PW74	7/25/2012	0.043	U	0.043	0.052	U	0.052				0.127	U	0.127
	DU-1 #1	J1PW67	7/24/2012	0.108	U	0.108	0.048	U	0.048				0.126	U	0.126
	DU-1 #2	J1PW68	7/24/2012	0.092	U	0.092	0.073	U	0.073				0.208	U	0.208
	DU-1 #3	J1PW69	7/24/2012	0.055	U	0.055	0.063	U	0.063				0.150	U	0.150
	DU-1 #4	J1PW70	7/24/2012	0.164	U	0.164	0.053	U	0.053				0.128	U	0.128
	DU-1 #5	J1PW71	7/24/2012	0.106	U	0.106	0.054	U	0.054				0.142	U	0.142
	DU-1 #6	J1PW72	7/24/2012	0.099	U	0.099	0.048	U	0.048				0.122	U	0.122
	DU-1 #8	J1PW75	7/25/2012	0.041	U	0.041	0.052	U	0.052				0.121	U	0.121
	DU-1 #9	J1PW76	7/25/2012	0.049	U	0.049	0.082	U	0.082				0.170	U	0.170
	DU-1 #10	J1PW77	7/25/2012	0.126	U	0.126	0.115	U	0.115				0.243	U	0.243
	DU-1 #11	J1PW78	7/25/2012	0.032	U	0.032	0.014	U	0.014				0.044	U	0.044
	DU-1 #12	J1PW80	7/25/2012	0.131	U	0.131	0.036	U	0.036				0.090	U	0.090
	Split of J1PW76	J1PWM0	7/25/2012	0.0231	U	0.126	0.0248	U	0.0814				-0.00951	U	0.172
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.113	U	0.113	0.180	U	0.180	0.431		0.150	0.357	U	0.357
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.072	U	0.072	0.058	U	0.058	0.362		0.053	0.141	U	0.141
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.074	U	0.074	0.150	U	0.150	0.317		0.122	0.283	U	0.283
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.124	U	0.124	0.130	U	0.130	0.346		0.113	0.217	U	0.217
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.148	U	0.148	0.073	U	0.073	0.360		0.064	0.156	U	0.156
	Split of J1R4C7	J1R4H1	12/5/2012	0.0116	U	0.0316	0.0312	U	0.0504				-0.00411	U	0.0840
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.188	U	0.188	0.157	U	0.157	0.354		0.160	0.364	U	0.364
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.090	U	0.090	0.198	U	0.198	0.368		0.135	0.344	U	0.344
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.366	U	0.366	0.190	U	0.190	0.227		0.161	0.396	U	0.396
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.096	U	0.096	0.155	U	0.155	0.402		0.134	0.354	U	0.354
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.196	U	0.196	0.172	U	0.172	0.387		0.146	0.378	U	0.378
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.379	U	0.379	0.206	U	0.206	0.198		0.192	0.393	U	0.393
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.197	U	0.197	0.155	U	0.155	0.473		0.117	0.283	U	0.283
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.104	U	0.104	0.214	U	0.214	0.605		0.148	0.385	U	0.385
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.104	U	0.104	0.172	U	0.172	0.378		0.158	0.356	U	0.356
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.164	U	0.164	0.161	U	0.161	0.472		0.137	0.271	U	0.271
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.090	U	0.090	0.164	U	0.164	0.310		0.150	0.310	U	0.310
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.202	U	0.202	0.164	U	0.164	0.280		0.168	0.374	U	0.374
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.429	U	0.429	0.231	U	0.231	0.442		0.184	0.458	U	0.458
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.107	U	0.107	0.172	U	0.172	0.322		0.132	0.379	U	0.379
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.153	U	0.153	0.162	U	0.162	0.457		0.137	0.278	U	0.278
	Split of J1R3D8	J1R3H7	12/10/2012	-0.0155	U	0.0305	-0.0110	U	0.0474				-0.0491	U	0.0913
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.121	U	0.121	0.056	U	0.056	0.522		0.050	0.166	U	0.166
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.055	U	0.055	0.092	U	0.092	0.557		0.089	0.201	U	0.201
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.145	U	0.145	0.140	U	0.140	0.286		0.115	0.238	U	0.238
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.053	U	0.053	0.088	U	0.088	0.560		0.087	0.193	U	0.193
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.400	U	0.400	0.196	U	0.196	0.346		0.156	0.422	U	0.422
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.114	U	0.114	0.183	U	0.183	0.410		0.148	0.386	U	0.386
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.074	U	0.074	0.061	U	0.061	0.353		0.054	0.143	U	0.143
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.053	U	0.053	0.076	U	0.076	0.390		0.068	0.171	U	0.171
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.069	U	0.069	0.063	U	0.063	0.368		0.052	0.107	U	0.107
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.145	U	0.145	0.079	U	0.079	0.316		0.066	0.156	U	0.156
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.041	U	0.041	0.066	U	0.066	0.399		0.062	0.141	U	0.141
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.188	U	0.188	0.152	U	0.152	0.370		0.130	0.342	U	0.342
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.098	U	0.098	0.192	U	0.192	0.401		0.144	0.354	U	0.354
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.169	U	0.169	0.151	U	0.151	0.417		0.128	0.288	U	0.288
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.403	U	0.403	0.215	U	0.215	0.236		0.209	0.464	U	0.464
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.097	U	0.097	0.148	U	0.148	0.473		0.097	0.360	U	0.360
	Split of J1R4J5	J1R4F8	12/7/2012	-0.00456	U	0.166	0.0130	U	0.0587				-0.0431	U	0.122

Acronyms and notes apply to all of the tables in this attachment.

[a] Due to Rag exceedance for PCBs, J1R3F4 underwent additional remediation and resampling.

Gray cells indicate not applicable.

Note: Data qualified with B, C, and/or J are considered acceptable values.
B = blank contamination (organic constituents) = Estimated (inorganic)
D = result reported from a dilution.
DU = decision unit
HEIS=Hanford Environmental Information System
MDA = minimum detectable activity
J = estimated
M = sample duplicate precision not met.
N = presumptive evidence of a compound.
PCB = polychlorinated biphenyl
PQL = practical quantitation limit
P = greater than 40% differencefor detected concentrations between column analyses.
Q = qualifier
R = rejected.
SVOA = semivolatile organic analysis
X = serial dilution indicates that physical and chemical interferences are present.
VOA = volatile organic activity
U = undetected

Attachment	1	Sheet No.	1 of 49
Originator	N. K. Schiffern	Date	1/22/13
Checked	I. B. Berezovskiy	Date	1/22/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Cesium-134			Cesium-137			Cobalt-60			Europium-152		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	0.038	U	0.038	0.024	U	0.024	0.028	U	0.028	0.068	U	0.068
	Duplicate of J1PW73	J1PW74	7/25/2012	0.032	U	0.032	0.023	U	0.023	0.024	U	0.024	0.062	U	0.062
	DU-1 #1	J1PW67	7/24/2012	0.032	U	0.032	0.020	U	0.020	0.022	U	0.022	0.061	U	0.061
	DU-1 #2	J1PW68	7/24/2012	0.046	U	0.046	0.030	U	0.030	0.030	U	0.030	0.084	U	0.084
	DU-1 #3	J1PW69	7/24/2012	0.039	U	0.039	0.024	U	0.024	0.022	U	0.022	0.070	U	0.070
	DU-1 #4	J1PW70	7/24/2012	0.036	U	0.036	0.027	U	0.027	0.024	U	0.024	0.064	U	0.064
	DU-1 #5	J1PW71	7/24/2012	0.036	U	0.036	0.021	U	0.021	0.021	U	0.021	0.066	U	0.066
	DU-1 #6	J1PW72	7/24/2012	0.032	U	0.032	0.021	U	0.021	0.023	U	0.023	0.056	U	0.056
	DU-1 #8	J1PW75	7/25/2012	0.033	U	0.033	0.020	U	0.020	0.021	U	0.021	0.063	U	0.063
	DU-1 #9	J1PW76	7/25/2012	0.046	U	0.046	0.032	U	0.032	0.036	U	0.036	0.096	U	0.096
	DU-1 #10	J1PW77	7/25/2012	0.068	U	0.068	0.052	U	0.052	0.050	U	0.050	0.125	U	0.125
	DU-1 #11	J1PW78	7/25/2012	0.009	U	0.009	0.006	U	0.006	0.007	U	0.007	0.018	U	0.018
	DU-1 #12	J1PW80	7/25/2012	0.019	U	0.019	0.016	U	0.016	0.017	U	0.017	0.043	U	0.043
	Split of J1PW76	J1PWM0	7/25/2012	0.0370	U	0.0447	-0.00459	U	0.0376	0.00119	U	0.0400	-0.0318	U	0.0870
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.084	U	0.084	0.073	U	0.073	0.082	U	0.082	0.226	U	0.226
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.037	U	0.037	0.026	U	0.026	0.027	U	0.027	0.070	U	0.070
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.072	U	0.072	0.056	U	0.056	0.072	U	0.072	0.166	U	0.166
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.075	U	0.075	0.057	U	0.057	0.060	U	0.060	0.135	U	0.135
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.037	U	0.037	0.031	U	0.031	0.033	U	0.033	0.084	U	0.084
	Split of J1R4C7	J1R4H1	12/5/2012	0.0202	U	0.0281	0.00376	U	0.0222	0.00161	U	0.0241	0.00719	U	0.0473
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.098	U	0.098	0.063	U	0.063	0.056	U	0.056	0.187	U	0.187
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.104	U	0.104	0.082	U	0.082	0.071	U	0.071	0.220	U	0.220
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.108	U	0.108	0.090	U	0.090	0.085	U	0.085	0.220	U	0.220
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.103	U	0.103	0.055	U	0.055	0.077	U	0.077	0.183	U	0.183
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.084	U	0.084	0.072	U	0.072	0.070	U	0.070	0.198	U	0.198
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.102	U	0.102	0.085	U	0.085	0.086	U	0.086	0.251	U	0.251
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.097	U	0.097	0.068	U	0.068	0.077	U	0.077	0.184	U	0.184
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.106	U	0.106	0.088	U	0.088	0.071	U	0.071	0.220	U	0.220
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.081	U	0.081	0.077	U	0.077	0.064	U	0.064	0.186	U	0.186
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.099	U	0.099	0.073	U	0.073	0.089	U	0.089	0.160	U	0.160
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.096	U	0.096	0.070	U	0.070	0.092	U	0.092	0.222	U	0.222
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.133	U	0.133	0.069	U	0.069	0.078	U	0.078	0.176	U	0.176
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.113	U	0.113	0.095	U	0.095	0.060	U	0.060	0.266	U	0.266
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.091	U	0.091	0.066	U	0.066	0.065	U	0.065	0.211	U	0.211
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.100	U	0.100	0.073	U	0.073	0.063	U	0.063	0.175	U	0.175
	Split of J1R3D8	J1R3H7	12/10/2012	0.0370	U	0.0317	-0.0073	U	0.0235	-0.00927	U	0.0240	0.00163	U	0.0507
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.036	U	0.036	0.025	U	0.025	0.025	U	0.025	0.070	U	0.070
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.054	U	0.054	0.038	U	0.038	0.041	U	0.041	0.107	U	0.107
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.087	U	0.087	0.057	U	0.057	0.060	U	0.060	0.152	U	0.152
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.051	U	0.051	0.038	U	0.038	0.042	U	0.042	0.103	U	0.103
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.103	U	0.103	0.104	U	0.104	0.108	U	0.108	0.250	U	0.250
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.093	U	0.093	0.069	U	0.069	0.071	U	0.071	0.212	U	0.212
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.041	U	0.041	0.028	U	0.028	0.025	U	0.025	0.073	U	0.073
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.040	U	0.040	0.030	U	0.030	0.032	U	0.032	0.087	U	0.087
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.037	U	0.037	0.027	U	0.027	0.027	U	0.027	0.070	U	0.070
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.039	U	0.039	0.033	U	0.033	0.034	U	0.034	0.088	U	0.088
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.035	U	0.035	0.026	U	0.026	0.023	U	0.023	0.075	U	0.075
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.082	U	0.082	0.067	U	0.067	0.072	U	0.072	0.178	U	0.178
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.106	U	0.106	0.071	U	0.071	0.087	U	0.087	0.208	U	0.208
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.086	U	0.086	0.073	U	0.073	0.064	U	0.064	0.190	U	0.190
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.115	U	0.115	0.092	U	0.092	0.094	U	0.094	0.270	U	0.270
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.081	U	0.081	0.065	U	0.065	0.075	U	0.075	0.181	U	0.181
	Split of J1R4J5	J1R4F8	12/7/2012	0.0245	U	0.0304	0.0176	U	0.0259	-0.00412	U	0.0257	-0.0189	U	0.0592

Attachment	1	Sheet No.	2 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Europium-154			Europium-155			Lead-212			Niobium-94		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	0.098	U	0.098	0.168	U	0.168				0.021	U	0.021
	Duplicate of J1PW73	J1PW74	7/25/2012	0.073	U	0.073	0.064	U	0.064				0.020	U	0.020
	DU-1 #1	J1PW67	7/24/2012	0.068	U	0.068	0.084	U	0.084				0.020	U	0.020
	DU-1 #2	J1PW68	7/24/2012	0.105	U	0.105	0.118	U	0.118				0.024	U	0.024
	DU-1 #3	J1PW69	7/24/2012	0.100	U	0.100	0.091	U	0.091				0.023	U	0.023
	DU-1 #4	J1PW70	7/24/2012	0.087	U	0.087	0.081	U	0.081				0.020	U	0.020
	DU-1 #5	J1PW71	7/24/2012	0.073	U	0.073	0.081	U	0.081				0.019	U	0.019
	DU-1 #6	J1PW72	7/24/2012	0.084	U	0.084	0.071	U	0.071				0.022	U	0.022
	DU-1 #8	J1PW75	7/25/2012	0.067	U	0.067	0.062	U	0.062				0.019	U	0.019
	DU-1 #9	J1PW76	7/25/2012	0.132	U	0.132	0.084	U	0.084				0.029	U	0.029
	DU-1 #10	J1PW77	7/25/2012	0.179	U	0.179	0.124	U	0.124				0.048	U	0.048
	DU-1 #11	J1PW78	7/25/2012	0.023	U	0.023	0.037	U	0.037				0.006	U	0.006
	DU-1 #12	J1PW80	7/25/2012	0.056	U	0.056	0.054	U	0.054				0.015	U	0.015
	Split of J1PW76	J1PWM0	7/25/2012	0.0315	U	0.126	0.0606	U	0.0974						
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.234	U	0.234	0.196	U	0.196	0.571		0.095	0.064	U	0.064
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.074	U	0.074	0.073	U	0.073	0.533		0.039	0.020	U	0.020
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.193	U	0.193	0.127	U	0.127	0.432		0.088	0.054	U	0.054
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.179	U	0.179	0.116	U	0.116	0.617		0.064	0.048	U	0.048
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.119	U	0.119	0.086	U	0.086	0.617		0.060	0.028	U	0.028
	Split of J1R4C7	J1R4H1	12/5/2012	0.0171	U	0.0825	0.0271	U	0.0444						
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.206	U	0.206	0.193	U	0.193	0.605		0.155	0.057	U	0.057
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.256	U	0.256	0.170	U	0.170	0.528		0.102	0.063	U	0.063
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.248	U	0.248	0.226	U	0.226	0.473		0.104	0.074	U	0.074
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.203	U	0.203	0.158	U	0.158	0.589		0.128	0.057	U	0.057
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.207	U	0.207	0.198	U	0.198	0.567		0.104	0.058	U	0.058
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.288	U	0.288	0.224	U	0.224	0.449		0.167	0.066	U	0.066
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.242	U	0.242	0.160	U	0.160	0.561		0.091	0.065	U	0.065
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.264	U	0.264	0.255	U	0.255	0.598		0.126	0.073	U	0.073
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.196	U	0.196	0.178	U	0.178	0.599		0.132	0.066	U	0.066
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.227	U	0.227	0.141	U	0.141	0.671		0.088	0.068	U	0.068
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.258	U	0.258	0.159	U	0.159	0.825		0.146	0.067	U	0.067
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.222	U	0.222	0.204	U	0.204	0.613		0.111	0.056	U	0.056
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.329	U	0.329	0.255	U	0.255	0.612		0.158	0.088	U	0.088
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.221	U	0.221	0.182	U	0.182	0.578		0.090	0.069	U	0.069
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.255	U	0.255	0.143	U	0.143	0.532		0.090	0.069	U	0.069
	Split of J1R3D8	J1R3H7	12/10/2012	-0.0131	U	0.0799	0.0376	U	0.0472						
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.086	U	0.086	0.093	U	0.093	0.827		0.042	0.020	U	0.020
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.144	U	0.144	0.099	U	0.099	1.14		0.061	0.035	U	0.035
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.188	U	0.188	0.125	U	0.125	0.615		0.093	0.057	U	0.057
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.129	U	0.129	0.093	U	0.093	1.15		0.059	0.032	U	0.032
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.336	U	0.336	0.227	U	0.227	0.54		0.176	0.085	U	0.085
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.209	U	0.209	0.181	U	0.181	0.537		0.087	0.063	U	0.063
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.085	U	0.085	0.075	U	0.075	0.533		0.040	0.022	U	0.022
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.100	U	0.100	0.086	U	0.086	0.702		0.049	0.026	U	0.026
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.097	U	0.097	0.061	U	0.061	0.590		0.038	0.025	U	0.025
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.108	U	0.108	0.090	U	0.090	0.546		0.060	0.029	U	0.029
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.076	U	0.076	0.067	U	0.067	0.524		0.038	0.023	U	0.023
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.210	U	0.210	0.185	U	0.185	0.552		0.149	0.060	U	0.060
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.288	U	0.288	0.164	U	0.164	0.564		0.113	0.065	U	0.065
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.226	U	0.226	0.145	U	0.145	0.557		0.093	0.061	U	0.061
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.285	U	0.285	0.250	U	0.250	0.556		0.151	0.080	U	0.080
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.227	U	0.227	0.163	U	0.163	0.538		0.128	0.058	U	0.058
	Split of J1R4J5	J1R4F8	12/7/2012	-0.0270	U	0.0736	0.0110	U	0.0675						

Attachment	1	Sheet No.	3 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Potassium-40			Radium-226			Radium-228			Ruthenium-106		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	16.1		0.278	0.428		0.048	0.805		0.124	0.197	U	0.197
	Duplicate of J1PW73	J1PW74	7/25/2012	15.5		0.196	0.430		0.044	0.743		0.102	0.177	U	0.177
	DU-1 #1	J1PW67	7/24/2012	16.0		0.222	0.462		0.045	0.766		0.098	0.166	U	0.166
	DU-1 #2	J1PW68	7/24/2012	17.0		0.243	0.510		0.056	0.808		0.127	0.251	U	0.251
	DU-1 #3	J1PW69	7/24/2012	16.6		0.268	0.473		0.054	0.713		0.122	0.220	U	0.220
	DU-1 #4	J1PW70	7/24/2012	15.9		0.226	0.525		0.052	0.854		0.099	0.191	U	0.191
	DU-1 #5	J1PW71	7/24/2012	15.3		0.189	0.475		0.045	0.718		0.101	0.172	U	0.172
	DU-1 #6	J1PW72	7/24/2012	13.5		0.183	0.334		0.045	0.667		0.107	0.183	U	0.183
	DU-1 #8	J1PW75	7/25/2012	16.3		0.156	0.505		0.041	0.710		0.090	0.177	U	0.177
	DU-1 #9	J1PW76	7/25/2012	19.1		0.401	0.536		0.062	1.07		0.133	0.257	U	0.257
	DU-1 #10	J1PW77	7/25/2012	12.0		0.553	0.371		0.088	0.706		0.226	0.404	U	0.404
	DU-1 #11	J1PW78	7/25/2012	15.3		0.057	0.397		0.013	0.645		0.022	0.054	U	0.054
	DU-1 #12	J1PW80	7/25/2012	13.9		0.163	0.399		0.033	0.672		0.072	0.128	U	0.128
	Split of J1PW76	J1PWM0	7/25/2012				0.403		0.0627	0.599		0.128	0.265	U	0.345
	Zone 6 Seg.1	J1R4C7	12/5/2012	12.1		0.723	0.418		0.146	0.885		0.234	0.617	U	0.617
	Duplicate of J1R4C7	J1R4D1	12/5/2012	13.2		0.272	0.351		0.052	0.577		0.101	0.202	U	0.202
	Zone 6 Seg.2	J1R4C8	12/5/2012	12.3		0.759	0.308		0.118	0.474		0.291	0.459	U	0.459
	Zone 6 Seg.3	J1R4C9	12/5/2012	10.8		0.560	0.336		0.110	0.541		0.224	0.448	U	0.448
	Zone 6 Seg.4	J1R4D0	12/5/2012	10.1		0.331	0.350		0.062	0.404		0.134	0.244	U	0.244
	Split of J1R4C7	J1R4H1	12/5/2012				0.430		0.0361	0.660		0.0808	-0.0386	U	0.172
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	11.4		0.449	0.344		0.156	0.496		0.313	0.605	U	0.605
	Duplicate of J1R3D8	J1R3H2	12/10/2012	11.0		0.882	0.357		0.132	0.728		0.204	0.656	U	0.656
	Zone 2 Seg. 1	J1R3D9	12/10/2012	8.01		0.712	0.220		0.157	0.313	U	0.346	0.719	U	0.719
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	13.5		0.634	0.390		0.130	0.619		0.360	0.534	U	0.534
	Zone 3 Seg.7	J1R3F1	12/10/2012	11.7		0.701	0.376		0.142	0.558		0.239	0.581	U	0.581
	Zone 3 Seg.4	J1R3F2	12/10/2012	9.65		0.470	0.192		0.186	0.464		0.345	0.719	U	0.719
	Zone 3 Seg.4	J1R3F3	12/10/2012	11.5		0.759	0.460		0.113	0.403	U	0.403	0.596	U	0.596
	Zone 2 Seg.3	J1R3F4	12/10/2012	12.4		0.953	0.588		0.144	0.467	U	0.467	0.684	U	0.684
	Zone 3 Seg.8	J1R3F5	12/10/2012	10.3		0.722	0.367		0.153	0.412		0.293	0.610	U	0.610
	Zone 2 Seg.16	J1R3F6	12/10/2012	12.2		0.398	0.458		0.134	0.591		0.250	0.608	U	0.608
	Zone 2 Seg.15	J1R3F7	12/10/2012	11.9		0.827	0.301		0.145	0.726		0.222	0.612	U	0.612
	Zone 2 Seg.10	J1R3F8	12/10/2012	11.7		0.792	0.272		0.163	0.632		0.279	0.607	U	0.607
	Zone 2 Seg.10	J1R3F9	12/10/2012	11.5		0.765	0.429		0.179	0.471		0.397	0.738	U	0.738
	Zone 2 Seg.5	J1R3H0	12/10/2012	12.3		0.750	0.312		0.128	0.516		0.346	0.629	U	0.629
	Zone 2 Seg.8	J1R3H1	12/10/2012	11.9		0.947	0.444		0.133	0.534		0.233	0.590	U	0.590
	Split of J1R3D8	J1R3H7	12/10/2012				0.356		0.0411	0.640		0.0863	-0.00162	U	0.185
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	16.8		0.186	0.507		0.049	0.777		0.085	0.211	U	0.211
	Duplicate of J1R4J5	J1R4L0	12/7/2012	19.4		0.497	0.541		0.087	0.871		0.181	0.326	U	0.326
	Zone 4 Seg. 1	J1R4J6	12/7/2012	9.89		0.547	0.278		0.112	0.455		0.228	0.510	U	0.510
	Zone 4 Seg. 3	J1R4J7	12/7/2012	17.7		0.479	0.544		0.085	0.886		0.146	0.310	U	0.310
	Zone 4 Seg. 1	J1R4J8	12/7/2012	10.2		1.04	0.336		0.152	0.428	U	0.447	0.706	U	0.706
	Zone 1 Seg. 12	J1R4J9	12/7/2012	10.6		0.824	0.399		0.144	0.503		0.285	0.606	U	0.606
	Zone 1 Seg. 19	J1R4K0	12/7/2012	11.8		0.286	0.343		0.052	0.533		0.116	0.218	U	0.218
	Zone 1 Seg. 19	J1R4K1	12/7/2012	11.5		0.399	0.379		0.066	0.526		0.131	0.248	U	0.248
	Zone 5 Seg. 1	J1R4K2	12/7/2012	11.9		0.260	0.357		0.050	0.690		0.120	0.229	U	0.229
	Zone 5 Seg. 4	J1R4K3	12/7/2012	8.55		0.308	0.307		0.064	0.446		0.133	0.243	U	0.243
	Zone 5 Seg. 5	J1R4K4	12/7/2012	11.4		0.251	0.388		0.060	0.647		0.118	0.223	U	0.223
	Zone 1 Seg. 13	J1R4K5	12/7/2012	13.8		0.553	0.359		0.126	0.496		0.237	0.535	U	0.535
	Zone 1 Seg. 13	J1R4K6	12/7/2012	12.8		0.844	0.389		0.140	0.782		0.284	0.600	U	0.600
	Zone 1 Seg. 13	J1R4K7	12/7/2012	12.4		0.776	0.405		0.124	0.503		0.323	0.610	U	0.610
	Zone 5 Seg. 6	J1R4K8	12/7/2012	8.37		1.32	0.229		0.203	0.706	U	0.706	0.805	U	0.805
	Zone 5 Seg. 7	J1R4K9	12/7/2012	9.48		0.596	0.459		0.095	0.570		0.308	0.486	U	0.486
	Split of J1R4J5	J1R4F8	12/7/2012				0.389		0.0429	0.674		0.0837	0.000648	U	0.186

Attachment	1	Sheet No.	4 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Thorium-228			Thorium-232			Uranium-235			Uranium-238		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	0.972		0.052	0.805		0.124	0.152	U	0.152	3.21	U	3.21
	Duplicate of J1PW73	J1PW74	7/25/2012	0.708		0.034	0.743		0.102	0.147	U	0.147	3.09	U	3.09
	DU-1 #1	J1PW67	7/24/2012	0.695		0.030	0.766		0.098	0.273	U	0.273	5.18	U	5.18
	DU-1 #2	J1PW68	7/24/2012	0.755		0.036	0.808		0.127	1.43		0.263	21.2		4.40
	DU-1 #3	J1PW69	7/24/2012	0.724		0.032	0.713		0.122	0.162	U	0.162	5.47	U	5.47
	DU-1 #4	J1PW70	7/24/2012	0.772		0.034	0.854		0.099	0.337	U	0.337	4.14	U	4.14
	DU-1 #5	J1PW71	7/24/2012	0.723		0.033	0.718		0.101	0.160	U	0.160	2.75	U	2.75
	DU-1 #6	J1PW72	7/24/2012	0.545		0.029	0.667		0.107	0.136	U	0.136	3.43	U	3.43
	DU-1 #8	J1PW75	7/25/2012	0.722		0.032	0.710		0.090	0.140	U	0.140	2.99	U	2.99
	DU-1 #9	J1PW76	7/25/2012	1.01		0.048	1.07		0.133	0.419	U	0.419	4.68	U	4.68
	DU-1 #10	J1PW77	7/25/2012	0.535		0.069	0.706		0.226	0.280	U	0.280	6.05	U	6.05
	DU-1 #11	J1PW78	7/25/2012	0.621		0.009	0.645		0.022	0.110	U	0.110	1.48	U	1.48
	DU-1 #12	J1PW80	7/25/2012	0.709		0.024	0.672		0.072	0.116	U	0.116	2.06	U	2.06
	Split of J1PW76	J1PWM0	7/25/2012							0.0874	U	0.189	0.846		0.845
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.552		0.092	0.885		0.234	0.382	U	0.382	10.2	U	10.2
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.516		0.038	0.577		0.101	0.178	U	0.178	3.18	U	3.18
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.417		0.085	0.474		0.291	0.364	U	0.364	7.95	U	7.95
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.596		0.062	0.541		0.224	0.389	U	0.389	5.67	U	5.67
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.597		0.058	0.404		0.134	0.219	U	0.219	3.70	U	3.70
	Split of J1R4C7	J1R4H1	12/5/2012							0.112		0.0892	1.06		0.230
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.585		0.149	0.496		0.313	0.403	U	0.403	8.05	U	8.05
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.510		0.098	0.728		0.204	0.506	U	0.506	8.58	U	8.58
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.457		0.101	0.313	U	0.346	0.401	U	0.401	9.14	U	9.14
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.569		0.123	0.619		0.360	0.343	U	0.343	8.50	U	8.50
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.548		0.101	0.558		0.239	0.429	U	0.429	8.11	U	8.11
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.434		0.161	0.464		0.345	0.411	U	0.411	9.01	U	9.01
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.542		0.088	0.403	U	0.403	0.605		0.446	9.99	U	9.99
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.578		0.122	0.467	U	0.467	0.488	U	0.488	10.8	U	10.8
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.578		0.127	0.412		0.293	0.382	U	0.382	9.52	U	9.52
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.648		0.085	0.591		0.250	0.353	U	0.353	8.45	U	8.45
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.797		0.141	0.726		0.222	0.422	U	0.422	8.05	U	8.05
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.592		0.107	0.632		0.279	0.446	U	0.446	8.10	U	8.10
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.591		0.153	0.471		0.397	0.489	U	0.489	12.8	U	12.8
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.558		0.087	0.516		0.346	0.370	U	0.370	9.36	U	9.36
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.514		0.087	0.534		0.233	0.358	U	0.358	8.64	U	8.64
	Split of J1R3D8	J1R3H7	12/10/2012							0.0279	U	0.100	0.277		0.235
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.801		0.041	0.777		0.085	0.187	U	0.187	3.08	U	3.08
	Duplicate of J1R4J5	J1R4L0	12/7/2012	1.10		0.059	0.871		0.181	0.259	U	0.259	4.97	U	4.97
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.596		0.090	0.455		0.228	0.300	U	0.300	7.77	U	7.77
	Zone 4 Seg. 3	J1R4J7	12/7/2012	1.11		0.057	0.886		0.146	0.249	U	0.249	4.47	U	4.47
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.523		0.170	0.428	U	0.447	0.435	U	0.435	10.3	U	10.3
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.520		0.084	0.503		0.285	0.418	U	0.418	9.17	U	9.17
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.516		0.039	0.533		0.116	0.164	U	0.164	2.79	U	2.79
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.680		0.047	0.526		0.131	0.890		0.250	18.2		3.59
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.572		0.036	0.690		0.120	0.208	U	0.208	4.22	U	4.22
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.529		0.058	0.446		0.133	0.162	U	0.162	3.77	U	3.77
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.507		0.037	0.647		0.118	0.149	U	0.149	3.31	U	3.31
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.535		0.144	0.496		0.237	0.416	U	0.416	7.78	U	7.78
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.547		0.109	0.782		0.284	0.443	U	0.443	10.2	U	10.2
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.540		0.090	0.503		0.323	0.344	U	0.344	24.0	U	24.0
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.539		0.146	0.706	U	0.706	0.480	U	0.480	12.8	U	12.8
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.520		0.124	0.570		0.308	0.370	U	0.370	9.29	U	9.29
	Split of J1R4J5	J1R4F8	12/7/2012							0.0108	U	0.126	-0.0517	U	0.956

Attachment	1	Sheet No.	5 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Radionuclides).

DU	Sample Location	HEIS Number	Sample Date	Zinc-65			Gross alpha			Gross beta		
				pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
1	DU-1 #7	J1PW73	7/25/2012	0.069	U	0.069	7.95		2.19	16.6		3.73
	Duplicate of J1PW73	J1PW74	7/25/2012	0.051	U	0.051	8.75		3.21	23.0		6.14
	DU-1 #1	J1PW67	7/24/2012	0.054	U	0.054	18.8		3.27	31.2		5.42
	DU-1 #2	J1PW68	7/24/2012	0.062	U	0.062	31.2		3.01	37.5		6.09
	DU-1 #3	J1PW69	7/24/2012	0.059	U	0.059	20.6		3.87	42.5		4.96
	DU-1 #4	J1PW70	7/24/2012	0.062	U	0.062	14.7		3.35	19.2		5.76
	DU-1 #5	J1PW71	7/24/2012	0.045	U	0.045	11.6		3.19	34.7		5.68
	DU-1 #6	J1PW72	7/24/2012	0.063	U	0.063	9.65		3.09	42.8		5.33
	DU-1 #8	J1PW75	7/25/2012	0.051	U	0.051	8.12		3.14	25.9		5.49
	DU-1 #9	J1PW76	7/25/2012	0.083	U	0.083	14.6		3.08	71.1		6.07
	DU-1 #10	J1PW77	7/25/2012	0.128	U	0.128	9.80		4.22	33.8		5.46
	DU-1 #11	J1PW78	7/25/2012	0.014	U	0.014	11.2		3.83	35.4		5.43
	DU-1 #12	J1PW80	7/25/2012	0.045	U	0.045	7.65		2.89	28.8		6.06
	Split of J1PW76	J1PWM0	7/25/2012	-0.0807	U	0.0884	6.27	U	6.39	24.7		2.28
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.153	U	0.153	6.94		3.50	16.4		5.67
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.046	U	0.046	5.55		3.57	22.3		6.92
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.141	U	0.141	11.2		3.16	16.6		5.94
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.141	U	0.141	6.71		3.47	16.5		4.93
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.075	U	0.075	8.27		3.28	19.4		5.71
	Split of J1R4C7	J1R4H1	12/5/2012	0.0349	U	0.0580	9.98		7.00	25.8		2.12
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.166	U	0.166	6.12		3.40	16.5		5.65
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.181	U	0.181	4.44		3.51	16.0		4.93
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.180	U	0.180	5.57		3.41	11.9		5.98
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.154	U	0.154	7.88		3.54	19.6		4.94
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.154	U	0.154	9.18		3.26	15.4		5.71
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.201	U	0.201	5.45		3.68	14.6		6.94
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.186	U	0.186	14.8		3.56	20.6		5.72
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.205	U	0.205	8.96		3.38	16.5		5.63
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.139	U	0.139	5.45		3.66	16.8		5.39
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.190	U	0.190	6.10		3.39	13.6		6.10
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.171	U	0.171	3.84		3.32	15.3		5.40
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.154	U	0.154	6.46		3.16	15.8		5.99
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.231	U	0.231	6.98		2.70	19.0		5.37
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.168	U	0.168	4.64		2.46	17.1		5.50
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.176	U	0.176	4.94		3.05	20.0		5.92
	Split of J1R3D8	J1R3H7	12/10/2012	-0.00871	U	0.0546	3.52	U	6.90	20.1		2.30
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.060	U	0.060	4.89		3.52	13.9		5.75
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.106	U	0.106	7.56		3.04	16.2		5.92
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.151	U	0.151	2.01	U	3.91	13.6		6.98
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.099	U	0.099	6.58		3.81	15.2		5.75
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.219	U	0.219	5.66		3.39	12.5		5.63
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.170	U	0.170	3.98		3.30	14.4		5.34
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.055	U	0.055	5.61		3.62	30.4		5.76
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.067	U	0.067	21.7		3.64	32.3		6.94
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.068	U	0.068	4.51		3.39	14.5		6.10
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.073	U	0.073	6.54		3.72	12.6		5.46
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.062	U	0.062	4.31		3.25	16.3		6.01
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.136	U	0.136	4.20		2.82	13.2		5.39
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.180	U	0.180	4.73		3.47	15.8		5.70
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.191	U	0.191	8.93		3.26	19.3		5.61
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.260	U	0.260	4.68		3.14	17.0		5.32
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.150	U	0.150	6.82		3.77	11.1		5.70
	Split of J1R4J5	J1R4F8	12/7/2012	-0.00661	U	0.0511	7.11		6.31	21.9		2.35

Attachment	1	Sheet	6 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Aluminum			Antimony			Arsenic			Barium		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	5470		4.41	0.529	U	0.529	2.46		0.882	54.2		0.441
	Duplicate of J1PW73	J1PW74	7/25/2012	5560		4.34	0.521	U	0.521	2.13		0.868	63.8		0.434
	DU-1 #1	J1PW67	7/24/2012	6360		4.29	0.515	UJ	0.515	3.61		0.859	64.6		0.429
	DU-1 #2	J1PW68	7/24/2012	7250		4.09	0.491	UJ	0.491	1.93		0.818	85.5		0.409
	DU-1 #3	J1PW69	7/24/2012	5370		4.23	0.508	UJ	0.508	2.33		0.846	70.6		0.423
	DU-1 #4	J1PW70	7/24/2012	6030		3.69	0.443	UJ	0.443	2.94		0.738	58.2		0.369
	DU-1 #5	J1PW71	7/24/2012	5310		3.91	0.469	UJ	0.469	2.35		0.782	61.7		0.391
	DU-1 #6	J1PW72	7/24/2012	5500		4.31	0.517	UJ	0.517	2.21		0.862	59.8		0.431
	DU-1 #8	J1PW75	7/25/2012	5700		4.11	0.494	U	0.494	2.25		0.823	70.8		0.411
	DU-1 #9	J1PW76	7/25/2012	5910		4.04	0.485	U	0.485	2.18		0.809	66.6		0.404
	DU-1 #10	J1PW77	7/25/2012	5570		4.85	0.582	U	0.582	2.46		0.970	61.1		0.485
	DU-1 #11	J1PW78	7/25/2012	5260		4.10	0.492	U	0.492	2.07		0.820	61.3		0.410
	DU-1 #12	J1PW80	7/25/2012	5440		4.72	0.567	U	0.567	2.22		0.945	65.9		0.472
	Split of J1PW76	J1PWM0	7/25/2012	8040		1.6	0.89		0.38	2.1		0.66	79.9	X	0.076
	Zone 6 Seg.1	J1R4C7	12/5/2012	7100		14.4	1.72	U	1.72	2.61	B	2.87	80.7		1.44
	Duplicate of J1R4C7	J1R4D1	12/5/2012	6770		15.1	1.81	U	1.81	2.65	B	3.02	71.9		1.51
	Zone 6 Seg.2	J1R4C8	12/5/2012	7030		15.1	1.81	U	1.81	3.05		3.02	68.8		1.51
	Zone 6 Seg.3	J1R4C9	12/5/2012	6410		15.6	1.88	U	1.88	2.65	B	3.13	78.0		1.56
	Zone 6 Seg.4	J1R4D0	12/5/2012	7460		14.4	1.73	U	1.73	2.51	B	2.88	79.2		1.44
	Split of J1R4C7	J1R4H1	12/5/2012	6480		1.6	0.39	U	0.39	2.2		0.68	76.0		0.079
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	7690		14.7	1.76	U	1.76	3.29		2.93	72.3		1.47
	Duplicate of J1R3D8	J1R3H2	12/10/2012	8010		14.0	1.69	U	1.69	3.29		2.81	78.3		1.40
	Zone 2 Seg. 1	J1R3D9	12/10/2012	5660		13.0	1.56	U	1.56	3.16		2.60	65.5		1.30
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	5840		14.4	1.73	U	1.73	2.51	B	2.88	66.0		1.44
	Zone 3 Seg.7	J1R3F1	12/10/2012	7220		14.4	1.73	U	1.73	3.22		2.88	67.9		1.44
	Zone 3 Seg.4	J1R3F2	12/10/2012	5700		14.3	1.72	U	1.72	2.11	B	2.87	56.3		1.43
	Zone 3 Seg.4	J1R3F3	12/10/2012	7260		14.3	1.72	U	1.72	3.04		2.86	60.8		1.43
	Zone 2 Seg.3	J1R3F4	12/10/2012	9940		14.6	1.75	U	1.75	3.97		2.91	87.5		1.46
	Zone 3 Seg.8	J1R3F5	12/10/2012	8150		12.7	1.52	U	1.52	2.81		2.53	63.3		1.27
	Zone 2 Seg.16	J1R3F6	12/10/2012	6840		14.1	1.69	U	1.69	2.75	B	2.81	60.6		1.41
	Zone 2 Seg.15	J1R3F7	12/10/2012	7450		14.9	1.79	U	1.79	2.86	B	2.99	79.0		1.49
	Zone 2 Seg.10	J1R3F8	12/10/2012	8130		13.4	1.61	U	1.61	2.97		2.68	75.3		1.34
	Zone 2 Seg.10	J1R3F9	12/10/2012	6550		12.9	1.54	U	1.54	3.00		2.57	62.6		1.29
	Zone 2 Seg.5	J1R3H0	12/10/2012	6760		13.2	1.58	U	1.58	2.76		2.63	88.4		1.32
	Zone 2 Seg.8	J1R3H1	12/10/2012	7040		14.6	1.75	U	1.75	3.07		2.92	80.5		1.46
	Split of J1R3D8	J1R3H7	12/10/2012	7110	X	1.6	0.39	U	0.39	3.20		0.67	65.1	X	0.077
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	8260		15.4	1.85	U	1.85	2.96	B	3.08	89.7		1.54
	Duplicate of J1R4J5	J1R4L0	12/7/2012	8280		12.8	1.54	U	1.54	2.95		2.56	88.8		1.28
	Zone 4 Seg. 1	J1R4J6	12/7/2012	6800		15.3	1.84	U	1.84	2.26	B	3.06	81.4		1.53
	Zone 4 Seg. 3	J1R4J7	12/7/2012	7640		13.7	1.65	U	1.65	2.76		2.75	76.3		1.37
	Zone 4 Seg. 1	J1R4J8	12/7/2012	7010		12.7	1.53	U	1.53	2.90		2.54	72.3		1.27
	Zone 1 Seg. 12	J1R4J9	12/7/2012	8000		14.4	1.72	U	1.72	2.71	B	2.87	75.4		1.44
	Zone 1 Seg. 19	J1R4K0	12/7/2012	6610		14.3	1.71	U	1.71	2.28	B	2.86	76.2		1.43
	Zone 1 Seg. 19	J1R4K1	12/7/2012	8170		14.1	1.69	U	1.69	3.45		2.82	86.9		1.41
	Zone 5 Seg. 1	J1R4K2	12/7/2012	7690		13.6	1.63	U	1.63	2.70	B	2.71	75.7		1.36
	Zone 5 Seg. 4	J1R4K3	12/7/2012	8030		13.1	1.57	U	1.57	2.34	B	2.61	85.6		1.31
	Zone 5 Seg. 5	J1R4K4	12/7/2012	7470		13.1	1.58	U	1.58	2.56	B	2.63	77.2		1.31
	Zone 1 Seg. 13	J1R4K5	12/7/2012	7030		12.4	1.49	U	1.49	3.20		2.48	84.8		1.24
	Zone 1 Seg. 13	J1R4K6	12/7/2012	6930		11.7	1.40	U	1.40	2.81		2.33	82.7		1.17
	Zone 1 Seg. 13	J1R4K7	12/7/2012	7480		13.8	1.65	U	1.65	2.72	B	2.76	74.7		1.38
	Zone 5 Seg. 6	J1R4K8	12/7/2012	7180		12.6	1.51	U	1.51	2.58		2.52	75.0		1.26
	Zone 5 Seg. 7	J1R4K9	12/7/2012	5440		14.2	1.71	U	1.71	1.77	B	2.85	75.0		1.42
	Split of J1R4J5	J1R4F8	12/7/2012	7550		1.5	0.38	U	0.38	3.0		0.65	86.0		0.075
1	Equipment Blank 1	J1PW79	7/25/2012	187		4.61	0.553	U	0.553	0.292	B	0.922	2.28		0.461
1	Equpment Blank 2	J1R4D3	12/5/2012	336		4.39	0.527	U	0.527	0.417	B	0.878	3.45		0.439
2	Equpment Blank 3	J1R3H4	12/10/2012	242		4.31	0.517	U	0.517	0.523	B	0.862	2.21		0.431
3	Equpment Blank 4	J1R4L2	12/7/2012	204		4.24	0.509	U	0.509	0.347	B	0.848	1.75		0.424

Attachment	1	Sheet	7 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Beryllium			Boron			Cadmium			Calcium		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	0.214		0.176	1.03	B	1.76	0.112	B	0.176	4140		88.2
	Duplicate of J1PW73	J1PW74	7/25/2012	0.219		0.174	0.953	B	1.74	0.134	B	0.174	3920		86.8
	DU-1 #1	J1PW67	7/24/2012	0.228		0.172	1.79	J	1.72	0.0824	B	0.172	4200		85.9
	DU-1 #2	J1PW68	7/24/2012	0.284		0.164	1.25	BJ	1.64	0.103	B	0.164	4730		81.8
	DU-1 #3	J1PW69	7/24/2012	0.209		0.169	0.883	BJ	1.69	0.0772	B	0.169	3290		84.6
	DU-1 #4	J1PW70	7/24/2012	0.213		0.148	1.13	BJ	1.48	0.0690	B	0.148	10300		73.8
	DU-1 #5	J1PW71	7/24/2012	0.197		0.156	0.817	BJ	1.56	0.0759	B	0.156	4860		78.2
	DU-1 #6	J1PW72	7/24/2012	0.204		0.172	0.856	BJ	1.72	0.0607	B	0.172	4670		86.2
	DU-1 #8	J1PW75	7/25/2012	0.217		0.165	1.05	B	1.65	0.128	B	0.165	4330		82.3
	DU-1 #9	J1PW76	7/25/2012	0.226		0.162	0.920	B	1.62	0.0854	B	0.162	3290		80.9
	DU-1 #10	J1PW77	7/25/2012	0.227		0.194	0.968	B	1.94	0.0956	B	0.194	4880		97.0
	DU-1 #11	J1PW78	7/25/2012	0.201		0.164	0.677	B	1.64	0.0626	B	0.164	3020		82.0
	DU-1 #12	J1PW80	7/25/2012	0.209		0.189	1.04	B	1.89	0.0761	B	0.189	4100		94.5
	Split of J1PW76	J1PWM0	7/25/2012	0.15	B	0.033	1.3	B	0.98	0.12	B	0.041	4590	X	14.2
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.264	B	0.575	5.75	U	5.75	0.575	U	0.575	5120		287
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.273	B	0.603	6.03	U	6.03	0.603	U	0.603	5160		302
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.279	B	0.604	6.04	U	6.04	0.604	U	0.604	5000		302
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.277	B	0.625	6.25	U	6.25	0.625	U	0.625	4970		313
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.293	B	0.575	5.75	U	5.75	0.575	U	0.575	4000		288
	Split of J1R4C7	J1R4H1	12/5/2012	0.034	U	0.034	1.0	U	1.0	0.14	B	0.043	4750	X	14.6
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.332	B	0.587	5.87	U	5.87	0.587	U	0.587	8890		293
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.333	B	0.562	5.62	U	5.62	0.562	U	0.562	8610		281
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.284	B	0.520	5.20	U	5.20	0.520	U	0.520	5630		260
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.250	B	0.575	5.75	U	5.75	0.575	U	0.575	5900		288
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.306	B	0.576	5.76	U	5.76	0.576	U	0.576	6750		288
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.218	B	0.574	5.74	U	5.74	0.574	U	0.574	5440		287
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.295	B	0.572	5.72	U	5.72	0.572	U	0.572	9420		286
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.389	B	0.583	1.82	B	5.83	0.225	B	0.583	4870		291
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.313	B	0.507	5.07	U	5.07	0.507	U	0.507	9970		253
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.235	B	0.563	5.63	U	5.63	0.563	U	0.563	4540		281
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.320	B	0.598	5.98	U	5.98	0.598	U	0.598	3340		299
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.329	B	0.537	5.37	U	5.37	0.537	U	0.537	4980		268
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.276	B	0.514	5.14	U	5.14	0.514	U	0.514	4810		257
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.272	B	0.526	5.26	U	5.26	0.526	U	0.526	6430		263
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.272	B	0.583	5.83	U	5.83	0.583	U	0.583	6820		292
	Split of J1R3D8	J1R3H7	12/10/2012	0.43		0.034	1.0	U	1.0	0.16	B	0.042	7160	X	14.4
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.303	B	0.615	6.15	U	6.15	0.615	U	0.615	3840		308
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.315	B	0.513	1.93	B	5.13	0.513	U	0.513	3960		256
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.278	B	0.612	6.12	U	6.12	0.612	U	0.612	5970		306
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.298	B	0.550	2.51	B	5.5	0.550	U	0.550	4370		275
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.253	B	0.508	1.41	B	5.08	0.508	U	0.508	4550		254
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.285	B	0.574	5.74	U	5.74	0.574	U	0.574	5650		287
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.244	B	0.571	5.71	U	5.71	0.571	U	0.571	5940		286
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.313	B	0.564	1.99	B	5.64	0.158	B	0.564	8210		282
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.279	B	0.543	5.43	U	5.43	0.543	U	0.543	4960		271
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.336	B	0.522	5.22	U	5.22	0.522	U	0.522	5030		261
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.278	B	0.526	5.26	U	5.26	0.526	U	0.526	5670		263
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.266	B	0.495	4.95	U	4.95	0.495	U	0.495	5330		248
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.275	B	0.467	4.67	U	4.67	0.291	B	0.467	5570		233
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.265	B	0.551	5.51	U	5.51	0.551	U	0.551	4760		276
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.261	B	0.503	5.03	U	5.03	0.503	U	0.503	4800		252
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.227	B	0.570	5.70	U	5.70	0.570	U	0.570	5880		285
	Split of J1R4J5	J1R4F8	12/7/2012	0.43		0.033	1.1	B	0.97	0.18	B	0.041	3210		14
1	Equipment Blank 1	J1PW79	7/25/2012	0.184	U	0.184	1.84	U	1.84	0.184	U	0.184	37.1	B	92.2
1	Equpment Blank 2	J1R4D3	12/5/2012	0.0669	B	0.176	1.76	U	1.76	0.176	U	0.176	39.4	B	87.8
2	Equpment Blank 3	J1R3H4	12/10/2012	0.0485	B	0.172	1.72	U	1.72	0.172	U	0.172	32.4	B	86.2
3	Equpment Blank 4	J1R4L2	12/7/2012	0.170	U	0.170	1.70	U	1.70	0.170	U	0.170	33.6	B	84.8

Attachment	1	Sheet	8 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Chromium			Cobalt			Copper			Iron		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	8.31		0.176	5.06		1.76	9.44		0.882	16600		17.6
	Duplicate of J1PW73	J1PW74	7/25/2012	8.65		0.174	4.86		1.74	9.00		0.868	16400		17.4
	DU-1 #1	J1PW67	7/24/2012	8.54		0.172	5.15		1.72	18.3	J	0.859	17100		17.2
	DU-1 #2	J1PW68	7/24/2012	15.4		0.164	4.71		1.64	57.1	J	0.818	17200		16.4
	DU-1 #3	J1PW69	7/24/2012	7.12		0.169	4.82		1.69	10.2	J	0.846	15500		16.9
	DU-1 #4	J1PW70	7/24/2012	9.41		0.148	4.83		1.48	9.74	J	0.738	15800		14.8
	DU-1 #5	J1PW71	7/24/2012	8.64		0.156	4.85		1.56	9.23	J	0.782	16500		15.6
	DU-1 #6	J1PW72	7/24/2012	7.22		0.172	7.26		1.72	8.33	J	0.862	16400		17.2
	DU-1 #8	J1PW75	7/25/2012	8.88		0.165	4.87		1.65	9.94		0.823	15600		16.5
	DU-1 #9	J1PW76	7/25/2012	7.50		0.162	4.83		1.62	10.1		0.809	15500		16.2
	DU-1 #10	J1PW77	7/25/2012	7.96		0.194	5.34		1.94	11.3		0.970	17300		19.4
	DU-1 #11	J1PW78	7/25/2012	7.21		0.164	4.53		1.64	8.36		0.820	15200		16.4
	DU-1 #12	J1PW80	7/25/2012	7.90		0.189	4.94		1.89	9.09		0.945	15400		18.9
	Split of J1PW76	J1PWM0	7/25/2012	11.7		0.058	7.7	X	0.10	13.6	X	0.22	21600	X	3.8
	Zone 6 Seg.1	J1R4C7	12/5/2012	8.97		0.575	6.56		5.75	14.8		2.87	21500		57.5
	Duplicate of J1R4C7	J1R4D1	12/5/2012	8.49		0.603	6.49		6.03	13.0		3.02	22100		60.3
	Zone 6 Seg.2	J1R4C8	12/5/2012	8.64		0.604	6.37		6.04	12.0		3.02	21600		60.4
	Zone 6 Seg.3	J1R4C9	12/5/2012	7.38		0.625	6.79		6.25	19.1		3.13	22600		62.5
	Zone 6 Seg.4	J1R4D0	12/5/2012	8.89		0.575	6.66		5.75	12.4		2.88	22300		57.5
	Split of J1R4C7	J1R4H1	12/5/2012	7.8	X	0.060	6.9	X	0.10	16.0	X	0.23	19900		3.9
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	9.71		0.587	8.03		5.87	14.4		2.93	25200		58.7
	Duplicate of J1R3D8	J1R3H2	12/10/2012	9.55		0.562	8.03		5.62	14.4		2.81	24600		56.2
	Zone 2 Seg. 1	J1R3D9	12/10/2012	6.65		0.520	8.1		5.20	13.8		2.60	27100		52.0
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	7.35		0.575	6.25		5.75	10.1		2.88	19700		57.5
	Zone 3 Seg.7	J1R3F1	12/10/2012	9.69		0.576	7.08		5.76	13.2		2.88	22200		57.6
	Zone 3 Seg.4	J1R3F2	12/10/2012	8.67		0.574	6.95		5.74	13.3		2.87	22000		57.4
	Zone 3 Seg.4	J1R3F3	12/10/2012	10.9		0.572	7.76		5.72	18.4		2.86	23400		57.2
	Zone 2 Seg.3	J1R3F4	12/10/2012	14.1		0.583	9.03		5.83	105		2.91	23400		58.3
	Zone 3 Seg.8	J1R3F5	12/10/2012	10.8		0.507	8.62		5.07	21.5		2.53	26100		50.7
	Zone 2 Seg.16	J1R3F6	12/10/2012	9.31		0.563	7.14		5.63	13.2		2.81	21900		56.3
	Zone 2 Seg.15	J1R3F7	12/10/2012	9.12		0.598	7.20		5.98	10.2		2.99	21600		59.8
	Zone 2 Seg.10	J1R3F8	12/10/2012	11.4		0.537	7.62		5.37	15.3		2.68	23700		53.7
	Zone 2 Seg.10	J1R3F9	12/10/2012	8.88		0.514	5.86		5.14	10.2		2.57	19600		51.4
	Zone 2 Seg.5	J1R3H0	12/10/2012	10.4		0.526	6.45		5.26	13.5		2.63	20800		52.6
	Zone 2 Seg.8	J1R3H1	12/10/2012	9.35		0.583	6.49		5.83	13.4		2.92	20700		58.3
	Split of J1R3D8	J1R3H7	12/10/2012	7.7	X	0.059	6.7	X	0.10	14.3	X	0.22	21700	X	3.9
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	10.4		0.615	7.11		6.15	11.1		3.08	23700		61.5
	Duplicate of J1R4J5	J1R4L0	12/7/2012	10.4		0.513	6.94		5.13	11.7		2.56	22700		51.3
	Zone 4 Seg. 1	J1R4J6	12/7/2012	9.37		0.612	8.77		6.12	14.2		3.06	26800		61.2
	Zone 4 Seg. 3	J1R4J7	12/7/2012	10.7		0.550	7.02		5.50	11.9		2.75	22200		55.0
	Zone 4 Seg. 1	J1R4J8	12/7/2012	8.64		0.508	6.40		5.08	10.6		2.54	21200		50.8
	Zone 1 Seg. 12	J1R4J9	12/7/2012	9.43		0.574	7.17		5.74	14.1		2.87	23200		57.4
	Zone 1 Seg. 19	J1R4K0	12/7/2012	8.46		0.571	6.26		5.71	13.1		2.86	21600		57.1
	Zone 1 Seg. 19	J1R4K1	12/7/2012	15.1		0.564	7.75		5.64	17.9		2.82	23200		56.4
	Zone 5 Seg. 1	J1R4K2	12/7/2012	11.1		0.543	6.87		5.43	12.7		2.71	21200		54.3
	Zone 5 Seg. 4	J1R4K3	12/7/2012	8.31		0.522	8.76		5.22	15.5		2.61	27500		52.2
	Zone 5 Seg. 5	J1R4K4	12/7/2012	9.46		0.526	7.24		5.26	14.0		2.63	23000		52.6
	Zone 1 Seg. 13	J1R4K5	12/7/2012	9.02		0.495	6.99		4.95	12.3		2.48	21100		49.5
	Zone 1 Seg. 13	J1R4K6	12/7/2012	8.72		0.467	6.49		4.67	11.4		2.33	20700		46.7
	Zone 1 Seg. 13	J1R4K7	12/7/2012	14.4		0.551	6.75		5.51	13.2		2.76	21900		55.1
	Zone 5 Seg. 6	J1R4K8	12/7/2012	9.69		0.503	7.30		5.03	13.7		2.52	22700		50.3
	Zone 5 Seg. 7	J1R4K9	12/7/2012	5.70		0.570	9.09		5.70	19.5		2.85	26300		57.0
	Split of J1R4J5	J1R4F8	12/7/2012	8.2	X	0.058	6.4	X	0.099	15.1		0.22	20600		3.8
1	Equipment Blank 1	J1PW79	7/25/2012	0.184	U	0.184	1.84	U	1.84	0.922	U	0.922	824		18.4
1	Equipment Blank 2	J1R4D3	12/5/2012	0.183		0.176	1.76	U	1.76	1.07		0.878	754		17.6
2	Equipment Blank 3	J1R3H4	12/10/2012	0.183		0.172	1.72	U	1.72	0.625	B	0.862	593		17.2
3	Equipment Blank 4	J1R4L2	12/7/2012	0.170	U	0.170	1.70	U	1.70	0.848	U	0.848	305		17.0

Attachment	1	Sheet	9 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Lead			Lithium			Magnesium			Manganese		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	2.94		0.441	5.75		2.21	3470		66.2	242		4.41
	Duplicate of J1PW73	J1PW74	7/25/2012	2.71		0.434	6.36		2.17	3680		65.1	253		4.34
	DU-1 #1	J1PW67	7/24/2012	3.63	J	0.429	6.61		2.15	3600		64.4	286		4.29
	DU-1 #2	J1PW68	7/24/2012	5.85	J	0.409	6.86		2.05	3440		61.4	261		4.09
	DU-1 #3	J1PW69	7/24/2012	4.29	J	0.423	5.38		2.12	2920		63.5	252		4.23
	DU-1 #4	J1PW70	7/24/2012	3.90	J	0.369	7.02		1.85	3780		55.4	249		3.69
	DU-1 #5	J1PW71	7/24/2012	4.18	J	0.391	5.78		1.96	3370		58.7	253		3.91
	DU-1 #6	J1PW72	7/24/2012	2.85	J	0.431	6.51		2.16	3420		64.7	295		4.31
	DU-1 #8	J1PW75	7/25/2012	2.93		0.411	6.37		2.06	3650		61.7	228		4.11
	DU-1 #9	J1PW76	7/25/2012	2.78		0.404	6.52		2.02	3440		60.7	241		4.04
	DU-1 #10	J1PW77	7/25/2012	3.04		0.485	6.16		2.43	3700		72.8	237		4.85
	DU-1 #11	J1PW78	7/25/2012	2.40		0.410	6.25		2.05	3380		61.5	218		4.10
	DU-1 #12	J1PW80	7/25/2012	3.24		0.472	6.23		2.36	3780		70.8	236		4.72
	Split of J1PW76	J1PWM0	7/25/2012	3.7		0.27	7.4		0.30	4840	X	3.7	336	X	0.10
	Zone 6 Seg.1	J1R4C7	12/5/2012	4.81		1.44	7.88		7.18	4550		216	341		14.4
	Duplicate of J1R4C7	J1R4D1	12/5/2012	4.92		1.51	6.39	B	7.54	4010		226	286		15.1
	Zone 6 Seg.2	J1R4C8	12/5/2012	4.15		1.51	6.97	B	7.56	4100		227	313		15.1
	Zone 6 Seg.3	J1R4C9	12/5/2012	4.82		1.56	6.11	B	7.81	3830		234	302		15.6
	Zone 6 Seg.4	J1R4D0	12/5/2012	6.52		1.44	6.88	B	7.19	4250		216	324		14.4
	Split of J1R4C7	J1R4H1	12/5/2012	5.6		0.28	6.6		0.31	3910		3.8	337		0.10
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	4.31		1.47	8.16		7.33	5320		220	354		14.7
	Duplicate of J1R3D8	J1R3H2	12/10/2012	4.48		1.40	7.79		7.02	5080		211	355		14.0
	Zone 2 Seg. 1	J1R3D9	12/10/2012	3.44		1.30	5.37	B	6.49	4370		195	326		13.0
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	3.47		1.44	6.46	B	7.19	3710		216	288		14.4
	Zone 3 Seg.7	J1R3F1	12/10/2012	3.76		1.44	8.14		7.20	4420		216	315		14.4
	Zone 3 Seg.4	J1R3F2	12/10/2012	2.77		1.43	5.79	B	7.17	4350		215	305		14.3
	Zone 3 Seg.4	J1R3F3	12/10/2012	3.61		1.43	7.50		7.15	5060		215	333		14.3
	Zone 2 Seg.3	J1R3F4	12/10/2012	7.17		1.46	11.3		7.29	5620		219	435		14.6
	Zone 3 Seg.8	J1R3F5	12/10/2012	4.40		1.27	8.19		6.33	5620		190	372		12.7
	Zone 2 Seg.16	J1R3F6	12/10/2012	5.41		1.41	7.77		7.04	4860		211	317		14.1
	Zone 2 Seg.15	J1R3F7	12/10/2012	4.12		1.49	7.14	B	7.47	3970		224	361		14.9
	Zone 2 Seg.10	J1R3F8	12/10/2012	4.03		1.34	8.32		6.71	4940		201	340		13.4
	Zone 2 Seg.10	J1R3F9	12/10/2012	4.92		1.29	7.31		6.43	4040		193	288		12.9
	Zone 2 Seg.5	J1R3H0	12/10/2012	5.81		1.32	7.24		6.58	4360		197	322		13.2
	Zone 2 Seg.8	J1R3H1	12/10/2012	3.79		1.46	7.66		7.29	4360		219	322		14.6
	Split of J1R3D8	J1R3H7	12/10/2012	3.6		0.28	7.6		0.31	5030	X	3.8	290	X	0.10
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	5.25		1.54	7.31	B	7.69	4180		231	389		15.4
	Duplicate of J1R4J5	J1R4L0	12/7/2012	5.56		1.28	7.67		6.41	4000		192	354		12.8
	Zone 4 Seg. 1	J1R4J6	12/7/2012	3.90		1.53	5.56	B	7.65	4860		230	330		15.3
	Zone 4 Seg. 3	J1R4J7	12/7/2012	6.47		1.37	7.42		6.87	4500		206	331		13.7
	Zone 4 Seg. 1	J1R4J8	12/7/2012	5.97		1.27	6.94		6.36	3750		191	304		12.7
	Zone 1 Seg. 12	J1R4J9	12/7/2012	4.60		1.44	7.05	B	7.18	4550		215	341		14.4
	Zone 1 Seg. 19	J1R4K0	12/7/2012	3.60		1.43	6.05	B	7.14	3960		214	280		14.3
	Zone 1 Seg. 19	J1R4K1	12/7/2012	10.8		1.41	8.53		7.05	4840		212	340		14.1
	Zone 5 Seg. 1	J1R4K2	12/7/2012	4.62		1.36	7.33		6.78	4340		204	320		13.6
	Zone 5 Seg. 4	J1R4K3	12/7/2012	4.21		1.31	6.39	B	6.53	4710		196	389		13.1
	Zone 5 Seg. 5	J1R4K4	12/7/2012	5.92		1.31	7.19		6.57	4150		197	368		13.1
	Zone 1 Seg. 13	J1R4K5	12/7/2012	5.04		1.24	7.12		6.19	4070		186	330		12.4
	Zone 1 Seg. 13	J1R4K6	12/7/2012	4.53		1.17	6.83		5.84	4180		175	296		11.7
	Zone 1 Seg. 13	J1R4K7	12/7/2012	4.37		1.38	7.81		6.89	4660		207	351		13.8
	Zone 5 Seg. 6	J1R4K8	12/7/2012	4.75		1.26	7.07		6.29	4130		189	321		12.6
	Zone 5 Seg. 7	J1R4K9	12/7/2012	4.34		1.42	4.41	B	7.12	4220		214	336		14.2
	Split of J1R4J5	J1R4F8	12/7/2012	5.2		0.27	7.2		0.30	4100	X	3.7	336	X	0.099
1	Equipment Blank 1	J1PW79	7/25/2012	0.662		0.461	2.30	U	2.30	20.7	B	69.1	16.9		4.61
1	Equpment Blank 2	J1R4D3	12/5/2012	0.450		0.439	2.19	U	2.19	31.0	B	65.8	7.31		4.39
2	Equpment Blank 3	J1R3H4	12/10/2012	0.405	B	0.431	0.457	B	2.16	26.6	B	64.7	6.08		4.31
3	Equpment Blank 4	J1R4L2	12/7/2012	0.465		0.424	2.12	U	2.12	18.1	B	63.6	5.95		4.24

Attachment	1	Sheet	10 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Mercury			Molybdenum			Nickel			Potassium		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	0.0279	U	0.0279	0.272	B	1.76	7.98		3.53	979		353
	Duplicate of J1PW73	J1PW74	7/25/2012	0.0245	U	0.0245	0.422	B	1.74	7.74		3.47	1050		347
	DU-1 #1	J1PW67	7/24/2012	0.0260	U	0.0260	0.330	B	1.72	8.29		3.44	1250		344
	DU-1 #2	J1PW68	7/24/2012	0.251		0.0290	0.272	B	1.64	7.84		3.27	1340		327
	DU-1 #3	J1PW69	7/24/2012	0.0282	U	0.0282	0.243	B	1.69	7.02		3.39	1050		339
	DU-1 #4	J1PW70	7/24/2012	0.0258	U	0.0258	0.198	B	1.48	8.64		2.95	964		295
	DU-1 #5	J1PW71	7/24/2012	0.0273	U	0.0273	0.226	B	1.56	7.44		3.13	944		313
	DU-1 #6	J1PW72	7/24/2012	0.0257	U	0.0257	0.211	B	1.72	7.55		3.45	979		345
	DU-1 #8	J1PW75	7/25/2012	0.0266	U	0.0266	0.300	B	1.65	9.01		3.29	1050		329
	DU-1 #9	J1PW76	7/25/2012	0.0251	U	0.0251	0.238	B	1.62	8.04		3.24	1070		324
	DU-1 #10	J1PW77	7/25/2012	0.0253	U	0.0253	0.511	B	1.94	7.80		3.88	940		388
	DU-1 #11	J1PW78	7/25/2012	0.0273	U	0.0273	0.212	B	1.64	7.20		3.28	942		328
	DU-1 #12	J1PW80	7/25/2012	0.0282	U	0.0282	0.317	B	1.89	9.77		3.78	1010		378
	Split of J1PW76	J1PWM0	7/25/2012	0.0085	B	0.0058	0.36	B	0.26	13.1	X	0.12	1520		41.2
	Zone 6 Seg.1	J1R4C7	12/5/2012	1.05		0.0311	5.75	U	5.75	9.10	B	11.5	1280		1150
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.180		0.0282	6.03	U	6.03	8.07	B	12.1	1160	B	1210
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.468		0.0310	6.04	U	6.04	9.38	B	12.1	1210	B	1210
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.486		0.0305	6.25	U	6.25	8.26	B	12.5	1080	B	1250
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.268		0.0289	5.75	U	5.75	10.3	B	11.5	1430		1150
	Split of J1R4C7	J1R4H1	12/5/2012	0.0057	U	0.0057	0.27	U	0.27	9.0		0.13	1050		42.5
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.0174	B	0.0293	5.87	U	5.87	10.7	B	11.7	1140	B	1170
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.0225	B	0.0253	5.62	U	5.62	10.9	B	11.2	1210		1120
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.0197	B	0.0253	0.575	B	5.20	8.48	B	10.4	864	B	1040
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.0271	U	0.0271	5.75	U	5.75	7.30	B	11.5	1120	B	1150
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.0273	U	0.0273	5.76	U	5.76	11.3	B	11.5	1190		1150
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.0159	B	0.0279	5.74	U	5.74	11.1	B	11.5	771	B	1150
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.0228	B	0.0272	5.72	U	5.72	11.3	B	11.4	1020	B	1140
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.0318		0.0282	5.83	U	5.83	14.7		11.7	1740		1170
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.0296		0.0291	5.07	U	5.07	11.1		10.1	1260		1010
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.0331		0.0256	5.63	U	5.63	8.60	B	11.3	1320		1130
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.0154	B	0.0250	5.98	U	5.98	9.90	B	12.0	1710		1200
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.0525		0.0254	5.37	U	5.37	11.7		10.7	1210		1070
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.0250	B	0.0281	5.14	U	5.14	8.51	B	10.3	1200		1030
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.0181	B	0.0247	5.26	U	5.26	9.40	B	10.5	1110		1050
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.0195	B	0.0283	5.83	U	5.83	8.85	B	11.7	1240		1170
	Split of J1R3D8	J1R3H7	12/10/2012	0.0058	U	0.0058	0.26	U	0.26	10.3	X	0.13	1080		41.8
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.0202	B	0.0277	6.15	U	6.15	9.41	B	12.3	1680		1230
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.0195	B	0.0286	5.13	U	5.13	9.25	B	10.3	1630		1030
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.0219	B	0.0251	0.659	B	6.12	9.07	B	12.2	777	B	1220
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.0146	B	0.0265	5.50	U	5.50	11.6		11.0	1340		1100
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.0194	B	0.0271	5.08	U	5.08	8.53	B	10.2	1320		1020
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.0226	B	0.0249	5.74	U	5.74	9.47	B	11.5	1210		1150
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.0205	B	0.0246	5.71	U	5.71	8.20	B	11.4	996	B	1140
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.0208	B	0.0301	5.64	U	5.64	11.4		11.3	1320		1130
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.0324		0.0287	5.43	U	5.43	10.6	B	10.9	1440		1090
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.0356		0.0258	5.22	U	5.22	8.82	B	10.4	983	B	1040
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.229		0.0275	5.26	U	5.26	9.53	B	10.5	1230		1050
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.0107	B	0.0280	4.95	U	4.95	10.1		9.90	1230		990
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.0141	B	0.0251	4.67	U	4.67	8.34	B	9.34	1210		934
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.0149	B	0.0255	5.51	U	5.51	11.8		11.0	1330		1100
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.377		0.0257	5.03	U	5.03	9.19	B	10.1	1260		1010
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.0306		0.0254	5.70	U	5.70	7.66	B	11.4	841	B	1140
	Split of J1R4J5	J1R4F8	12/7/2012	0.0056	U	0.0056	0.26	U	0.26	10.2		0.12	1540		40.7
1	Equipment Blank 1	J1PW79	7/25/2012	0.0240	U	0.0240	1.84	U	1.84	3.69	U	3.69	43.6	B	369
1	Equipment Blank 2	J1R4D3	12/5/2012	0.0257	U	0.0257	1.76	U	1.76	3.51	U	3.51	143	B	351
2	Equipment Blank 3	J1R3H4	12/10/2012	0.0243	U	0.0243	1.72	U	1.72	3.45	U	3.45	58.1	B	345
3	Equipment Blank 4	J1R4L2	12/7/2012	0.0265	U	0.0265	1.70	U	1.70	3.39	U	3.39	52.4	B	339

Attachment	1	Sheet	11 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Selenium			Silicon			Silver			Sodium		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	0.265	U	0.265	411		1.76	0.176	U	0.176	169		44.1
	Duplicate of J1PW73	J1PW74	7/25/2012	0.260	U	0.260	465		1.74	0.174	U	0.174	175		43.4
	DU-1 #1	J1PW67	7/24/2012	0.258	U	0.258	650	J	1.72	0.172	U	0.172	179		42.9
	DU-1 #2	J1PW68	7/24/2012	0.245	U	0.245	278	J	1.64	0.164	U	0.164	1340		40.9
	DU-1 #3	J1PW69	7/24/2012	0.254	U	0.254	467	J	1.69	0.169	U	0.169	178		42.3
	DU-1 #4	J1PW70	7/24/2012	0.222	U	0.222	525	J	1.48	0.148	U	0.148	191		36.9
	DU-1 #5	J1PW71	7/24/2012	0.235	U	0.235	337	J	1.56	0.156	U	0.156	175		39.1
	DU-1 #6	J1PW72	7/24/2012	0.259	U	0.259	430	J	1.72	0.172	U	0.172	166		43.1
	DU-1 #8	J1PW75	7/25/2012	0.247	U	0.247	452		1.65	0.165	U	0.165	196		41.1
	DU-1 #9	J1PW76	7/25/2012	0.243	U	0.243	357		1.62	0.162	U	0.162	232		40.4
	DU-1 #10	J1PW77	7/25/2012	0.291	U	0.291	802		1.94	0.194	U	0.194	231		48.5
	DU-1 #11	J1PW78	7/25/2012	0.246	U	0.246	283		1.64	0.164	U	0.164	150		41.0
	DU-1 #12	J1PW80	7/25/2012	0.283	U	0.283	451		1.89	0.189	U	0.189	167		47.2
	Split of J1PW76	J1PWM0	7/25/2012	0.86	U	0.86	360	N	5.7	0.16	U	0.16	330		59.3
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.862	U	0.862	408		5.75	0.575	U	0.575	231		144
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.905	U	0.905	367		6.03	0.603	U	0.603	313		151
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.907	U	0.907	371		6.04	0.604	U	0.604	251		151
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.938	U	0.938	451		6.25	0.625	U	0.625	260		156
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.863	U	0.863	436		5.75	0.575	U	0.575	274		144
	Split of J1R4C7	J1R4H1	12/5/2012	0.89	U	0.89	324	XN	5.9	0.17	U	0.17	237		61.2
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.880	U	0.880	825		5.87	0.587	U	0.587	327		147
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.843	U	0.843	624		5.62	0.562	U	0.562	334		140
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.779	U	0.779	524		5.20	0.520	U	0.520	302		130
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.863	U	0.863	591		5.75	0.575	U	0.575	252		144
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.863	U	0.863	771		5.76	0.576	U	0.576	277		144
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.861	U	0.861	488		5.74	0.574	U	0.574	263		143
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.858	U	0.858	710		5.72	0.572	U	0.572	310		143
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.874	U	0.874	822		5.83	2.20		0.583	327		146
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.760	U	0.760	752		5.07	0.507	U	0.507	365		127
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.844	U	0.844	644		5.63	0.563	U	0.563	201		141
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.897	U	0.897	709		5.98	0.598	U	0.598	322		149
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.805	U	0.805	865		5.37	0.537	U	0.537	321		134
	Zone 2 Seg.10	J1R3F9	12/10/2012	0.772	U	0.772	554		5.14	0.514	U	0.514	229		129
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.790	U	0.790	608		5.26	0.526	U	0.526	245		132
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.875	U	0.875	743		5.83	0.583	U	0.583	261		146
	Split of J1R3D8	J1R3H7	12/10/2012	0.88	U	0.88	232		5.8	0.16	U	0.16	289		60.1
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.923	U	0.923	662		6.15	0.615	U	0.615	211		154
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.769	U	0.769	610		5.13	0.513	U	0.513	217		128
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.918	U	0.918	533		6.12	0.612	U	0.612	345		153
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.825	U	0.825	326		5.50	0.550	U	0.550	239		137
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.763	U	0.763	538		5.08	0.508	U	0.508	265		127
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.862	U	0.862	683		5.74	0.574	U	0.574	301		144
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.857	U	0.857	631		5.71	0.571	U	0.571	324		143
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.846	U	0.846	773		5.64	0.564	U	0.564	310		141
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.814	U	0.814	689		5.43	0.992		0.543	258		136
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.783	U	0.783	466		5.22	0.522	U	0.522	315		131
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.788	U	0.788	488		5.26	0.526	U	0.526	290		131
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.743	U	0.743	577		4.95	0.495	U	0.495	241		124
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.700	U	0.700	529		4.67	0.467	U	0.467	233		117
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.827	U	0.827	602		5.51	0.551	U	0.551	243		138
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.755	U	0.755	646		5.03	0.503	U	0.503	294		126
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.855	U	0.855	402		5.70	0.570	U	0.570	365		142
	Split of J1R4J5	J1R4F8	12/7/2012	0.85	U	0.85	316	X	5.60	0.16	U	0.16	189		58.5
1	Equipment Blank 1	J1PW79	7/25/2012	0.276	U	0.276	142		1.84	0.184	U	0.184	46.1	U	46.1
1	Equpment Blank 2	J1R4D3	12/5/2012	0.263	U	0.263	133		1.76	0.176	U	0.176	9.02	B	43.9
2	Equpment Blank 3	J1R3H4	12/10/2012	0.259	U	0.259	161		1.72	0.172	U	0.172	43.1	U	43.1
3	Equpment Blank 4	J1R4L2	12/7/2012	0.254	U	0.254	148		1.70	0.170	U	0.170	9.21	B	42.4

Attachment	1	Sheet	12 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Uranium			Uranium -KPA			Vanadium			Zinc		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	17.6	U	17.6	2.58		0.088	45.7		2.21	37.1		8.82
	Duplicate of J1PW73	J1PW74	7/25/2012	17.4	U	17.4	2.90		0.088	44.5		2.17	36.9		8.68
	DU-1 #1	J1PW67	7/24/2012	3.06	B	17.2	6.87		0.091	45.9		2.15	39.9	J	8.59
	DU-1 #2	J1PW68	7/24/2012	34.6		16.4	47.1		0.091	41.1		2.05	41.0	J	8.18
	DU-1 #3	J1PW69	7/24/2012	1.72	B	16.9	13.5		0.091	41.8		2.12	33.2	J	8.46
	DU-1 #4	J1PW70	7/24/2012	2.72	B	14.8	6.39		0.091	41.9		1.85	31.6	J	7.38
	DU-1 #5	J1PW71	7/24/2012	15.6	U	15.6	2.63		0.091	45.5		1.96	32.2	J	7.82
	DU-1 #6	J1PW72	7/24/2012	17.2	U	17.2	3.85		0.091	44.7		2.16	32.0	J	8.62
	DU-1 #8	J1PW75	7/25/2012	16.5	U	16.5	4.00		0.088	42.3		2.06	62.2		8.23
	DU-1 #9	J1PW76	7/25/2012	16.2	U	16.2	5.21		0.088	41.8		2.02	34.8		8.09
	DU-1 #10	J1PW77	7/25/2012	19.4	U	19.4	2.25		0.088	49.0		2.43	40.0		9.70
	DU-1 #11	J1PW78	7/25/2012	16.4	U	16.4	4.52		0.088	40.6		2.05	31.2		8.20
	DU-1 #12	J1PW80	7/25/2012	18.9	U	18.9	4.05		0.088	40.8		2.36	35.1		9.45
	Split of J1PW76	J1PWM0	7/25/2012	3.5		0.0016	4.69		0.33	55.2		0.094	44.7	X	0.40
	Zone 6 Seg.1	J1R4C7	12/5/2012	57.5	U	57.5	4.69		0.089	54.9		7.18	48.6		28.7
	Duplicate of J1R4C7	J1R4D1	12/5/2012	60.3	U	60.3	3.73		0.089	58.7		7.54	48.7		30.2
	Zone 6 Seg.2	J1R4C8	12/5/2012	60.4	U	60.4	3.26		0.089	55.0		7.56	40.1		30.2
	Zone 6 Seg.3	J1R4C9	12/5/2012	62.5	U	62.5	5.35		0.089	62.1		7.81	42.8		31.3
	Zone 6 Seg.4	J1R4D0	12/5/2012	57.5	U	57.5	5.47		0.089	59.0		7.19	43.8		28.8
	Split of J1R4C7	J1R4H1	12/5/2012	3.9		0.0015	6.27		0.134	53.7		0.098	47.1	X	0.41
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	58.7	U	58.7	1.67		0.076	71.9		7.33	47.8		29.3
	Duplicate of J1R3D8	J1R3H2	12/10/2012	56.2	U	56.2	1.39		0.076	71.3		7.02	46.1		28.1
	Zone 2 Seg. 1	J1R3D9	12/10/2012	52.0	U	52.0	2.40		0.076	82.2		6.49	60.3		26.0
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	57.5	U	57.5	1.65		0.076	53.5		7.19	35.6		28.8
	Zone 3 Seg.7	J1R3F1	12/10/2012	57.6	U	57.6	2.56		0.076	61.2		7.20	41.6		28.8
	Zone 3 Seg.4	J1R3F2	12/10/2012	57.4	U	57.4	1.54		0.076	68.0		7.17	39.5		28.7
	Zone 3 Seg.4	J1R3F3	12/10/2012	9.68	B	57.2	15.6		0.076	69.4		7.15	44.2		28.6
	Zone 2 Seg.3	J1R3F4	12/10/2012	58.3	U	58.3	6.58		0.076	58.2		7.29	59.0		29.1
	Zone 3 Seg.8	J1R3F5	12/10/2012	50.7	U	50.7	2.65		0.076	74.0		6.33	50.0		25.3
	Zone 2 Seg.16	J1R3F6	12/10/2012	56.3	U	56.3	2.33		0.076	54.9		7.04	57.6		28.1
	Zone 2 Seg.15	J1R3F7	12/10/2012	59.8	U	59.8	1.79		0.076	55.1		7.47	40.2		29.9
	Zone 2 Seg.10	J1R3F8	12/10/2012	53.7	U	53.7	2.56		0.076	64.6		6.71	41.3		26.8
	Zone 2 Seg.10	J1R3F9	12/10/2012	51.4	U	51.4	1.49		0.076	52.7		6.43	43.2		25.7
	Zone 2 Seg.5	J1R3H0	12/10/2012	52.6	U	52.6	4.84		0.076	56.8		6.58	38.0		26.3
	Zone 2 Seg.8	J1R3H1	12/10/2012	58.3	U	58.3	1.92		0.076	56.2		7.29	39.4		29.2
	Split of J1R3D8	J1R3H7	12/10/2012	0.60	XM	0.0014	0.879		0.142	61.2	X	0.096	47.5	X	0.41
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	61.5	U	61.5	1.92		0.085	59.4		7.69	42.6		30.8
	Duplicate of J1R4J5	J1R4L0	12/7/2012	51.3	U	51.3	1.83		0.085	59.7		6.41	42.4		25.6
	Zone 4 Seg. 1	J1R4J6	12/7/2012	61.2	U	61.2	1.83		0.085	78.2		7.65	48.0		30.6
	Zone 4 Seg. 3	J1R4J7	12/7/2012	55.0	U	55.0	1.51		0.085	60.5		6.87	43.1		27.5
	Zone 4 Seg. 1	J1R4J8	12/7/2012	50.8	U	50.8	1.61		0.085	57.0		6.36	40.7		25.4
	Zone 1 Seg. 12	J1R4J9	12/7/2012	57.4	U	57.4	3.77		0.085	62.4		7.18	43.9		28.7
	Zone 1 Seg. 19	J1R4K0	12/7/2012	57.1	U	57.1	1.25		0.085	58.7		7.14	39.9		28.6
	Zone 1 Seg. 19	J1R4K1	12/7/2012	32.2	B	56.4	43.5		0.085	63.1		7.05	84.5		28.2
	Zone 5 Seg. 1	J1R4K2	12/7/2012	54.3	U	54.3	5.74		0.085	55.7		6.78	41.1		27.1
	Zone 5 Seg. 4	J1R4K3	12/7/2012	52.2	U	52.2	2.50		0.025	83.2		6.53	51.1		26.1
	Zone 5 Seg. 5	J1R4K4	12/7/2012	52.6	U	52.6	5.79		0.085	62.9		6.57	47.6		26.3
	Zone 1 Seg. 13	J1R4K5	12/7/2012	49.5	U	49.5	2.39		0.085	58.6		6.19	41.8		24.8
	Zone 1 Seg. 13	J1R4K6	12/7/2012	46.7	U	46.7	2.94		0.085	56.5		5.84	41.3		23.3
	Zone 1 Seg. 13	J1R4K7	12/7/2012	55.1	U	55.1	5.95		0.085	60.8		6.89	47.2		27.6
	Zone 5 Seg. 6	J1R4K8	12/7/2012	50.3	U	50.3	1.84		0.085	63.2		6.29	53.6		25.2
	Zone 5 Seg. 7	J1R4K9	12/7/2012	57.0	U	57.0	1.72		0.085	73.4		7.12	106		28.5
	Split of J1R4J5	J1R4F8	12/7/2012	1.5	M	0.0016	1.19		0.131	51.8		0.093	42.0	X	0.39
1	Equipment Blank 1	J1PW79	7/25/2012	18.4	U	18.4				0.420	B	2.30	1.55	B	9.22
1	Equpment Blank 2	J1R4D3	12/5/2012	17.6	U	17.6				0.428	B	2.19	2.73	B	8.78
2	Equpment Blank 3	J1R3H4	12/10/2012	17.2	U	17.2				0.506	B	2.16	1.47	B	8.62
3	Equpment Blank 4	J1R4L2	12/7/2012	17.0	U	17.0				0.291	B	2.12	0.999	B	8.48

Attachment	1	Sheet	13 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15 Waste Site Verification Sample Results (Metals).

DU	Sample Location	HEIS Number	Sample Date	Zirconium		
				mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	16.7		2.21
	Duplicate of J1PW73	J1PW74	7/25/2012	17.9		2.17
	DU-1 #1	J1PW67	7/24/2012	16.2		2.15
	DU-1 #2	J1PW68	7/24/2012	27.5		2.05
	DU-1 #3	J1PW69	7/24/2012	17.3		2.12
	DU-1 #4	J1PW70	7/24/2012	13.6		1.85
	DU-1 #5	J1PW71	7/24/2012	14.9		1.96
	DU-1 #6	J1PW72	7/24/2012	15.6		2.16
	DU-1 #8	J1PW75	7/25/2012	16.4		2.06
	DU-1 #9	J1PW76	7/25/2012	17.3		2.02
	DU-1 #10	J1PW77	7/25/2012	16.9		2.43
	DU-1 #11	J1PW78	7/25/2012	14.0		2.05
	DU-1 #12	J1PW80	7/25/2012	15.3		2.36
	Split of J1PW76	J1PWM0	7/25/2012	20.1	X	0.36
	Zone 6 Seg.1	J1R4C7	12/5/2012	19.3		7.18
	Duplicate of J1R4C7	J1R4D1	12/5/2012	22.6		7.54
	Zone 6 Seg.2	J1R4C8	12/5/2012	21.0		7.56
	Zone 6 Seg.3	J1R4C9	12/5/2012	24.5		7.81
	Zone 6 Seg.4	J1R4D0	12/5/2012	21.9		7.19
	Split of J1R4C7	J1R4H1	12/5/2012	19.4		0.37
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	26.9		7.33
	Duplicate of J1R3D8	J1R3H2	12/10/2012	26.3		7.02
	Zone 2 Seg. 1	J1R3D9	12/10/2012	28.1		6.49
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	19.1		7.19
	Zone 3 Seg.7	J1R3F1	12/10/2012	22.6		7.20
	Zone 3 Seg.4	J1R3F2	12/10/2012	22.8		7.17
	Zone 3 Seg.4	J1R3F3	12/10/2012	22.2		7.15
	Zone 2 Seg.3	J1R3F4	12/10/2012	32.9		7.29
	Zone 3 Seg.8	J1R3F5	12/10/2012	26.4		6.33
	Zone 2 Seg.16	J1R3F6	12/10/2012	18.2		7.04
	Zone 2 Seg.15	J1R3F7	12/10/2012	21.8		7.47
	Zone 2 Seg.10	J1R3F8	12/10/2012	23.7		6.71
	Zone 2 Seg.10	J1R3F9	12/10/2012	19.4		6.43
	Zone 2 Seg.5	J1R3H0	12/10/2012	18.8		6.58
	Zone 2 Seg.8	J1R3H1	12/10/2012	18.1		7.29
	Split of J1R3D8	J1R3H7	12/10/2012	21.1		0.36
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	24.0		7.69
	Duplicate of J1R4J5	J1R4L0	12/7/2012	24.4		6.41
	Zone 4 Seg. 1	J1R4J6	12/7/2012	31.5		7.65
	Zone 4 Seg. 3	J1R4J7	12/7/2012	25.2		6.87
	Zone 4 Seg. 1	J1R4J8	12/7/2012	20.6		6.36
	Zone 1 Seg. 12	J1R4J9	12/7/2012	25.1		7.18
	Zone 1 Seg. 19	J1R4K0	12/7/2012	22.3		7.14
	Zone 1 Seg. 19	J1R4K1	12/7/2012	24.4		7.05
	Zone 5 Seg. 1	J1R4K2	12/7/2012	21.0		6.78
	Zone 5 Seg. 4	J1R4K3	12/7/2012	43.8		6.53
	Zone 5 Seg. 5	J1R4K4	12/7/2012	25.0		6.57
	Zone 1 Seg. 13	J1R4K5	12/7/2012	24.5		6.19
	Zone 1 Seg. 13	J1R4K6	12/7/2012	21.4		5.84
	Zone 1 Seg. 13	J1R4K7	12/7/2012	20.3		6.89
	Zone 5 Seg. 6	J1R4K8	12/7/2012	24.6		6.29
	Zone 5 Seg. 7	J1R4K9	12/7/2012	26.6		7.12
	Split of J1R4J5	J1R4F8	12/7/2012	19.9		0.35
1	Equipment Blank 1	J1PW79	7/25/2012	0.878	B	2.30
1	Equpment Blank 2	J1R4D3	12/5/2012	1.11	B	2.19
2	Equpment Blank 3	J1R3H4	12/10/2012	1.14	B	2.16
3	Equpment Blank 4	J1R4L2	12/7/2012	1.05	B	2.12

Attachment	1	Sheet	14 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Anions).

DU	Sample Location	HEIS Number	Sample Date	Bromide			Chloride			Cyanide			Fluoride		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	5.1	U	1.0	1.0	U	1.0	0.51	U	0.51	1.0	U	1.0
	Duplicate of J1PW73	J1PW74	7/25/2012	1.0	U	1.0	1.0	U	1.0	0.50	U	0.50	1.0	U	1.0
	DU-1 #1	J1PW67	7/24/2012	1.0	U	1.0	1.0	U	1.0	0.55	UJ	0.55	1.0	U	1.0
	DU-1 #2	J1PW68	7/24/2012	1.1	U	1.1	2.3	B	1.1	0.52	UJ	0.52	1.1	U	1.1
	DU-1 #3	J1PW69	7/24/2012	1.0	U	1.0	1.0	U	1.0	0.53	UJ	0.53	1.0	U	1.0
	DU-1 #4	J1PW70	7/24/2012	1.0	U	1.0	1.5	B	1.0	0.50	UJ	0.50	1.0	U	1.0
	DU-1 #5	J1PW71	7/24/2012	1.0	U	1.0	1.8	B	1.0	0.50	UJ	0.50	1.0	U	1.0
	DU-1 #6	J1PW72	7/24/2012	1.0	U	1.0	1.3	B	1.0	0.50	UJ	0.50	1.0	U	1.0
	DU-1 #8	J1PW75	7/25/2012	1.0	U	1.0	10.4		1.0	0.50	U	0.50	1.0	U	1.0
	DU-1 #9	J1PW76	7/25/2012	1.0	U	1.0	8.3		1.0	0.50	U	0.50	1.0	U	1.0
	DU-1 #10	J1PW77	7/25/2012	1.0		1.0	116	D	2.0	0.53	U	0.53	1.0	U	1.0
	DU-1 #11	J1PW78	7/25/2012	1.0	U	1.0	1.0	U	1.0	0.50	U	0.50	1.0	U	1.0
	DU-1 #12	J1PW80	7/25/2012	1.0	U	1.0	12.0		1.0	0.50	U	0.50	1.0	U	1.0
	Split of J1PW76	J1PWM0	7/25/2012	0.39	U	0.39	9.7		2.0	0.92	N	0.11	0.83	U	0.83
	Zone 6 Seg.1	J1R4C7	12/5/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Duplicate of J1R4C7	J1R4D1	12/5/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 6 Seg.2	J1R4C8	12/5/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 6 Seg.3	J1R4C9	12/5/2012	1.1	U	1.1	1.1	U	1.1	0.54	U	0.54	1.1	U	1.1
	Zone 6 Seg.4	J1R4D0	12/5/2012	1.1	U	1.1	1.1	U	1.1	0.54	U	0.54	1.1	U	1.1
	Split of J1R4C7	J1R4H1	12/5/2012	0.41	U	0.41	4.4	B	2.1	0.11	UN	0.11	0.92	BN	0.88
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Duplicate of J1R3D8	J1R3H2	12/10/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.90	U	0.90	13.8		0.9	0.51	U	0.51	0.90	U	0.90
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	1.0	U	1.0	8.9		1.0	0.52	U	0.52	1.0	U	1.0
	Zone 3 Seg.7	J1R3F1	12/10/2012	1.0	U	1.0	1.9	B	1.0	0.54	U	0.54	1.0	U	1.0
	Zone 3 Seg.4	J1R3F2	12/10/2012	1.0	U	1.0	3.4	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 3 Seg.4	J1R3F3	12/10/2012	1.0	U	1.0	4.5	B	1.0	0.54	U	0.54	1.0	U	1.0
	Zone 2 Seg.3	J1R3F4	12/10/2012	1.1	U	1.1	5.0	B	1.1	0.56	U	0.56	1.1	U	1.1
	Zone 3 Seg.8	J1R3F5	12/10/2012	1.0	U	1.0	2.5	B	1.0	0.57	U	0.57	1.0	U	1.0
	Zone 2 Seg.16	J1R3F6	12/10/2012	1.0	U	1.0	1.1	B	1.0	0.52	U	0.52	1.0	U	1.0
	Zone 2 Seg.15	J1R3F7	12/10/2012	1.0	U	1.0	1.0	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 2 Seg.10	J1R3F8	12/10/2012	1.0	U	1.0	1.3	B	1.0	0.54	U	0.54	1.0	U	1.0
	Zone 2 Seg.10	J1R3F9	12/10/2012	1.0	U	1.0	1.1	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 2 Seg.5	J1R3H0	12/10/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 2 Seg.8	J1R3H1	12/10/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Split of J1R3D8	J1R3H7	12/10/2012	0.41	U	0.41	6.0		2.1	0.14	BN	0.11	1.1	B	0.87
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.55	U	0.55	1.0	U	1.0
	Duplicate of J1R4J5	J1R4L0	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.55	U	0.55	1.0	U	1.0
	Zone 4 Seg. 1	J1R4J6	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 4 Seg. 3	J1R4J7	12/7/2012	1.1	U	1.1	1.1	U	1.1	0.56	U	0.56	1.1	U	1.1
	Zone 4 Seg. 1	J1R4J8	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.54	U	0.54	1.0	U	1.0
	Zone 1 Seg. 12	J1R4J9	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	B	1.0
	Zone 1 Seg. 19	J1R4K0	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 1 Seg. 19	J1R4K1	12/7/2012	1.1	U	1.1	1.1	U	1.1	0.53	U	0.53	1.1	U	1.1
	Zone 5 Seg. 1	J1R4K2	12/7/2012	1.1	U	1.1	21.0		1.1	0.54	U	0.54	1.1	U	1.1
	Zone 5 Seg. 4	J1R4K3	12/7/2012	1.0	U	1.0	1.2	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 5 Seg. 5	J1R4K4	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 1 Seg. 13	J1R4K5	12/7/2012	1.0	U	1.0	1.0	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 1 Seg. 13	J1R4K6	12/7/2012	1.0	U	1.0	1.0	B	1.0	0.53	U	0.53	1.0	U	1.0
	Zone 1 Seg. 13	J1R4K7	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.52	U	0.52	1.0	U	1.0
	Zone 5 Seg. 6	J1R4K8	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.52	U	0.52	1.0	U	1.0
	Zone 5 Seg. 7	J1R4K9	12/7/2012	1.0	U	1.0	1.0	U	1.0	0.52	U	0.52	1.0	U	1.0
	Split of J1R4J5	J1R4F8	12/7/2012	0.43	U	0.43	5.7		2.2	0.11	UN	0.11	0.90	U	0.90

Attachment	1	Sheet	15 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Anions).

DU	Sample Location	HEIS Number	Sample Date	Nitrate			Nitrite			Nitrogen in Nitrate			Nitrogen in Nitrite		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	2.9		1.0	1.0	U	1.0						
	Duplicate of J1PW73	J1PW74	7/25/2012	3.0		1.0	1.0	U	1.0						
	DU-1 #1	J1PW67	7/24/2012	6.3	J	1.0	1.0	UR	1.0						
	DU-1 #2	J1PW68	7/24/2012	1.3	BJ	1.1	1.1	UR	1.1						
	DU-1 #3	J1PW69	7/24/2012	1.9	BJ	1.0	1.0	UR	1.0						
	DU-1 #4	J1PW70	7/24/2012	5.6	J	1.0	1.0	UR	1.0						
	DU-1 #5	J1PW71	7/24/2012	2.0	BJ	1.0	1.0	UR	1.0						
	DU-1 #6	J1PW72	7/24/2012	3.1	BJ	1.0	1.0	UR	1.0						
	DU-1 #8	J1PW75	7/25/2012	1.6		1.0	1.0	U	1.0						
	DU-1 #9	J1PW76	7/25/2012	2.4		1.0	1.0	U	1.0						
	DU-1 #10	J1PW77	7/25/2012	7.4		1.0	1.0	U	1.0						
	DU-1 #11	J1PW78	7/25/2012	1.0	U	1.0	1.0	U	1.0						
	DU-1 #12	J1PW80	7/25/2012	2.7		1.0	1.0	U	1.0						
	Split of J1PW76	J1PWM0	7/25/2012							0.89	B	0.32	0.34	U	0.34
	Zone 6 Seg.1	J1R4C7	12/5/2012	1.0	U	1.0	1.0	U	1.0						
	Duplicate of J1R4C7	J1R4D1	12/5/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 6 Seg.2	J1R4C8	12/5/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 6 Seg.3	J1R4C9	12/5/2012	1.1	U	1.1	1.1	U	1.1						
	Zone 6 Seg.4	J1R4D0	12/5/2012	1.1	U	1.1	1.1	U	1.1						
	Split of J1R4C7	J1R4H1	12/5/2012							0.34	U	0.34	0.36	U	0.36
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Duplicate of J1R3D8	J1R3H2	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 2 Seg. 1	J1R3D9	12/10/2012	2.7	B	0.9	0.9	U	0.9						
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	1.2	B	1.0	1.0	U	1.0						
	Zone 3 Seg.7	J1R3F1	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 3 Seg.4	J1R3F2	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 3 Seg.4	J1R3F3	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 2 Seg.3	J1R3F4	12/10/2012	1.1	U	1.1	1.1	U	1.1						
	Zone 3 Seg.8	J1R3F5	12/10/2012	1.5	B	1.0	1.0	U	1.0						
	Zone 2 Seg.16	J1R3F6	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 2 Seg.15	J1R3F7	12/10/2012	2.3		1.0	1.0	U	1.0						
	Zone 2 Seg.10	J1R3F8	12/10/2012	1.7	B	1.0	1.0	U	1.0						
	Zone 2 Seg.10	J1R3F9	12/10/2012	4.2	B	1.0	1.0	U	1.0						
	Zone 2 Seg.5	J1R3H0	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 2 Seg.8	J1R3H1	12/10/2012	1.0	U	1.0	1.0	U	1.0						
	Split of J1R3D8	J1R3H7	12/10/2012							0.33	U	0.33	0.36	U	0.36
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	2.4	B	1.0	1.0	U	1.0						
	Duplicate of J1R4J5	J1R4L0	12/7/2012	2.0	B	1.0	1.0	U	1.0						
	Zone 4 Seg. 1	J1R4J6	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 4 Seg. 3	J1R4J7	12/7/2012	1.1	U	1.1	1.1	U	1.1						
	Zone 4 Seg. 1	J1R4J8	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 1 Seg. 12	J1R4J9	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 1 Seg. 19	J1R4K0	12/7/2012	1.4	B	1.0	1.0	U	1.0						
	Zone 1 Seg. 19	J1R4K1	12/7/2012	1.1	U	1.1	1.1	U	1.1						
	Zone 5 Seg. 1	J1R4K2	12/7/2012	3.1	B	1.1	1.1	U	1.1						
	Zone 5 Seg. 4	J1R4K3	12/7/2012	2.1	B	1.0	1.0	U	1.0						
	Zone 5 Seg. 5	J1R4K4	12/7/2012	1.7	B	1.0	1.0	U	1.0						
	Zone 1 Seg. 13	J1R4K5	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 1 Seg. 13	J1R4K6	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 1 Seg. 13	J1R4K7	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Zone 5 Seg. 6	J1R4K8	12/7/2012	1.3	B	1.0	1.0	U	1.0						
	Zone 5 Seg. 7	J1R4K9	12/7/2012	1.0	U	1.0	1.0	U	1.0						
	Split of J1R4J5	J1R4F8	12/7/2012							1.2	B	0.35	0.37	U	0.37

Attachment	1	Sheet	16 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Anions).

DU	Sample Location	HEIS Number	Sample Date	Nitrogen in Nitrite and Nitrate			Phosphate			Phosphorous in phosphate			Sulfate		
				mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	0.62		0.10	2.0		2.0				7.3		1.0
	Duplicate of J1PW73	J1PW74	7/25/2012	0.69		0.10	2.1		2.0				7.2		1.0
	DU-1 #1	J1PW67	7/24/2012	1.53		0.10	2.1	UR	2.1				10.2		1.0
	DU-1 #2	J1PW68	7/24/2012	0.55		0.11	4.6	BJ	2.1				19.1		1.1
	DU-1 #3	J1PW69	7/24/2012	0.17	B	0.10	2.3	BJ	2.0				12.1		1.0
	DU-1 #4	J1PW70	7/24/2012	1.28		0.10	1.9	UR	1.9				47.4		1.0
	DU-1 #5	J1PW71	7/24/2012	0.46	B	0.10	1.9	UR	1.9				12.1		1.0
	DU-1 #6	J1PW72	7/24/2012	0.72		0.10	3.1	BJ	1.9				15.3		1.0
	DU-1 #8	J1PW75	7/25/2012	0.32		0.10	2.3		2.0				23.2		1.0
	DU-1 #9	J1PW76	7/25/2012	0.57		0.10	2.7		2.0				27.7		1.0
	DU-1 #10	J1PW77	7/25/2012	0.10	U	0.10	2.0	U	2.0				129	D	2.0
	DU-1 #11	J1PW78	7/25/2012	0.10	U	0.10	2.0	U	2.0				3.5		1.0
	DU-1 #12	J1PW80	7/25/2012	0.52		0.10	1.9	U	1.9				8.6		1.0
	Split of J1PW76	J1PWM0	7/25/2012	0.36	B	0.31				1.2	U	1.2	24.5		1.7
	Zone 6 Seg.1	J1R4C7	12/5/2012	0.23	B	0.10	2.1	B	2.1				4.5	B	1.0
	Duplicate of J1R4C7	J1R4D1	12/5/2012	0.24	B	0.10	2.4	B	2.0				4.8	B	1.0
	Zone 6 Seg.2	J1R4C8	12/5/2012	0.10	B	0.10	2.1	U	2.1				2.9	B	1.0
	Zone 6 Seg.3	J1R4C9	12/5/2012	0.14	B	0.11	2.4	B	2.2				19.8		1.1
	Zone 6 Seg.4	J1R4D0	12/5/2012	0.22	B	0.11	2.2	U	2.2				3.3	B	1.1
	Split of J1R4C7	J1R4H1	12/5/2012	0.32	U	0.32				1.3	UN	1.3	4.9	B	1.8
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	0.10	U	0.10	2.1	U	2.1				2.5	B	1.0
	Duplicate of J1R3D8	J1R3H2	12/10/2012	0.10	U	0.10	1.9	U	1.9				2.3		1.0
	Zone 2 Seg. 1	J1R3D9	12/10/2012	0.64		0.09	1.9	U	1.9				7.0		0.9
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	0.27	B	0.10	2.0	U	2.0				4.2	B	1.0
	Zone 3 Seg.7	J1R3F1	12/10/2012	0.10	U	0.10	2.1	B	2.0				3.5	B	1.0
	Zone 3 Seg.4	J1R3F2	12/10/2012	0.11	B	0.10	2.0	U	2.0				2.9	B	1.0
	Zone 3 Seg.4	J1R3F3	12/10/2012	0.11	B	0.10	2.0	U	2.0				15.6		1.0
	Zone 2 Seg.3	J1R3F4	12/10/2012	0.26	B	0.11	2.2	U	2.2				13.3		1.1
	Zone 3 Seg.8	J1R3F5	12/10/2012	0.34	B	0.10	2.0	U	2.0				9.3		1.0
	Zone 2 Seg.16	J1R3F6	12/10/2012	0.10	U	0.10	2.1	U	2.1				3.0	B	1.0
	Zone 2 Seg.15	J1R3F7	12/10/2012	0.55		0.10	4.9	B	1.9				2.6	B	1.0
	Zone 2 Seg.10	J1R3F8	12/10/2012	0.41	B	0.10	2.3	B	2.0				8.3		1.0
	Zone 2 Seg.10	J1R3F9	12/10/2012	1.11		0.10	2.0	U	2.0				10.0		1.0
	Zone 2 Seg.5	J1R3H0	12/10/2012	0.10	U	0.10	2.0	U	2.0				3.1	B	1.0
	Zone 2 Seg.8	J1R3H1	12/10/2012	0.10	U	0.10	2.1	U	2.1				2.9	B	1.0
	Split of J1R3D8	J1R3H7	12/10/2012	0.31	U	0.31				1.3	UN	1.3	3.7	B	1.8
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	0.55		0.10	3.6	B	2.0				3.2	B	1.0
	Duplicate of J1R4J5	J1R4L0	12/7/2012	0.54		0.10	2.8	B	2.0				3.0	B	1.0
	Zone 4 Seg. 1	J1R4J6	12/7/2012	0.16	B	0.10	2.5	B	2.0				2.4	B	1.0
	Zone 4 Seg. 3	J1R4J7	12/7/2012	0.12	B	0.11	5.5	B	2.2				7.0		1.1
	Zone 4 Seg. 1	J1R4J8	12/7/2012	0.12	B	0.10	2.3	B	2.1				6.2		1.0
	Zone 1 Seg. 12	J1R4J9	12/7/2012	0.11	B	0.10	2.8	B	1.9				3.0	B	1.0
	Zone 1 Seg. 19	J1R4K0	12/7/2012	0.30	B	0.10	2.1	U	2.1				4.3	B	1.0
	Zone 1 Seg. 19	J1R4K1	12/7/2012	0.11	B	0.11	2.1	U	2.1				3.4	B	1.1
	Zone 5 Seg. 1	J1R4K2	12/7/2012	0.76		0.11	3.7	B	2.1				9.2		1.1
	Zone 5 Seg. 4	J1R4K3	12/7/2012	0.53		0.10	3.6	B	2.1				5.8		1.0
	Zone 5 Seg. 5	J1R4K4	12/7/2012	0.41	B	0.10	2.9	B	2.1				3.7	B	1.0
	Zone 1 Seg. 13	J1R4K5	12/7/2012	0.12	B	0.10	2.1	B	2.0				2.2	B	1.0
	Zone 1 Seg. 13	J1R4K6	12/7/2012	0.10	B	0.10	1.9	U	1.9				2.8	B	1.0
	Zone 1 Seg. 13	J1R4K7	12/7/2012	0.11	B	0.10	3.2	B	2.0				2.4	B	1.0
	Zone 5 Seg. 6	J1R4K8	12/7/2012	0.40	B	0.10	2.4	B	2.0				3.8	B	1.0
	Zone 5 Seg. 7	J1R4K9	12/7/2012	0.13	B	0.10	2.1	U	2.1				3.2	B	1.0
	Split of J1R4J5	J1R4F8	12/7/2012	0.47	B	0.34				1.6	BN	1.4	7.1		1.9

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Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Anions).

DU	Sample Location	HEIS Number	Sample Date	Sulfide			TPH - Diesel			TPH - motor oil			TPH - Diesel EXT		
				mg/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	40.9	U	40.9	13500		3310	19600		9920			
	Duplicate of J1PW73	J1PW74	7/25/2012	40.3	U	40.3	6160		3300	9870	J	9910			
	DU-1 #1	J1PW67	7/24/2012	44.0	U	44.0	2200	UJ	3550	4960	J	10700			
	DU-1 #2	J1PW68	7/24/2012	42.6	U	42.6	4800	U	3500	10200	J	10500			
	DU-1 #3	J1PW69	7/24/2012	42.7	U	42.7	13600		3440	37700	J	10300			
	DU-1 #4	J1PW70	7/24/2012	40.2	U	40.2	2530	UJ	3340	3990	J	10000			
	DU-1 #5	J1PW71	7/24/2012	40.0	U	40.0	6800	U	3290	11000	J	9880			
	DU-1 #6	J1PW72	7/24/2012	40.0	U	40.0	2650	UJ	3330	4360	J	10000			
	DU-1 #8	J1PW75	7/25/2012	40.1	U	40.1	4660		3200	9100	J	9600			
	DU-1 #9	J1PW76	7/25/2012	40.1	U	40.1	6290		3300	22500		9890			
	DU-1 #10	J1PW77	7/25/2012	42.7	U	42.7	5120		3550	13400		10600			
	DU-1 #11	J1PW78	7/25/2012	40.0	U	40.0	1800	J	3330	3540	J	9990			
	DU-1 #12	J1PW80	7/25/2012	40.0	U	40.0	16600		3290	53400		9870			
	Split of J1PW76	J1PWM0	7/25/2012	2.5	UN	2.5	3200	J	700				5800		1000
	Zone 6 Seg.1	J1R4C7	12/5/2012	42.9	U	42.9	3560	U	3560	9660	J	10700			
	Duplicate of J1R4C7	J1R4D1	12/5/2012	42.6	U	42.6	3540	U	3540	13800		10600			
	Zone 6 Seg.2	J1R4C8	12/5/2012	42.7	U	42.7	7100	U	7100	26000		21300			
	Zone 6 Seg.3	J1R4C9	12/5/2012	43.3	U	43.3	17500	U	17500	22000	J	52600			
	Zone 6 Seg.4	J1R4D0	12/5/2012	43.7	U	43.7	18100	U	18100	39400	J	54300			
	Split of J1R4C7	J1R4H1	12/5/2012	2.6	U	2.6	8400		720				14000		1100
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	38.8	U	38.8	3550	U	3550	29000		10600			
	Duplicate of J1R3D8	J1R3H2	12/10/2012	42.4	U	42.4	17100	U	17100	89200		51400			
	Zone 2 Seg. 1	J1R3D9	12/10/2012	40.4	U	40.4	877	J	3440	10300	U	10300			
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	39.4	U	39.4	3430	U	3430	9170	J	10300			
	Zone 3 Seg.7	J1R3F1	12/10/2012	42.4	U	42.4	3560	U	3560	5860	J	10700			
	Zone 3 Seg.4	J1R3F2	12/10/2012	38.1	U	38.1	921	J	3450	10400	U	10400			
	Zone 3 Seg.4	J1R3F3	12/10/2012	43.1	U	43.1	1680	J	3570	10700	U	10700			
	Zone 2 Seg.3	J1R3F4	12/10/2012	43.0	U	43.0	85300		3720	11200	U	11200			
	Zone 3 Seg.8	J1R3F5	12/10/2012	45.4	U	45.4	1430	J	3700	11100	U	11100			
	Zone 2 Seg.16	J1R3F6	12/10/2012	41.5	U	41.5	3480		3460	10400		10400			
	Zone 2 Seg.15	J1R3F7	12/10/2012	41.3	U	41.3	912	J	3510	10500	U	10500			
	Zone 2 Seg.10	J1R3F8	12/10/2012	40.5	U	40.5	1500	J	3470	10400	U	10400			
	Zone 2 Seg.10	J1R3F9	12/10/2012	42.0	U	42.0	8470		3540	20300		10600			
	Zone 2 Seg.5	J1R3H0	12/10/2012	41.9	U	41.9	1940	J	3460	10400	U	10400			
	Zone 2 Seg.8	J1R3H1	12/10/2012	41.9	U	41.9	3550	U	3550	4290	J	10600			
	Split of J1R3D8	J1R3H7	12/10/2012	2.6	U	2.6	7100	B	710				13000		1000
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	43.1	U	43.1	7330	U	7330	17300	J	22000			
	Duplicate of J1R4J5	J1R4L0	12/7/2012	44.6	U	44.6	4780		3620	19000		10900			
	Zone 4 Seg. 1	J1R4J6	12/7/2012	39.4	U	39.4	3440	U	3440	8820	J	10300			
	Zone 4 Seg. 3	J1R4J7	12/7/2012	45.0	U	45.0	3660	U	3660	13800		11000			
	Zone 4 Seg. 1	J1R4J8	12/7/2012	43.2	U	43.2	3550	U	3550	9520	J	10600			
	Zone 1 Seg. 12	J1R4J9	12/7/2012	41.6	U	41.6	3480	U	3480	57500		10400			
	Zone 1 Seg. 19	J1R4K0	12/7/2012	41.6	U	41.6	3470	U	3470	4090	J	10400			
	Zone 1 Seg. 19	J1R4K1	12/7/2012	42.8	U	42.8	5870		3510	19800		10500			
	Zone 5 Seg. 1	J1R4K2	12/7/2012	41.9	U	41.9	1900	J	3560	8070	J	10700			
	Zone 5 Seg. 4	J1R4K3	12/7/2012	42.1	U	42.1	3530	U	3530	9130	J	10600			
	Zone 5 Seg. 5	J1R4K4	12/7/2012	41.8	U	41.8	3460	U	3460	6420	J	10400			
	Zone 1 Seg. 13	J1R4K5	12/7/2012	41.7	U	41.7	3440	U	3440	6650	J	10300			
	Zone 1 Seg. 13	J1R4K6	12/7/2012	40.9	U	40.9	5070		3520	14400		10600			
	Zone 1 Seg. 13	J1R4K7	12/7/2012	40.9	U	40.9	3460	U	3460	13900		10400			
	Zone 5 Seg. 6	J1R4K8	12/7/2012	42.1	U	42.1	3520	U	3520	4570	J	10600			
	Zone 5 Seg. 7	J1R4K9	12/7/2012	41.9	U	41.9	3420	U	3420	14400		10300			
	Split of J1R4J5	J1R4F8	12/7/2012	2.7	U	2.7	4600	B	750				9900	B	1100

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Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (TPH and Physicals).

DU	Sample Location	HEIS Number	Sample Date	Percent moisture			Percent Solids			pH		
				%	Q	PQL	%	Q	PQL	pH	Q	PQL
1	DU-1 #7	J1PW73	7/25/2012	2.28		0.10	97.7		0.1			
	Duplicate of J1PW73	J1PW74	7/25/2012	0.65		0.10	99.3		0.1			
	DU-1 #1	J1PW67	7/24/2012	9.04		0.10	91.0		0.1			
	DU-1 #2	J1PW68	7/24/2012	6.00		0.10	94.0		0.1			
	DU-1 #3	J1PW69	7/24/2012	6.24		0.10	93.8		0.1			
	DU-1 #4	J1PW70	7/24/2012	0.42		0.10	99.6		0.1			
	DU-1 #5	J1PW71	7/24/2012	0.12		0.10	99.9		0.1			
	DU-1 #6	J1PW72	7/24/2012	0.10		0.10	100		0.1			
	DU-1 #8	J1PW75	7/25/2012	0.35		0.10	99.7		0.1			
	DU-1 #9	J1PW76	7/25/2012	0.30		0.10	99.7		0.1			
	DU-1 #10	J1PW77	7/25/2012	6.28		0.10	93.7		0.1			
	DU-1 #11	J1PW78	7/25/2012	0.10		0.10	100		0.1			
	DU-1 #12	J1PW80	7/25/2012	0.12		0.10	99.9		0.1			
	Split of J1PW76	J1PWM0	7/25/2012	3.4		0.10						
	Equipment Blank	J1PW79	7/25/2012				98.6		0.1			
	Zone 6 Seg.1	J1R4C7	12/5/2012	6.8		0.1	93.2		0.1	8.79		0.10
	Duplicate of J1R4C7	J1R4D1	12/5/2012	6.2		0.1	93.8		0.1	8.81		0.10
	Zone 6 Seg.2	J1R4C8	12/5/2012	6.4		0.1	93.6		0.1	8.87		0.10
	Zone 6 Seg.3	J1R4C9	12/5/2012	7.7		0.1	92.3		0.1	8.60		0.10
	Zone 6 Seg.4	J1R4D0	12/5/2012	8.5		0.1	91.5		0.1	8.94		0.10
	Split of J1R4C7	J1R4H1	12/5/2012	7.3		0.1				9.1		0.10
2	Zone 2 Seg. 19	J1R3D8	12/10/2012	7.0		0.1	93.0		0.1	8.81		0.10
	Duplicate of J1R3D8	J1R3H2	12/10/2012	6.3		0.1	93.7		0.1	8.92		0.10
	Zone 2 Seg. 1	J1R3D9	12/10/2012	3.8		0.1	96.2		0.1	8.58		0.10
	Zone 3, Drum Crushing Area	J1R3F0	12/10/2012	5.2		0.1	94.8		0.1	9.02		0.10
	Zone 3 Seg.7	J1R3F1	12/10/2012	8.6		0.1	91.4		0.1	8.69		0.10
	Zone 3 Seg.4	J1R3F2	12/10/2012	5.0		0.1	95.0		0.1	8.91		0.10
	Zone 3 Seg.4	J1R3F3	12/10/2012	8.0		0.1	92.0		0.1	8.72		0.10
	Zone 2 Seg.3	J1R3F4	12/10/2012	11.3		0.1	88.7		0.1	8.24		0.10
	Zone 3 Seg.8	J1R3F5	12/10/2012	11.6		0.1	88.4		0.1	8.52		0.10
	Zone 2 Seg.16	J1R3F6	12/10/2012	4.8		0.1	95.2		0.1	8.72		0.10
	Zone 2 Seg.15	J1R3F7	12/10/2012	5.3		0.1	94.7		0.1	8.26		0.10
	Zone 2 Seg.10	J1R3F8	12/10/2012	6.8		0.1	93.2		0.1	8.85		0.10
	Zone 2 Seg.10	J1R3F9	12/10/2012	5.9		0.1	94.1		0.1	8.35		0.10
	Zone 2 Seg.5	J1R3H0	12/10/2012	6.6		0.1	93.4		0.1	8.79		0.10
	Zone 2 Seg.8	J1R3H1	12/10/2012	6.5		0.1	93.5		0.1	8.75		0.10
	Split of J1R3D8	J1R3H7	12/10/2012	6.5		0.1				9.38		0.10
3	Zone 4 Seg. 3	J1R4J5	12/7/2012	9.7		0.1	90.3		0.1	8.33		0.10
	Duplicate of J1R4J5	J1R4L0	12/7/2012	10.0		0.1	90.0		0.1	8.47		0.10
	Zone 4 Seg. 1	J1R4J6	12/7/2012	5.8		0.1	94.2		0.1	9.01		0.10
	Zone 4 Seg. 3	J1R4J7	12/7/2012	10.6		0.1	89.4		0.1	8.85		0.10
	Zone 4 Seg. 1	J1R4J8	12/7/2012	7.8		0.1	92.2		0.1	8.72		0.10
	Zone 1 Seg. 12	J1R4J9	12/7/2012	5.0		0.1	95.0		0.1	8.77		0.10
	Zone 1 Seg. 19	J1R4K0	12/7/2012	6.2		0.1	93.8		0.1	8.82		0.10
	Zone 1 Seg. 19	J1R4K1	12/7/2012	6.7		0.1	93.3		0.1	8.81		0.10
	Zone 5 Seg. 1	J1R4K2	12/7/2012	7.9		0.1	92.1		0.1	8.69		0.10
	Zone 5 Seg. 4	J1R4K3	12/7/2012	5.8		0.1	94.2		0.1	8.84		0.10
	Zone 5 Seg. 5	J1R4K4	12/7/2012	6.4		0.1	93.6		0.1	8.67		0.10
	Zone 1 Seg. 13	J1R4K5	12/7/2012	5.3		0.1	94.7		0.1	8.75		0.10
	Zone 1 Seg. 13	J1R4K6	12/7/2012	5.5		0.1	94.5		0.1	8.78		0.10
	Zone 1 Seg. 13	J1R4K7	12/7/2012	4.5		0.1	95.5		0.1	8.79		0.10
	Zone 5 Seg. 6	J1R4K8	12/7/2012	5.4		0.1	94.6		0.1	8.94		0.10
	Zone 5 Seg. 7	J1R4K9	12/7/2012	4.3		0.1	95.7		0.1	8.98		0.10
	Split of J1R4J5	J1R4F8	12/7/2012	10		0.10				8.52		0.10
1	Equpment Blank 1	J1PW79	7/25/2012	0.1		0.1	99.9		0.1			
1	Equpment Blank 2	J1R4D3	12/5/2012	0.1		0.1	99.9		0.1			
2	Equpment Blank 3	J1R3H4	12/10/2012	0.1		0.1	100		0.1			
3	Equpment Blank 4	J1R4L2	12/7/2012				98.6		0.1			
1	Trip Blank 1	J1R4D4	12/5/2012				100		0.1			
2	Trip Blank 2	J1R3H3	12/10/2012				100		0.1			
3	Trip Blank 3	J1R4L1	12/7/2012				100		0.1			

Attachment	1	Sheet	19 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1PW73, DU-1 #7			J1PW74, Duplicate of J1PW73			J1PW67, DU-1 #1			J1PW68, DU-1 #2		
		7/25/2012			7/25/2012			7/24/2012			7/24/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1221	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1232	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1242	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1248	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1254	PCB	5340	D	543	6800	D	532	11.1	J	14.3	90.1		14.0
Aroclor-1260	PCB	1150	D	543	1430	D	532	6.05	J	14.3	27.0		14.0
Aroclor-1262	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
Aroclor-1268	PCB	543	UD	543	532	UD	532	14.3	U	14.3	14.0	U	14.0
1,1,1-Trichloroethane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,1,2,2-Tetrachloroethane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,1,2-Trichloroethane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,1-Dichloroethane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,1-Dichloroethene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,2-Dichloroethane	VOA	6.48	U	6.48	6.51	U	6.51	6.26	U	6.26	6.17	U	6.17
1,2-Dichloroethene(Total)	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
1,2-Dichloropropane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
2-Butanone	VOA	13.0	U	13.0	13.0	U	13.0	12.5	U	12.5	12.3	U	12.3
2-Hexanone	VOA	13.0	U	13.0	13.0	U	13.0	12.5	U	12.5	12.3	U	12.3
4-Methyl-2-Pentanone	VOA	13.0	U	13.0	13.0	U	13.0	12.5	U	12.5	12.3	U	12.3
Acetone	VOA	13.0	U	13.0	13.0	U	13.0	12.5	U	12.5	12.3	U	12.3
Benzene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Bromodichloromethane	VOA	6.48	U	6.48	6.51	U	6.51	6.26	U	6.26	6.17	U	6.17
Bromoform	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Bromomethane	VOA	10.8	U	10.8	10.8	U	10.8	10.4	U	10.4	10.3	U	10.3
Carbon disulfide	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Carbon tetrachloride	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Chlorobenzene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Chloroethane	VOA	10.8	U	10.8	10.8	U	10.8	10.4	U	10.4	10.3	U	10.3
Chloroform	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Chloromethane	VOA	10.8	U	10.8	10.8	U	10.8	10.4	U	10.4	10.3	U	10.3
cis-1,2-Dichloroethylene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
cis-1,3-Dichloropropene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Dibromochloromethane	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Ethylbenzene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Methylenechloride	VOA	6.48	U	6.48	6.51	U	6.51	10	U	6.26	10	U	6.17
Styrene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Tetrachloroethene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Toluene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
trans-1,2-Dichloroethylene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
trans-1,3-Dichloropropene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Trichloroethene	VOA	5.40	U	5.40	5.42	U	5.42	5.22	U	5.22	5.14	U	5.14
Vinyl chloride	VOA	10.8	U	10.8	10.8	U	10.8	10.4	U	10.4	10.3	U	10.3
Xylenes (total)	VOA	5.40	U	5.40	5.42	U	5.42	2.26	J	5.22	2.73	J	5.14

Attachment	I	Sheet No.	20 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1PW69, DU-1 #3			J1PW70 DU-1 #4			J1PW71, DU-1 #5			J1PW72, DU-1 #6		
		7/24/2012			7/24/2012			7/24/2012			7/24/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1221	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1232	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1242	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1248	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1254	PCB	14.3		14.0	16.0		13.3	31.9		13.1	103		13.1
Aroclor-1260	PCB	7.14	J	14.0	3.91	J	13.3	10.7	J	13.1	22.0		13.1
Aroclor-1262	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
Aroclor-1268	PCB	14.0	U	14.0	13.3	U	13.3	13.1	U	13.1	13.1	U	13.1
1,1,1-Trichloroethane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,1,2,2-Tetrachloroethane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,1,2-Trichloroethane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,1-Dichloroethane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,1-Dichloroethene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,2-Dichloroethane	VOA	6.52	U	6.52	10.6	U	10.6	6.97	U	6.97	7.63	U	7.63
1,2-Dichloroethene(Total)	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
1,2-Dichloropropane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
2-Butanone	VOA	13.0	U	13.0	21.1	U	21.1	13.9	U	13.9	15.3	U	15.3
2-Hexanone	VOA	13.0	U	13.0	21.1	U	21.1	13.9	U	13.9	15.3	U	15.3
4-Methyl-2-Pentanone	VOA	13.0	U	13.0	21.1	U	21.1	13.9	U	13.9	15.3	U	15.3
Acetone	VOA	13.0	U	13.0	21.1	U	21.1	5.53	J	13.9	15.3	U	15.3
Benzene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Bromodichloromethane	VOA	6.52	U	6.52	10.6	U	10.6	6.97	U	6.97	7.63	U	7.63
Bromoform	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Bromomethane	VOA	10.9	U	10.9	17.6	U	17.6	11.6	U	11.6	12.7	U	12.7
Carbon disulfide	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Carbon tetrachloride	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Chlorobenzene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Chloroethane	VOA	10.9	U	10.9	17.6	U	17.6	11.6	U	11.6	12.7	U	12.7
Chloroform	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Chloromethane	VOA	10.9	U	10.9	17.6	U	17.6	11.6	U	11.6	12.7	U	12.7
cis-1,2-Dichloroethylene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
cis-1,3-Dichloropropene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Dibromochloromethane	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Ethylbenzene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Methylenechloride	VOA	10	U	6.52	10	U	10.6	10	U	6.97	10	U	7.63
Styrene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Tetrachloroethene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Toluene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
trans-1,2-Dichloroethylene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
trans-1,3-Dichloropropene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Trichloroethene	VOA	5.43	U	5.43	8.81	U	8.81	5.81	U	5.81	6.36	U	6.36
Vinyl chloride	VOA	10.9	U	10.9	17.6	U	17.6	11.6	U	11.6	12.7	U	12.7
Xylenes (total)	VOA	1.99	J	5.43	4.14	J	8.81	1.78	J	5.81	1.94	J	6.36

Attachment	1	Sheet No.	21 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1PW75, DU-1 #8			J1PW76, DU-1 #9			J1PW77 , DU-1 #10			J1PW78, DU-1 #11		
		7/25/2012			7/25/2012			7/25/2012			7/25/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
Aroclor-1221	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
Aroclor-1232	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
Aroclor-1242	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
Aroclor-1248	PCB	179	D	64.2	132	UD	132	559	D	69.3	133	UD	133
Aroclor-1254	PCB	307	D	64.2	1070	D	132	672	D	69.3	837	D	133
Aroclor-1260	PCB	43.5	JD	64.2	81.9	JD	132	90.5	D	69.3	247	D	133
Aroclor-1262	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
Aroclor-1268	PCB	64.2	UD	64.2	132	UD	132	69.3	UD	69.3	133	UD	133
1,1,1-Trichloroethane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,1,2,2-Tetrachloroethane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,1,2-Trichloroethane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,1-Dichloroethane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,1-Dichloroethene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,2-Dichloroethane	VOA	7.12	U	7.12	7.22	U	7.22	5.47	U	5.47	6.85	U	6.85
1,2-Dichloroethene(Total)	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
1,2-Dichloropropane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
2-Butanone	VOA	14.2	U	14.2	14.4	U	14.4	10.9	U	10.9	13.7	U	13.7
2-Hexanone	VOA	14.2	U	14.2	14.4	U	14.4	10.9	U	10.9	13.7	U	13.7
4-Methyl-2-Pentanone	VOA	14.2	U	14.2	14.4	U	14.4	10.9	U	10.9	13.7	U	13.7
Acetone	VOA	14.2	U	14.2	14.4	U	14.4	10.9	U	10.9	13.7	U	13.7
Benzene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Bromodichloromethane	VOA	7.12	U	7.12	7.22	U	7.22	5.47	U	5.47	6.85	U	6.85
Bromoform	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Bromomethane	VOA	11.9	U	11.9	12.0	U	12.0	9.12	U	9.12	11.4	U	11.4
Carbon disulfide	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Carbon tetrachloride	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Chlorobenzene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Chloroethane	VOA	11.9	U	11.9	12.0	U	12.0	9.12	U	9.12	11.4	U	11.4
Chloroform	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Chloromethane	VOA	11.9	U	11.9	12.0	U	12.0	9.12	U	9.12	11.4	U	11.4
cis-1,2-Dichloroethylene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
cis-1,3-Dichloropropene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Dibromochloromethane	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Ethylbenzene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Methylenechloride	VOA	7.12	U	7.12	7.22	U	7.22	5.47	U	5.47	6.85	U	6.85
Styrene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Tetrachloroethene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Toluene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
trans-1,2-Dichloroethylene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
trans-1,3-Dichloropropene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Trichloroethene	VOA	5.93	U	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71
Vinyl chloride	VOA	11.9	U	11.9	12.0	U	12.0	9.12	U	9.12	11.4	U	11.4
Xylenes (total)	VOA	1.19	J	5.93	6.01	U	6.01	4.56	U	4.56	5.71	U	5.71

Attachment	1	Sheet No.	22 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1PW80, DU-1 #12			J1PWM0, Split of J1PW76			J1R4C7, Zone 6 Seg. 1			J1R4D1, Duplicate of J1R4C7		
		7/25/2012			7/25/2012			12/5/2012			12/5/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	132	UD	132	2.8	U	2.8	14.2	U	14.2	14.0	U	14.0
Aroclor-1221	PCB	132	UD	132	8.0	U	8.0	14.2	U	14.2	14.0	U	14.0
Aroclor-1232	PCB	132	UD	132	2.0	U	2.0	14.2	U	14.2	14.0	U	14.0
Aroclor-1242	PCB	132	UD	132	4.7	U	4.7	4.52	J	14.2	3.89	J	14.0
Aroclor-1248	PCB	132	UD	132	4.7	U	4.7	14.2	U	14.2	14.0	U	14.0
Aroclor-1254	PCB	995	D	132	2.6	U	2.6	7.84	J	14.2	6.97	J	14.0
Aroclor-1260	PCB	179	D	132	2.6	U	2.6	14.2	U	14.2	14.0	U	14.0
Aroclor-1262	PCB	132	UD	132				14.2	U	14.2	14.0	U	14.0
Aroclor-1268	PCB	132	UD	132				14.2	U	14.2	14.0	U	14.0
1,1,1-Trichloroethane	VOA	6.64	U	6.64	0.60	U	0.60	5.67	U	5.67	5.20	U	5.20
1,1,2,2-Tetrachloroethane	VOA	6.64	U	6.64	0.71	U	0.71	5.67	U	5.67	5.20	U	5.20
1,1,2-Trichloroethane	VOA	6.64	U	6.64	1.0	U	1.0	5.67	U	5.67	5.20	U	5.20
1,1-Dichloroethane	VOA	6.64	U	6.64	0.24	U	0.24	5.67	U	5.67	5.20	U	5.20
1,1-Dichloroethene	VOA	6.64	U	6.64	0.68	U	0.68	5.67	U	5.67	5.20	U	5.20
1,2-Dichloroethane	VOA	7.97	U	7.97	0.81	U	0.81	6.80	U	6.80	6.25	U	6.25
1,2-Dichloroethene(Total)	VOA	6.64	U	6.64	0.45	U	0.45	5.67	U	5.67	5.20	U	5.20
1,2-Dichloropropane	VOA	6.64	U	6.64	0.64	U	0.64	5.67	U	5.67	5.20	U	5.20
2-Butanone	VOA	15.9	U	15.9	2.1	U	2.1	13.6	U	13.6	12.5	U	12.5
2-Hexanone	VOA	15.9	U	15.9	5.7	U	5.7	13.6	U	13.6	12.5	U	12.5
4-Methyl-2-Pentanone	VOA	15.9	U	15.9	5.0	U	5.0	13.6	U	13.6	12.5	U	12.5
Acetone	VOA	15.9	U	15.9	9.3	J	6.2	13.6	U	13.6	4.79	J	12.5
Benzene	VOA	6.64	U	6.64	0.54	U	0.54	5.67	U	5.67	5.20	U	5.20
Bromodichloromethane	VOA	7.97	U	7.97	0.25	U	0.25	6.80	U	6.80	6.25	U	6.25
Bromoform	VOA	6.64	U	6.64	0.27	U	0.27	5.67	U	5.67	5.20	U	5.20
Bromomethane	VOA	13.3	U	13.3	0.58	UX	0.58	11.3	U	11.3	10.4	U	10.4
Carbon disulfide	VOA	6.64	U	6.64	0.49	U	0.49	5.67	U	5.67	5.20	U	5.20
Carbon tetrachloride	VOA	6.64	U	6.64	0.73	U	0.73	5.67	U	5.67	5.20	U	5.20
Chlorobenzene	VOA	6.64	U	6.64	0.63	U	0.63	5.67	U	5.67	5.20	U	5.20
Chloroethane	VOA	13.3	U	13.3	1.0	UX	1.0	11.3	U	11.3	10.4	U	10.4
Chloroform	VOA	6.64	U	6.64	0.34	U	0.34	5.67	U	5.67	5.20	U	5.20
Chloromethane	VOA	13.3	U	13.3	0.89	U	0.89	11.3	U	11.3	10.4	U	10.4
cis-1,2-Dichloroethylene	VOA	6.64	U	6.64				5.67	U	5.67	5.20	U	5.20
cis-1,3-Dichloropropene	VOA	6.64	U	6.64	1.5	U	1.5	5.67	U	5.67	5.20	U	5.20
Dibromochloromethane	VOA	6.64	U	6.64	0.66	U	0.66	5.67	U	5.67	5.20	U	5.20
Ethylbenzene	VOA	6.64	U	6.64	0.78	U	0.78	5.67	U	5.67	5.20	U	5.20
Methylenechloride	VOA	7.97	U	7.97	1.9	U	1.9	6.80	U	6.80	6.25	U	6.25
Styrene	VOA	6.64	U	6.64	0.73	U	0.73	5.67	U	5.67	5.20	U	5.20
Tetrachloroethene	VOA	6.64	U	6.64	0.68	U	0.68	5.67	U	5.67	5.20	U	5.20
Toluene	VOA	6.64	U	6.64	0.80	U	0.80	5.67	U	5.67	5.20	U	5.20
trans-1,2-Dichloroethylene	VOA	6.64	U	6.64				5.67	U	5.67	5.20	U	5.20
trans-1,3-Dichloropropene	VOA	6.64	U	6.64	0.78	U	0.78	5.67	U	5.67	5.20	U	5.20
Trichloroethene	VOA	6.64	U	6.64	0.27	U	0.27	5.67	U	5.67	5.20	U	5.20
Vinyl chloride	VOA	13.3	U	13.3	1.6	U	1.6	11.3	U	11.3	10.4	U	10.4
Xylenes (total)	VOA	6.64	U	6.64	0.71	U	0.71	5.67	U	5.67	5.20	U	5.20

Attachment	1	Sheet No.	23 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4C8, Zone 6 Seg. 2			J1R4C9, Zone 6 Seg. 3			J1R4D0, Zone 6 Seg. 4			J1R4H1, Split of J1R4C7		
		12/5/2012			12/5/2012			12/5/2012			12/5/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	2.9	U	2.9
Aroclor-1221	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	8.5	U	8.5
Aroclor-1232	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	2.1	U	2.1
Aroclor-1242	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	4.9	U	4.9
Aroclor-1248	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	16		4.9
Aroclor-1254	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4	2.7	U	2.7
Aroclor-1260	PCB	4.19	J	14.2	14.3	U	14.3	14.4	U	14.4	2.7	U	2.7
Aroclor-1262	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4			
Aroclor-1268	PCB	14.2	U	14.2	14.3	U	14.3	14.4	U	14.4			
1,1,1-Trichloroethane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.58	U	0.58
1,1,2,2-Tetrachloroethane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.68	U	0.68
1,1,2-Trichloroethane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.98	U	0.98
1,1-Dichloroethane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.23	U	0.23
1,1-Dichloroethene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.66	U	0.66
1,2-Dichloroethane	VOA	6.96	U	6.96	6.08	U	6.08	5.93	U	5.93	0.78	U	0.78
1,2-Dichloroethene(Total)	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.43	U	0.43
1,2-Dichloropropane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.61	U	0.61
2-Butanone	VOA	13.9	U	13.9	12.2	U	12.2	11.9	U	11.9	2.0	U	2.0
2-Hexanone	VOA	13.9	U	13.9	12.2	U	12.2	11.9	U	11.9	5.4	U	5.4
4-Methyl-2-Pentanone	VOA	13.9	U	13.9	12.2	U	12.2	11.9	U	11.9	4.9	U	4.9
Acetone	VOA	9.87	J	13.9	6.56	J	12.2	4.94	J	11.9	6.0	U	6.0
Benzene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.52	U	0.52
Bromodichloromethane	VOA	6.96	U	6.96	6.08	U	6.08	5.93	U	5.93	0.24	U	0.24
Bromoform	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.42	JBX	0.26
Bromomethane	VOA	11.6	U	11.6	10.1	U	10.1	9.88	U	9.88	0.56	U	0.56
Carbon disulfide	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.47	U	0.47
Carbon tetrachloride	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.70	U	0.70
Chlorobenzene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.60	UX	0.60
Chloroethane	VOA	11.6	U	11.6	10.1	U	10.1	9.88	U	9.88	0.99	U	0.99
Chloroform	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.32	U	0.32
Chloromethane	VOA	11.6	U	11.6	10.1	U	10.1	9.88	U	9.88	0.86	U	0.86
cis-1,2-Dichloroethylene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94			
cis-1,3-Dichloropropene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	1.4	U	1.4
Dibromochloromethane	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.63	U	0.63
Ethylbenzene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.75	UX	0.75
Methylenechloride	VOA	6.96	U	6.96	6.08	U	6.08	5.93	U	5.93	1.8	U	1.8
Styrene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.70	UX	0.70
Tetrachloroethene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.66	UX	0.66
Toluene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.77	UX	0.77
trans-1,2-Dichloroethylene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94			
trans-1,3-Dichloropropene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.75	U	0.75
Trichloroethene	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.26	U	0.26
Vinyl chloride	VOA	11.6	U	11.6	10.1	U	10.1	9.88	U	9.88	1.5	U	1.5
Xylenes (total)	VOA	5.80	U	5.80	5.06	U	5.06	4.94	U	4.94	0.68	UX	0.68

Attachment	1	Sheet No.	24 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R3D8, Zone 2 Seg. 19			J1R3H2, Duplicate of J1R3D8			J1R3D9, Zone 2 Seg. 1			J1R3F0, Zone 3 Drum Crushing Area		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
Aroclor-1221	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
Aroclor-1232	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
Aroclor-1242	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	56.2		13.7
Aroclor-1248	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
Aroclor-1254	PCB	19.5		14.2	19.1		13.8	60.7		13.7	16.1		13.7
Aroclor-1260	PCB	6.63	J	14.2	6.91	J	13.8	12.3	J	13.7	13.7	U	13.7
Aroclor-1262	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
Aroclor-1268	PCB	14.2	U	14.2	13.8	U	13.8	13.7	U	13.7	13.7	U	13.7
1,1,1-Trichloroethane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,1,2,2-Tetrachloroethane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,1,2-Trichloroethane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,1-Dichloroethane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,1-Dichloroethene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,2-Dichloroethane	VOA	5.96	U	5.96	6.16	U	6.16	6.55	U	6.55	6.98	U	6.98
1,2-Dichloroethene(Total)	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
1,2-Dichloropropane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
2-Butanone	VOA	11.9	U	11.9	12.3	U	12.3	13.1	U	13.1	14.0	U	14.0
2-Hexanone	VOA	11.9	U	11.9	12.3	U	12.3	13.1	U	13.1	14.0	U	14.0
4-Methyl-2-Pentanone	VOA	11.9	U	11.9	12.3	U	12.3	13.1	U	13.1	14.0	U	14.0
Acetone	VOA	14.3		11.9	5.59	J	12.3	7.41	J	13.1	8.50	J	14.0
Benzene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Bromodichloromethane	VOA	5.96	U	5.96	6.16	U	6.16	6.55	U	6.55	6.98	U	6.98
Bromoform	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Bromomethane	VOA	9.94	U	9.94	10.3	U	10.3	10.9	U	10.9	11.6	U	11.6
Carbon disulfide	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Carbon tetrachloride	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Chlorobenzene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Chloroethane	VOA	9.94	U	9.94	10.3	U	10.3	10.9	U	10.9	11.6	U	11.6
Chloroform	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Chloromethane	VOA	9.94	U	9.94	10.3	U	10.3	10.9	U	10.9	11.6	U	11.6
cis-1,2-Dichloroethylene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
cis-1,3-Dichloropropene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Dibromochloromethane	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Ethylbenzene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Methylenechloride	VOA	2.94	J	5.96	2.07	J	6.16	4.14	J	6.55	6.98	U	6.98
Styrene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Tetrachloroethene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Toluene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
trans-1,2-Dichloroethylene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
trans-1,3-Dichloropropene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Trichloroethene	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82
Vinyl chloride	VOA	9.94	U	9.94	10.3	U	10.3	10.9	U	10.9	11.6	U	11.6
Xylenes (total)	VOA	4.97	U	4.97	5.13	U	5.13	5.46	U	5.46	5.82	U	5.82

Attachment	1	Sheet No.	25 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R3F1, Zone 3 Seg. 7			J1R3F2, Zone 3 Seg 4			J1R3F3, Zone 3 Seg. 4			J1R3F4, Zone 2 Seg. 3 [a]		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
Aroclor-1221	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
Aroclor-1232	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
Aroclor-1242	PCB	14.4	U	14.4	13.7	U	13.7	4.35	J	14.3	14800	UD	14800
Aroclor-1248	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
Aroclor-1254	PCB	14.9		14.4	13.7	U	13.7	9.70	J	14.3	144000	D	14800
Aroclor-1260	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	19700	D	14800
Aroclor-1262	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
Aroclor-1268	PCB	14.4	U	14.4	13.7	U	13.7	14.3	U	14.3	14800	UD	14800
1,1,1-Trichloroethane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,1,2,2-Tetrachloroethane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,1,2-Trichloroethane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,1-Dichloroethane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,1-Dichloroethene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,2-Dichloroethane	VOA	6.18	U	6.18	6.19	U	6.19	6.25	U	6.25	7.18	U	7.18
1,2-Dichloroethene(Total)	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
1,2-Dichloropropane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
2-Butanone	VOA	12.4	U	12.4	12.4	U	12.4	12.5	U	12.5	14.4	U	14.4
2-Hexanone	VOA	12.4	U	12.4	12.4	U	12.4	12.5	U	12.5	14.4	U	14.4
4-Methyl-2-Pentanone	VOA	12.4	U	12.4	12.4	U	12.4	12.5	U	12.5	14.4	U	14.4
Acetone	VOA	8.75	J	12.4	8.09	J	12.4	8.32	J	12.5	11.2	J	14.4
Benzene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Bromodichloromethane	VOA	6.18	U	6.18	6.19	U	6.19	6.25	U	6.25	7.18	U	7.18
Bromoform	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Bromomethane	VOA	10.3	U	10.3	10.3	U	10.3	10.4	U	10.4	12.0	U	12.0
Carbon disulfide	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Carbon tetrachloride	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Chlorobenzene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Chloroethane	VOA	10.3	U	10.3	10.3	U	10.3	10.4	U	10.4	12.0	U	12.0
Chloroform	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Chloromethane	VOA	10.3	U	10.3	10.3	U	10.3	10.4	U	10.4	12.0	U	12.0
cis-1,2-Dichloroethylene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
cis-1,3-Dichloropropene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Dibromochloromethane	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Ethylbenzene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Methylenechloride	VOA	6.18	U	6.18	2.33	J	6.19	2.86	J	6.25	3.05	J	7.18
Styrene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Tetrachloroethene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Toluene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
trans-1,2-Dichloroethylene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
trans-1,3-Dichloropropene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Trichloroethene	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98
Vinyl chloride	VOA	10.3	U	10.3	10.3	U	10.3	10.4	U	10.4	12.0	U	12.0
Xylenes (total)	VOA	5.15	U	5.15	5.16	U	5.16	5.21	U	5.21	5.98	U	5.98

Attachment	1	Sheet No.	26 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R7R2, Resample of J1R3F4			J1R3F5, Zone 3 Seg. 8			J1R3F6, Zone 2 Seg. 16			J1R3F7, Zone 2 Seg 15		
		1/2/2013			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1221	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1232	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1242	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1248	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1254	PCB	24.2		14.6	16.6		14.6	22.2		13.7	3.80	J	13.8
Aroclor-1260	PCB	7.05	J	14.6	14.6	U	14.6	15.0		13.7	13.8	U	13.8
Aroclor-1262	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
Aroclor-1268	PCB	14.6	U	14.6	14.6	U	14.6	13.7	U	13.7	13.8	U	13.8
1,1,1-Trichloroethane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,1,2,2-Tetrachloroethane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,1,2-Trichloroethane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,1-Dichloroethane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,1-Dichloroethene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,2-Dichloroethane	VOA				6.37	U	6.37	5.45	U	5.45	6.56	U	6.56
1,2-Dichloroethene(Total)	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
1,2-Dichloropropane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
2-Butanone	VOA				12.7	U	12.7	10.9	U	10.9	13.1	U	13.1
2-Hexanone	VOA				12.7	U	12.7	10.9	U	10.9	13.1	U	13.1
4-Methyl-2-Pentanone	VOA				12.7	U	12.7	10.9	U	10.9	13.1	U	13.1
Acetone	VOA				10.8	J	12.7	5.85	J	10.9	12.6	J	13.1
Benzene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Bromodichloromethane	VOA				6.37	U	6.37	5.45	U	5.45	6.56	U	6.56
Bromoform	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Bromomethane	VOA				10.6	U	10.6	9.09	U	9.09	10.9	U	10.9
Carbon disulfide	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Carbon tetrachloride	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Chlorobenzene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Chloroethane	VOA				10.6	U	10.6	9.09	U	9.09	10.9	U	10.9
Chloroform	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Chloromethane	VOA				10.6	U	10.6	9.09	U	9.09	10.9	U	10.9
cis-1,2-Dichloroethylene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
cis-1,3-Dichloropropene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Dibromochloromethane	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Ethylbenzene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Methylenechloride	VOA				2.55	J	6.37	2.29	J	5.45	2.25	J	6.56
Styrene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Tetrachloroethene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Toluene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
trans-1,2-Dichloroethylene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
trans-1,3-Dichloropropene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Trichloroethene	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47
Vinyl chloride	VOA				10.6	U	10.6	9.09	U	9.09	10.9	U	10.9
Xylenes (total)	VOA				5.31	U	5.31	4.55	U	4.55	5.47	U	5.47

Attachment	1	Sheet No.	27 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R3F8, Zone 2 Seg. 10			J1R3F9, Zone 2 Seg. 10			J1R3H0, Zone 2 Seg. 5			J1R3H1, Zone 2 Seg. 8		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
Aroclor-1221	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
Aroclor-1232	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
Aroclor-1242	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	4.13	J	14.2
Aroclor-1248	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
Aroclor-1254	PCB	14.0	U	14.0	8.50	J	13.7	34.8		13.9	16.2		14.2
Aroclor-1260	PCB	14.0	U	14.0	3.86	J	13.7	6.78	J	13.9	3.77	J	14.2
Aroclor-1262	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
Aroclor-1268	PCB	14.0	U	14.0	13.7	U	13.7	13.9	U	13.9	14.2	U	14.2
1,1,1-Trichloroethane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,1,2,2-Tetrachloroethane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,1,2-Trichloroethane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,1-Dichloroethane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,1-Dichloroethene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,2-Dichloroethane	VOA	5.36	U	5.36	7.04	U	7.04	6.42	U	6.42	6.23	U	6.23
1,2-Dichloroethene(Total)	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
1,2-Dichloropropane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
2-Butanone	VOA	10.7	U	10.7	14.1	U	14.1	12.8	U	12.8	12.5	U	12.5
2-Hexanone	VOA	10.7	U	10.7	14.1	U	14.1	12.8	U	12.8	12.5	U	12.5
4-Methyl-2-Pentanone	VOA	10.7	U	10.7	14.1	U	14.1	12.8	U	12.8	12.5	U	12.5
Acetone	VOA	7.24	J	10.7	17.0		14.1	6.91	J	12.8	10.5	J	12.5
Benzene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Bromodichloromethane	VOA	5.36	U	5.36	7.04	U	7.04	6.42	U	6.42	6.23	U	6.23
Bromoform	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Bromomethane	VOA	8.93	U	8.93	11.7	U	11.7	10.7	U	10.7	10.4	U	10.4
Carbon disulfide	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Carbon tetrachloride	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Chlorobenzene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Chloroethane	VOA	8.93	U	8.93	11.7	U	11.7	10.7	U	10.7	10.4	U	10.4
Chloroform	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Chloromethane	VOA	8.93	U	8.93	11.7	U	11.7	10.7	U	10.7	10.4	U	10.4
cis-1,2-Dichloroethylene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
cis-1,3-Dichloropropene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Dibromochloromethane	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Ethylbenzene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Methylenechloride	VOA	1.89	J	5.36	7.04	U	7.04	6.42	U	6.42	6.23	U	6.23
Styrene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Tetrachloroethene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Toluene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
trans-1,2-Dichloroethylene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
trans-1,3-Dichloropropene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Trichloroethene	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19
Vinyl chloride	VOA	8.93	U	8.93	11.7	U	11.7	10.7	U	10.7	10.4	U	10.4
Xylenes (total)	VOA	4.46	U	4.46	5.87	U	5.87	5.35	U	5.35	5.19	U	5.19

Attachment	1	Sheet No.	28 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R3H7, Split of J1R3D8			J1R4J5, Zone 4 Seg. 3			J1R4L0, Duplicate of J1R4J5			J1R4J6, Zone 4 Seg. 1		
		12/10/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	2.8	U	2.8	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1221	PCB	8.1	U	8.1	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1232	PCB	2.0	U	2.0	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1242	PCB	4.7	U	4.7	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1248	PCB	4.7	U	4.7	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1254	PCB	24	P	2.6	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1260	PCB	17		2.6	14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1262	PCB				14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
Aroclor-1268	PCB				14.5	U	14.5	14.4	U	14.4	13.9	U	13.9
1,1,1-Trichloroethane	VOA	0.58	U	0.58	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,1,2,2-Tetrachloroethane	VOA	0.68	U	0.68	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,1,2-Trichloroethane	VOA	0.99	U	0.99	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,1-Dichloroethane	VOA	0.24	U	0.24	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,1-Dichloroethene	VOA	0.66	U	0.66	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,2-Dichloroethane	VOA	0.79	U	0.79	5.81	U	5.81	6.26	U	6.26	6.28	U	6.28
1,2-Dichloroethene(Total)	VOA	0.44	U	0.44	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
1,2-Dichloropropane	VOA	0.62	U	0.62	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
2-Butanone	VOA	2.1	U	2.1	11.6	U	11.6	12.5	U	12.5	12.6	U	12.6
2-Hexanone	VOA	5.5	U	5.5	11.6	U	11.6	12.5	U	12.5	12.6	U	12.6
4-Methyl-2-Pentanone	VOA	4.9	U	4.9	11.6	U	11.6	12.5	U	12.5	12.6	U	12.6
Acetone	VOA	6.0	U	6.0	8.61	J	11.6	6.92	J	12.5	8.93	J	12.6
Benzene	VOA	0.53	U	0.53	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Bromodichloromethane	VOA	0.25	U	0.25	5.81	U	5.81	6.26	U	6.26	6.28	U	6.28
Bromoform	VOA	0.26	U	0.26	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Bromomethane	VOA	0.56	U	0.56	9.68	U	9.68	10.4	U	10.4	10.5	U	10.5
Carbon disulfide	VOA	0.47	U	0.47	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Carbon tetrachloride	VOA	0.71	U	0.71	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Chlorobenzene	VOA	0.61	U	0.61	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Chloroethane	VOA	1.0	U	1.0	9.68	U	9.68	10.4	U	10.4	10.5	U	10.5
Chloroform	VOA	0.33	U	0.33	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Chloromethane	VOA	0.86	U	0.86	9.68	U	9.68	10.4	U	10.4	10.5	U	10.5
cis-1,2-Dichloroethylene	VOA				4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
cis-1,3-Dichloropropene	VOA	1.4	U	1.4	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Dibromochloromethane	VOA	0.64	U	0.64	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Ethylbenzene	VOA	0.75	U	0.75	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Methylenechloride	VOA	1.8	U	1.8	2.00	J	5.81	2.46	J	6.26	6.28	U	6.28
Styrene	VOA	0.71	U	0.71	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Tetrachloroethene	VOA	0.66	U	0.66	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Toluene	VOA	1.4	J	0.77	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
trans-1,2-Dichloroethylene	VOA				4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
trans-1,3-Dichloropropene	VOA	0.75	U	0.75	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Trichloroethene	VOA	0.26	U	0.26	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23
Vinyl chloride	VOA	1.5	U	1.5	9.68	U	9.68	10.4	U	10.4	10.5	U	10.5
Xylenes (total)	VOA	0.68	U	0.68	4.84	U	4.84	5.21	U	5.21	5.23	U	5.23

Attachment	1	Sheet No.	29 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4J7, Zone 4 Seg. 3			J1R4J8, Zone 4 Seg. 1			J1R4J9, Zone 1 Seg. 12			J1R4K0, Zone 1 Seg. 19		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
Aroclor-1221	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
Aroclor-1232	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
Aroclor-1242	PCB	14.5	U	14.5	8.99	J	14.0	700	UD	700	14.1	U	14.1
Aroclor-1248	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
Aroclor-1254	PCB	14.5	U	14.5	9.06	J	14.0	6720	D	700	9.12	J	14.1
Aroclor-1260	PCB	4.12	J	14.5	14.9		14.0	667	DJ	700	3.92	J	14.1
Aroclor-1262	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
Aroclor-1268	PCB	14.5	U	14.5	14.0	U	14.0	700	UD	700	14.1	U	14.1
1,1,1-Trichloroethane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,1,2,2-Tetrachloroethane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,1,2-Trichloroethane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,1-Dichloroethane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,1-Dichloroethene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,2-Dichloroethane	VOA	6.34	U	6.34	6.17	U	6.17	5.98	U	5.98	5.89	U	5.89
1,2-Dichloroethene(Total)	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
1,2-Dichloropropane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
2-Butanone	VOA	12.7	U	12.7	12.3	U	12.3	12.0	U	12.0	11.8	U	11.8
2-Hexanone	VOA	12.7	U	12.7	12.3	U	12.3	12.0	U	12.0	11.8	U	11.8
4-Methyl-2-Pentanone	VOA	12.7	U	12.7	12.3	U	12.3	12.0	U	12.0	11.8	U	11.8
Acetone	VOA	12.7	U	12.7	11.6	J	12.3	12.0	U	12.0	11.8	U	11.8
Benzene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Bromodichloromethane	VOA	6.34	U	6.34	6.17	U	6.17	5.98	U	5.98	5.89	U	5.89
Bromoform	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Bromomethane	VOA	10.6	U	10.6	10.3	U	10.3	9.97	U	9.97	9.82	U	9.82
Carbon disulfide	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Carbon tetrachloride	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Chlorobenzene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Chloroethane	VOA	10.6	U	10.6	10.3	U	10.3	9.97	U	9.97	9.82	U	9.82
Chloroform	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Chloromethane	VOA	10.6	U	10.6	10.3	U	10.3	9.97	U	9.97	9.82	U	9.82
cis-1,2-Dichloroethylene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
cis-1,3-Dichloropropene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Dibromochloromethane	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Ethylbenzene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Methylenechloride	VOA	2.71	J	6.34	2.67	J	6.17	2.47	J	5.98	3.73	J	5.89
Styrene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Tetrachloroethene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Toluene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
trans-1,2-Dichloroethylene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
trans-1,3-Dichloropropene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Trichloroethene	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91
Vinyl chloride	VOA	10.6	U	10.6	10.3	U	10.3	9.97	U	9.97	9.82	U	9.82
Xylenes (total)	VOA	5.28	U	5.28	5.15	U	5.15	4.99	U	4.99	4.91	U	4.91

Attachment	1	Sheet No.	30 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4K1, Zone 1 Seg. 19			J1R4K2, Zone 5 Seg. 1			J1R4K3, Zone 5 Seg. 4			J1R4K4, Zone 5 Seg. 5		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1221	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1232	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1242	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1248	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1254	PCB	32.5		14.1	3.81	J	14.2	15.9		13.8	9.08	J	14.1
Aroclor-1260	PCB	17.5		14.1	14.2	U	14.2	3.48	J	13.8	16.3		14.1
Aroclor-1262	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
Aroclor-1268	PCB	14.1	U	14.1	14.2	U	14.2	13.8	U	13.8	14.1	U	14.1
1,1,1-Trichloroethane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,1,2,2-Tetrachloroethane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,1,2-Trichloroethane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,1-Dichloroethane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,1-Dichloroethene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,2-Dichloroethane	VOA	6.12	U	6.12	6.57	U	6.57	5.99	U	5.99	5.89	U	5.89
1,2-Dichloroethene(Total)	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
1,2-Dichloropropane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
2-Butanone	VOA	12.2	U	12.2	13.1	U	13.1	12.0	U	12.0	11.8	U	11.8
2-Hexanone	VOA	12.2	U	12.2	13.1	U	13.1	12.0	U	12.0	11.8	U	11.8
4-Methyl-2-Pentanone	VOA	12.2	U	12.2	13.1	U	13.1	12.0	U	12.0	11.8	U	11.8
Acetone	VOA	12.2	U	12.2	8.09	J	13.1	12.0	U	12.0	5.44	J	11.8
Benzene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Bromodichloromethane	VOA	6.12	U	6.12	6.57	U	6.57	5.99	U	5.99	5.89	U	5.89
Bromoform	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Bromomethane	VOA	10.2	U	10.2	10.9	U	10.9	9.98	U	9.98	9.82	U	9.82
Carbon disulfide	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Carbon tetrachloride	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Chlorobenzene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Chloroethane	VOA	10.2	U	10.2	10.9	U	10.9	9.98	U	9.98	9.82	U	9.82
Chloroform	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Chloromethane	VOA	10.2	U	10.2	10.9	U	10.9	9.98	U	9.98	9.82	U	9.82
cis-1,2-Dichloroethylene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
cis-1,3-Dichloropropene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Dibromochloromethane	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Ethylbenzene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Methylenechloride	VOA	3.17	J	6.12	3.16	J	6.57	2.74	J	5.99	3.02	J	5.89
Styrene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Tetrachloroethene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Toluene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
trans-1,2-Dichloroethylene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
trans-1,3-Dichloropropene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Trichloroethene	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91
Vinyl chloride	VOA	10.2	U	10.2	10.9	U	10.9	9.98	U	9.98	9.82	U	9.82
Xylenes (total)	VOA	5.10	U	5.10	5.47	U	5.47	4.99	U	4.99	4.91	U	4.91

Attachment	1	Sheet No.	31 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4K5, Zone 1 Seg. 13			J1R4K6, Zone 1 Seg.13			J1R4K7, Zone 1 Seg. 13			J1R4K8, Zone 5 Seg. 6		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1221	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1232	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1242	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1248	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1254	PCB	67.7		13.7	118		13.8	24.8		13.8	11.1	J	13.7
Aroclor-1260	PCB	41.5		13.7	50.4		13.8	15.4		13.8	20.0		13.7
Aroclor-1262	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
Aroclor-1268	PCB	13.7	U	13.7	13.8	U	13.8	13.8	U	13.8	13.7	U	13.7
1,1,1-Trichloroethane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,1,2,2-Tetrachloroethane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,1,2-Trichloroethane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,1-Dichloroethane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,1-Dichloroethene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,2-Dichloroethane	VOA	6.85	U	6.85	5.90	U	5.90	6.19	U	6.19	5.51	U	5.51
1,2-Dichloroethene(Total)	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
1,2-Dichloropropane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
2-Butanone	VOA	13.7	U	13.7	11.8	U	11.8	12.4	U	12.4	11.0	U	11.0
2-Hexanone	VOA	13.7	U	13.7	11.8	U	11.8	12.4	U	12.4	11.0	U	11.0
4-Methyl-2-Pentanone	VOA	13.7	U	13.7	11.8	U	11.8	12.4	U	12.4	11.0	U	11.0
Acetone	VOA	6.34	J	13.7	3.99	J	11.8	6.81	J	12.4	4.80	J	11.0
Benzene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Bromodichloromethane	VOA	6.85	U	6.85	5.90	U	5.90	6.19	U	6.19	5.51	U	5.51
Bromoform	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Bromomethane	VOA	11.4	U	11.4	9.84	U	9.84	10.3	U	10.3	9.18	U	9.18
Carbon disulfide	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Carbon tetrachloride	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Chlorobenzene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Chloroethane	VOA	11.4	U	11.4	9.84	U	9.84	10.3	U	10.3	9.18	U	9.18
Chloroform	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Chloromethane	VOA	11.4	U	11.4	9.84	U	9.84	10.3	U	10.3	9.18	U	9.18
cis-1,2-Dichloroethylene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
cis-1,3-Dichloropropene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Dibromochloromethane	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Ethylbenzene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Methylenechloride	VOA	3.37	J	6.85	3.03	J	5.90	3.89	J	6.19	4.04	J	5.51
Styrene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Tetrachloroethene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Toluene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
trans-1,2-Dichloroethylene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
trans-1,3-Dichloropropene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Trichloroethene	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59
Vinyl chloride	VOA	11.4	U	11.4	9.84	U	9.84	10.3	U	10.3	9.18	U	9.18
Xylenes (total)	VOA	5.70	U	5.70	4.92	U	4.92	5.15	U	5.15	4.59	U	4.59

Attachment	1	Sheet No.	32 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4K9, Zone 5 Seg. 7			J1R4F8, Split of J1R4J5			J1R4D4, Trip Blank 1			J1R3H3, Trip Blank 2		
		12/7/2012			12/7/2012			12/5/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	13.9	U	13.9	3.0	U	3.0						
Aroclor-1221	PCB	13.9	U	13.9	8.7	U	8.7						
Aroclor-1232	PCB	13.9	U	13.9	2.2	U	2.2						
Aroclor-1242	PCB	13.9	U	13.9	5.1	U	5.1						
Aroclor-1248	PCB	13.9	U	13.9	5.1	U	5.1						
Aroclor-1254	PCB	3.66	J	13.9	2.8	U	2.8						
Aroclor-1260	PCB	5.40	J	13.9	2.8	U	2.8						
Aroclor-1262	PCB	13.9	U	13.9									
Aroclor-1268	PCB	13.9	U	13.9									
1,1,1-Trichloroethane	VOA	4.59	U	4.59	0.61	U	0.61	5.89	U	5.89	6.22	U	6.22
1,1,2,2-Tetrachloroethane	VOA	4.59	U	4.59	0.71	U	0.71	5.89	U	5.89	6.22	U	6.22
1,1,2-Trichloroethane	VOA	4.59	U	4.59	1.0	U	1.0	5.89	U	5.89	6.22	U	6.22
1,1-Dichloroethane	VOA	4.59	U	4.59	0.25	U	0.25	5.89	U	5.89	6.22	U	6.22
1,1-Dichloroethene	VOA	4.59	U	4.59	0.69	U	0.69	5.89	U	5.89	6.22	U	6.22
1,2-Dichloroethane	VOA	5.51	U	5.51	0.82	U	0.82	7.06	U	7.06	7.47	U	7.47
1,2-Dichloroethene(Total)	VOA	4.59	U	4.59	0.46	U	0.46	5.89	U	5.89	6.22	U	6.22
1,2-Dichloropropane	VOA	4.59	U	4.59	0.64	U	0.64	5.89	U	5.89	6.22	U	6.22
2-Butanone	VOA	11.0	U	11.0	2.1	U	2.1	14.1	U	14.1	14.9	U	14.9
2-Hexanone	VOA	11.0	U	11.0	5.7	U	5.7	14.1	U	14.1	14.9	U	14.9
4-Methyl-2-Pentanone	VOA	11.0	U	11.0	5.1	U	5.1	14.1	U	14.1	14.9	U	14.9
Acetone	VOA	8.64	J	11.0	6.3	U	6.3	16.4		14.1	12.9	J	14.9
Benzene	VOA	4.59	U	4.59	0.55	U	0.55	5.89	U	5.89	6.22	U	6.22
Bromodichloromethane	VOA	5.51	U	5.51	0.26	U	0.26	7.06	U	7.06	7.47	U	7.47
Bromoform	VOA	4.59	U	4.59	0.27	UX	0.27	5.89	U	5.89	6.22	U	6.22
Bromomethane	VOA	9.18	U	9.18	0.59	U	0.59	11.8	U	11.8	12.4	U	12.4
Carbon disulfide	VOA	4.59	U	4.59	0.49	U	0.49	5.89	U	5.89	6.22	U	6.22
Carbon tetrachloride	VOA	4.59	U	4.59	0.74	U	0.74	5.89	U	5.89	6.22	U	6.22
Chlorobenzene	VOA	4.59	U	4.59	0.63	U	0.63	5.89	U	5.89	6.22	U	6.22
Chloroethane	VOA	9.18	U	9.18	1.0	U	1.0	11.8	U	11.8	12.4	U	12.4
Chloroform	VOA	4.59	U	4.59	0.34	U	0.34	5.89	U	5.89	6.22	U	6.22
Chloromethane	VOA	9.18	U	9.18	0.90	U	0.90	11.8	U	11.8	12.4	U	12.4
cis-1,2-Dichloroethylene	VOA	4.59	U	4.59				5.89	U	5.89	6.22	U	6.22
cis-1,3-Dichloropropene	VOA	4.59	U	4.59	1.5	U	1.5	5.89	U	5.89	6.22	U	6.22
Dibromochloromethane	VOA	4.59	U	4.59	0.67	U	0.67	5.89	U	5.89	6.22	U	6.22
Ethylbenzene	VOA	4.59	U	4.59	0.78	U	0.78	5.89	U	5.89	6.22	U	6.22
Methylenechloride	VOA	1.90	J	5.51	1.9	U	1.9	7.06	U	7.06	7.47	U	7.47
Styrene	VOA	4.59	U	4.59	0.74	U	0.74	5.89	U	5.89	6.22	U	6.22
Tetrachloroethene	VOA	4.59	U	4.59	0.69	U	0.69	5.89	U	5.89	6.22	U	6.22
Toluene	VOA	4.59	U	4.59	0.81	U	0.81	5.89	U	5.89	6.22	U	6.22
trans-1,2-Dichloroethylene	VOA	4.59	U	4.59				5.89	U	5.89	6.22	U	6.22
trans-1,3-Dichloropropene	VOA	4.59	U	4.59	0.78	U	0.78	5.89	U	5.89	6.22	U	6.22
Trichloroethene	VOA	4.59	U	4.59	0.27	U	0.27	5.89	U	5.89	6.22	U	6.22
Vinyl chloride	VOA	9.18	U	9.18	1.6	U	1.6	11.8	U	11.8	12.4	U	12.4
Xylenes (total)	VOA	4.59	U	4.59	0.71	U	0.71	5.89	U	5.89	6.22	U	6.22

Attachment	1	Sheet No.	33 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4L1, Trip Blank 3			J1R876, FS-1			J1R883, Duplicate of J1R876			J1R877, FS-2		
		12/7/2012			1/9/2013			1/9/2013			1/9/2013		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1221	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1232	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1242	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1248	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1254	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1260	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1262	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
Aroclor-1268	PCB				14.1	U	14.1	14.0	U	14.0	13.8	U	13.8
1,1,1-Trichloroethane	VOA	6.07	U	6.07									
1,1,2,2-Tetrachloroethane	VOA	6.07	U	6.07									
1,1,2-Trichloroethane	VOA	6.07	U	6.07									
1,1-Dichloroethane	VOA	6.07	U	6.07									
1,1-Dichloroethene	VOA	6.07	U	6.07									
1,2-Dichloroethane	VOA	7.28	U	7.28									
1,2-Dichloroethene(Total)	VOA	6.07	U	6.07									
1,2-Dichloropropane	VOA	6.07	U	6.07									
2-Butanone	VOA	14.6	U	14.6									
2-Hexanone	VOA	14.6	U	14.6									
4-Methyl-2-Pentanone	VOA	14.6	U	14.6									
Acetone	VOA	12.7	J	14.6									
Benzene	VOA	6.07	U	6.07									
Bromodichloromethane	VOA	7.28	U	7.28									
Bromoform	VOA	6.07	U	6.07									
Bromomethane	VOA	12.1	U	12.1									
Carbon disulfide	VOA	6.07	U	6.07									
Carbon tetrachloride	VOA	6.07	U	6.07									
Chlorobenzene	VOA	6.07	U	6.07									
Chloroethane	VOA	12.1	U	12.1									
Chloroform	VOA	6.07	U	6.07									
Chloromethane	VOA	12.1	U	12.1									
cis-1,2-Dichloroethylene	VOA	6.07	U	6.07									
cis-1,3-Dichloropropene	VOA	6.07	U	6.07									
Dibromochloromethane	VOA	6.07	U	6.07									
Ethylbenzene	VOA	6.07	U	6.07									
Methylenechloride	VOA	2.61	J	7.28									
Styrene	VOA	6.07	U	6.07									
Tetrachloroethene	VOA	6.07	U	6.07									
Toluene	VOA	6.07	U	6.07									
trans-1,2-Dichloroethylene	VOA	6.07	U	6.07									
trans-1,3-Dichloropropene	VOA	6.07	U	6.07									
Trichloroethene	VOA	6.07	U	6.07									
Vinyl chloride	VOA	12.1	U	12.1									
Xylenes (total)	VOA	6.07	U	6.07									

Attachment	I	Sheet No.	34 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R878, FS-3			J1R879, FS-4			J1R880, FS-5			J1R881, FS-6		
		1/9/2013			1/9/2013			1/9/2013			1/9/2013		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1221	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1232	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1242	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1248	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	506	D	70.4
Aroclor-1254	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1260	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1262	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4
Aroclor-1268	PCB	13.7	U	13.7	14.1	U	14.1	14.2	U	14.2	70.1	UD	70.4

CONSTITUENT	CLASS	J1R882, Comp			J1R884, Split of J1R876			J1R8T5, Equipment Blank 5		
		1/9/2013			1/9/2013			1/9/2013		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
Aroclor-1016	PCB	14.5	U	14.5	2.9	U	2.9	13.0	U	13.0
Aroclor-1221	PCB	14.5	U	14.5	8.4	U	8.4	13.0	U	13.0
Aroclor-1232	PCB	14.5	U	14.5	2.1	U	2.1	13.0	U	13.0
Aroclor-1242	PCB	14.5	U	14.5	4.9	U	4.9	13.0	U	13.0
Aroclor-1248	PCB	63.3		14.5	4.9	U	4.9	13.0	U	13.0
Aroclor-1254	PCB	14.5	U	14.5	2.7	U	2.7	13.0	U	13.0
Aroclor-1260	PCB	14.5	U	14.5	2.7	U	2.7	13.0	U	13.0
Aroclor-1262	PCB	14.5	U	14.5				13.0	U	13.0
Aroclor-1268	PCB	14.5	U	14.5				13.0	U	13.0

Attachment	1	Sheet No.	35 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1PW73, DU-1 #7			J1PW74, Duplicate of J1PW73			J1PW67, DU-1 #1			J1PW68, DU-1 #2		
		7/25/2012			7/25/2012			7/24/2012			7/24/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
1,2-Dichlorobenzene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
1,3-Dichlorobenzene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
1,4-Dichlorobenzene	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
2,4,5-Trichlorophenol	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
2,4,6-Trichlorophenol	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
2,4-Dichlorophenol	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
2,4-Dimethylphenol	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2,4-Dinitrophenol	SVOA	1680	U	1680	1640	U	1640	1780	UJ	1780	1710	UJ	1710
2,4-Dinitrotoluene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2,6-Dinitrotoluene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2-Chloronaphthalene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2-Chlorophenol	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2-Methylnaphthalene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2-Methylphenol (cresol, o-)	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
2-Nitroaniline	SVOA	1680	U	1680	1640	U	1640	1780	U	1780	1710	U	1710
2-Nitrophenol	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
3+4 Methylphenol (cresol, m+p)	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
3,3'-Dichlorobenzidine	SVOA	670	U	670	655	U	655	712	U	712	682	U	682
3-Nitroaniline	SVOA	1680	U	1680	1640	U	1640	1780	U	1780	1710	U	1710
4,6-Dinitro-2-methylphenol	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
4-Bromophenylphenyl ether	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
4-Chloro-3-methylphenol	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
4-Chloroaniline	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
4-Chlorophenylphenyl ether	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
4-Nitroaniline	SVOA	1680	U	1680	1640	U	1640	1780	U	1780	1710	U	1710
4-Nitrophenol	SVOA	1680	U	1680	1640	U	1640	1780	UJ	1780	1710	UJ	1710
Acenaphthene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Acenaphthylene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Anthracene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Benzo(a)anthracene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Benzo(a)pyrene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Benzo(b)fluoranthene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Benzo(ghi)perylene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Benzo(k)fluoranthene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Bis(2-chloroisopropyl)ether	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
Bis(2-Chloroethoxy)methane	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
Bis(2-chloroethyl) ether	SVOA	335	U	335	327	U	327	356	U	356	341	UJ	341
Bis(2-ethylhexyl) phthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Butylbenzylphthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Carbazole	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Chrysene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Di-n-butylphthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Di-n-octylphthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Dibenz[a,h]anthracene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Dibenzofuran	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Diethyl phthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Dimethyl phthalate	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Fluoranthene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Fluorene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Hexachlorobenzene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Hexachlorobutadiene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Hexachlorocyclopentadiene	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
Hexachloroethane	SVOA	335	U	335	327	U	327	356	UJ	356	341	UJ	341
Indeno(1,2,3-cd)pyrene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Isophorone	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
N-Nitroso-di-n-dipropylamine	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
N-Nitrosodiphenylamine	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Naphthalene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Nitrobenzene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Pentachlorophenol	SVOA	1680	U	1680	1640	U	1640	1780	U	1780	1710	UJ	1710
Phenanthrene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Phenol	SVOA	335	U	335	327	U	327	356	U	356	341	U	341
Pyrene	SVOA	335	U	335	327	U	327	356	U	356	341	U	341

Attachment	1	Sheet No.	36 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1PW69, DU-1 #3			J1PW70 DU-1 #4			J1PW71, DU-1 #5			J1PW72, DU-1 #6		
		7/24/2012			7/24/2012			7/24/2012			7/24/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
1,2-Dichlorobenzene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
1,3-Dichlorobenzene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
1,4-Dichlorobenzene	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
2,4,5-Trichlorophenol	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
2,4,6-Trichlorophenol	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
2,4-Dichlorophenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2,4-Dimethylphenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2,4-Dinitrophenol	SVOA	21100	UDJ	21100	1640	UJ	1640	1640	UJ	1640	1650	UJ	1650
2,4-Dinitrotoluene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2,6-Dinitrotoluene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2-Chloronaphthalene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2-Chlorophenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2-Methylnaphthalene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2-Methylphenol (cresol, o-)	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
2-Nitroaniline	SVOA	21100	UD	21100	1640	U	1640	1640	U	1640	1650	U	1650
2-Nitrophenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
3+4 Methylphenol (cresol, m+p)	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
3,3'-Dichlorobenzidine	SVOA	8430	UD	8430	655	U	655	656	U	656	659	U	659
3-Nitroaniline	SVOA	21100	UD	21100	1640	U	1640	1640	U	1640	1650	U	1650
4,6-Dinitro-2-methylphenol	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
4-Bromophenylphenyl ether	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
4-Chloro-3-methylphenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
4-Chloroaniline	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
4-Chlorophenylphenyl ether	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
4-Nitroaniline	SVOA	21100	UD	21100	1640	U	1640	1640	U	1640	1650	U	1650
4-Nitrophenol	SVOA	21100	UDJ	21100	1640	UJ	1640	1640	UJ	1640	1650	UJ	1650
Acenaphthene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Acenaphthylene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Anthracene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Benzo(a)anthracene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Benzo(a)pyrene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Benzo(b)fluoranthene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Benzo(ghi)perylene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Benzo(k)fluoranthene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Bis(2-chloroisopropyl)ether	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Bis(2-Chloroethoxy)methane	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Bis(2-chloroethyl) ether	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Bis(2-ethylhexyl) phthalate	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Butylbenzylphthalate	SVOA	4210	UD	4210	328	U	328	307	J	328	330	U	330
Carbazole	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Chrysene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Di-n-butylphthalate	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Di-n-octylphthalate	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Dibenz[a,h]anthracene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Dibenzofuran	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Diethyl phthalate	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Dimethyl phthalate	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Fluoranthene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Fluorene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Hexachlorobenzene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Hexachlorobutadiene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Hexachlorocyclopentadiene	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
Hexachloroethane	SVOA	4210	UDJ	4210	328	UJ	328	328	UJ	328	330	UJ	330
Indeno(1,2,3-cd)pyrene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Isophorone	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
N-Nitroso-di-n-dipropylamine	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
N-Nitrosodiphenylamine	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Naphthalene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Nitrobenzene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Pentachlorophenol	SVOA	21100	UD	21100	1640	U	1640	1640	U	1640	1650	U	1650
Phenanthrene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Phenol	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330
Pyrene	SVOA	4210	UD	4210	328	U	328	328	U	328	330	U	330

Attachment	1	Sheet No.	37 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1PW75, DU-1 #8			J1PW76, DU-1 #9			J1PW77 , DU-1 #10			J1PW78, DU-1 #11		
		7/25/2012			7/25/2012			7/25/2012			7/25/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
1,2-Dichlorobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
1,3-Dichlorobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
1,4-Dichlorobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,4,5-Trichlorophenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,4,6-Trichlorophenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,4-Dichlorophenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,4-Dimethylphenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,4-Dinitrophenol	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
2,4-Dinitrotoluene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2,6-Dinitrotoluene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2-Chloronaphthalene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2-Chlorophenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2-Methylnaphthalene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2-Methylphenol (cresol, o-)	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
2-Nitroaniline	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
2-Nitrophenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
3+4 Methylphenol (cresol, m+p)	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
3,3'-Dichlorobenzidine	SVOA	653	U	653	660	U	660	698	U	698	658	U	658
3-Nitroaniline	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
4,6-Dinitro-2-methylphenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
4-Bromophenylphenyl ether	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
4-Chloro-3-methylphenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
4-Chloroaniline	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
4-Chlorophenylphenyl ether	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
4-Nitroaniline	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
4-Nitrophenol	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
Acenaphthene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Acenaphthylene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Anthracene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Benzo(a)anthracene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Benzo(a)pyrene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Benzo(b)fluoranthene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Benzo(ghi)perylene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Benzo(k)fluoranthene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Bis(2-chloroisopropyl)ether	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Bis(2-Chloroethoxy)methane	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Bis(2-chloroethyl) ether	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Bis(2-ethylhexyl) phthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Butylbenzylphthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Carbazole	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Chrysene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Di-n-butylphthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Di-n-octylphthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Dibenz[a,h]anthracene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Dibenzofuran	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Diethyl phthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Dimethyl phthalate	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Fluoranthene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Fluorene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Hexachlorobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Hexachlorobutadiene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Hexachlorocyclopentadiene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Hexachloroethane	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Indeno(1,2,3-cd)pyrene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Isophorone	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
N-Nitroso-di-n-dipropylamine	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
N-Nitrosodiphenylamine	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Naphthalene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Nitrobenzene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Pentachlorophenol	SVOA	1630	U	1630	1650	U	1650	1740	U	1740	1640	U	1640
Phenanthrene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Phenol	SVOA	326	U	326	330	U	330	349	U	349	329	U	329
Pyrene	SVOA	326	U	326	330	U	330	349	U	349	329	U	329

Attachment	1	Sheet No.	38 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1PW80, DU-1 #12			J1PWM0, Split of J1PW76			J1R4C7, Zone 6 Seg. 1			J1R4D1, Duplicate of J1R4C7		
		7/25/2012			7/25/2012			12/5/2012			12/5/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	330	U	330	27	U	27	1720	UD	1720	1730	UD	1730
1,2-Dichlorobenzene	SVOA	330	U	330	21	U	21	1720	UD	1720	1730	UD	1730
1,3-Dichlorobenzene	SVOA	330	U	330	12	U	12	1720	UD	1720	1730	UD	1730
1,4-Dichlorobenzene	SVOA	330	U	330	13	U	13	1720	UD	1720	1730	UD	1730
2,4,5-Trichlorophenol	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
2,4,6-Trichlorophenol	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
2,4-Dichlorophenol	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
2,4-Dimethylphenol	SVOA	330	U	330	64	U	64	1720	UD	1720	1730	UD	1730
2,4-Dinitrophenol	SVOA	1650	U	1650	320	UX	320	8600	UD	8600	8630	UD	8630
2,4-Dinitrotoluene	SVOA	330	U	330	64	U	64	1720	UD	1720	1730	UD	1730
2,6-Dinitrotoluene	SVOA	330	U	330	27	U	27	1720	UD	1720	1730	UD	1730
2-Chloronaphthalene	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
2-Chlorophenol	SVOA	330	U	330	20	U	20	1720	UD	1720	1730	UD	1730
2-Methylnaphthalene	SVOA	330	U	330	18	U	18	1720	UD	1720	1730	UD	1730
2-Methylphenol (cresol, o-)	SVOA	330	U	330	13	U	13	1720	UD	1720	1730	UD	1730
2-Nitroaniline	SVOA	1650	U	1650	48	U	48	8600	UD	8600	8630	UD	8630
2-Nitrophenol	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
3+4 Methylphenol (cresol, m+p)	SVOA	330	U	330	32	U	32	1720	UD	1720	1730	UD	1730
3,3'-Dichlorobenzidine	SVOA	661	U	661	87	U	87	3440	UD	3440	3450	UD	3450
3-Nitroaniline	SVOA	1650	U	1650	70	U	70	8600	UD	8600	8630	UD	8630
4,6-Dinitro-2-methylphenol	SVOA	330	U	330	320	UX	320	1720	UD	1720	1730	UD	1730
4-Bromophenylphenyl ether	SVOA	330	U	330	18	U	18	1720	UD	1720	1730	UD	1730
4-Chloro-3-methylphenol	SVOA	330	U	330	64	U	64	1720	UD	1720	1730	UD	1730
4-Chloroaniline	SVOA	330	U	330	79	U	79	1720	UD	1720	1730	UD	1730
4-Chlorophenylphenyl ether	SVOA	330	U	330	20	U	20	1720	UD	1720	1730	UD	1730
4-Nitroaniline	SVOA	1650	U	1650	70	U	70	8600	UD	8600	8630	UD	8630
4-Nitrophenol	SVOA	1650	U	1650	94	U	94	8600	UD	8600	8630	UD	8630
Acenaphthene	SVOA	330	U	330	9.9	U	9.9	1720	UD	1720	1730	UD	1730
Acenaphthylene	SVOA	330	U	330	16	U	16	1720	UD	1720	1730	UD	1730
Anthracene	SVOA	330	U	330	16	U	16	1720	UD	1720	1730	UD	1730
Benzo(a)anthracene	SVOA	330	U	330	19	U	19	1720	UD	1720	1730	UD	1730
Benzo(a)pyrene	SVOA	330	U	330	19	U	19	1720	UD	1720	1730	UD	1730
Benzo(b)fluoranthene	SVOA	330	U	330	25	U	25	1720	UD	1720	1730	UD	1730
Benzo(ghi)perylene	SVOA	330	U	330	15	U	15	1720	UD	1720	1730	UD	1730
Benzo(k)fluoranthene	SVOA	330	U	330	39	U	39	1720	UD	1720	1730	UD	1730
Bis(2-chloroisopropyl)ether	SVOA	330	U	330	22	U	22	1720	UD	1720	1730	UD	1730
Bis(2-Chloroethoxy)methane	SVOA	330	U	330	22	U	22	1720	UD	1720	1730	UD	1730
Bis(2-chloroethyl) ether	SVOA	330	U	330	16	U	16	1720	UD	1720	1730	UD	1730
Bis(2-ethylhexyl) phthalate	SVOA	330	U	330	44	U	44	1720	UD	1720	1730	UD	1730
Butylbenzylphthalate	SVOA	330	U	330	41	U	41	1720	UD	1720	1730	UD	1730
Carbazole	SVOA	330	U	330	35	U	35	1720	UD	1720	1730	UD	1730
Chrysene	SVOA	330	U	330	26	U	26	1720	UD	1720	1730	UD	1730
Di-n-butylphthalate	SVOA	330	U	330	28	U	28	1720	UD	1720	1730	UD	1730
Di-n-octylphthalate	SVOA	330	U	330	14	U	14	1720	UD	1720	1730	UD	1730
Dibenz[a,h]anthracene	SVOA	330	U	330	18	U	18	1720	UD	1720	1730	UD	1730
Dibenzofuran	SVOA	330	U	330	19	U	19	1720	UD	1720	1730	UD	1730
Diethyl phthalate	SVOA	330	U	330	25	U	25	1720	UD	1720	1730	UD	1730
Dimethyl phthalate	SVOA	330	U	330	22	U	22	1720	UD	1720	1730	UD	1730
Fluoranthene	SVOA	330	U	330	35	U	35	1720	UD	1720	1730	UD	1730
Fluorene	SVOA	330	U	330	17	U	17	1720	UD	1720	1730	UD	1730
Hexachlorobenzene	SVOA	330	U	330	28	U	28	1720	UD	1720	1730	UD	1730
Hexachlorobutadiene	SVOA	330	U	330	9.6	U	9.6	1720	UD	1720	1730	UD	1730
Hexachlorocyclopentadiene	SVOA	330	U	330	48	U	48	1720	UD	1720	1730	UD	1730
Hexachloroethane	SVOA	330	U	330	21	U	21	1720	UD	1720	1730	UD	1730
Indeno(1,2,3-cd)pyrene	SVOA	330	U	330	21	U	21	1720	UD	1720	1730	UD	1730
Isophorone	SVOA	330	U	330	16	U	16	1720	UD	1720	1730	UD	1730
N-Nitroso-di-n-dipropylamine	SVOA	330	U	330	30	U	30	1720	UD	1720	1730	UD	1730
N-Nitrosodiphenylamine	SVOA	330	U	330	20	U	20	1720	UD	1720	1730	UD	1730
Naphthalene	SVOA	330	U	330	30	U	30	1720	UD	1720	1730	UD	1730
Nitrobenzene	SVOA	330	U	330	21	U	21	1720	UD	1720	1730	UD	1730
Pentachlorophenol	SVOA	1650	U	1650	320	UX	320	8600	UD	8600	8630	UD	8630
Phenanthrene	SVOA	330	U	330	16	U	16	1720	UD	1720	1730	UD	1730
Phenol	SVOA	330	U	330	17	U	17	1720	UD	1720	1730	UD	1730
Pyrene	SVOA	330	U	330	12	U	12	1720	UD	1720	1730	UD	1730

Attachment	1	Sheet No.	39 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R4C8, Zone 6 Seg. 2			J1R4C9, Zone 6 Seg. 3			J1R4D0, Zone 6 Seg. 4			J1R4H1, Split of J1R4C7		
		12/5/2012			12/5/2012			12/5/2012			12/5/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	30	U	30
1,2-Dichlorobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	23	U	23
1,3-Dichlorobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	13	U	13
1,4-Dichlorobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	14	U	14
2,4,5-Trichlorophenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
2,4,6-Trichlorophenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
2,4-Dichlorophenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
2,4-Dimethylphenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	70	U	70
2,4-Dinitrophenol	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	350	U	350
2,4-Dinitrotoluene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	70	U	70
2,6-Dinitrotoluene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	30	U	30
2-Chloronaphthalene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
2-Chlorophenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	22	U	22
2-Methylnaphthalene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	20	U	20
2-Methylphenol (cresol, o-)	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	14	U	14
2-Nitroaniline	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	53	U	53
2-Nitrophenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
3+4 Methylphenol (cresol, m+p)	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	35	U	35
3,3'-Dichlorobenzidine	SVOA	3470	UD	3470	3550	UD	3550	3570	UD	3570	96	U	96
3-Nitroaniline	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	78	U	78
4,6-Dinitro-2-methylphenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	350	U	350
4-Bromophenylphenyl ether	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	20	U	20
4-Chloro-3-methylphenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	70	U	70
4-Chloroaniline	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	87	U	87
4-Chlorophenylphenyl ether	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	22	U	22
4-Nitroaniline	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	77	U	77
4-Nitrophenol	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	100	U	100
Acenaphthene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
Acenaphthylene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	18	U	18
Anthracene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	18	U	18
Benzo(a)anthracene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	21	U	21
Benzo(a)pyrene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	21	U	21
Benzo(b)fluoranthene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	28	U	28
Benzo(ghi)perylene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	17	U	17
Benzo(k)fluoranthene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	43	U	43
Bis(2-chloroisopropyl)ether	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	24	U	24
Bis(2-Chloroethoxy)methane	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	24	U	24
Bis(2-chloroethyl) ether	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	18	U	18
Bis(2-ethylhexyl) phthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	78	J	49
Butylbenzylphthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	46	U	46
Carbazole	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	38	U	38
Chrysene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	29	U	29
Di-n-butylphthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	31	U	31
Di-n-octylphthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	15	U	15
Dibenz[a,h]anthracene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	20	U	20
Dibenzofuran	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	21	U	21
Diethyl phthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	28	U	28
Dimethyl phthalate	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	24	U	24
Fluoranthene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	38	U	38
Fluorene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	19	U	19
Hexachlorobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	31	U	31
Hexachlorobutadiene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	11	U	11
Hexachlorocyclopentadiene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	53	U	53
Hexachloroethane	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	23	U	23
Indeno(1,2,3-cd)pyrene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	23	U	23
Isophorone	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	18	U	18
N-Nitroso-di-n-dipropylamine	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	33	U	33
N-Nitrosodiphenylamine	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	22	U	22
Naphthalene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	33	U	33
Nitrobenzene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	23	U	23
Pentachlorophenol	SVOA	8670	UD	8670	8890	UD	8890	8930	UD	8930	350	U	350
Phenanthrene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	18	U	18
Phenol	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	19	U	19
Pyrene	SVOA	1730	UD	1730	1780	UD	1780	1790	UD	1790	13	U	13

Attachment	1	Sheet No.	40 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R3D8, Zone 2 Seg. 19			J1R3H2, Duplicate of J1R3D8			J1R3D9, Zone 2 Seg. 1			J1R3F0, Zone 3 Drum Crushing Area		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
1,2-Dichlorobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
1,3-Dichlorobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
1,4-Dichlorobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,4,5-Trichlorophenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,4,6-Trichlorophenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,4-Dichlorophenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,4-Dimethylphenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,4-Dinitrophenol	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
2,4-Dinitrotoluene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2,6-Dinitrotoluene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2-Chloronaphthalene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2-Chlorophenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2-Methylnaphthalene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2-Methylphenol (cresol, o-)	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
2-Nitroaniline	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
2-Nitrophenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
3+4 Methylphenol (cresol, m+p)	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
3,3'-Dichlorobenzidine	SVOA	2100	UD	2100	2040	UD	2040	1350	UD	1350	690	U	690
3-Nitroaniline	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
4,6-Dinitro-2-methylphenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
4-Bromophenylphenyl ether	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
4-Chloro-3-methylphenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
4-Chloroaniline	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
4-Chlorophenylphenyl ether	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
4-Nitroaniline	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
4-Nitrophenol	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
Acenaphthene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Acenaphthylene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Anthracene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Benzo(a)anthracene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Benzo(a)pyrene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Benzo(b)fluoranthene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Benzo(ghi)perylene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Benzo(k)fluoranthene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Bis(2-chloroisopropyl)ether	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Bis(2-Chloroethoxy)methane	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Bis(2-chloroethyl) ether	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Bis(2-ethylhexyl) phthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Butylbenzylphthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Carbazole	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Chrysene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Di-n-butylphthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Di-n-octylphthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Dibenz[a,h]anthracene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Dibenzofuran	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Diethyl phthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Dimethyl phthalate	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Fluoranthene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Fluorene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Hexachlorobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Hexachlorobutadiene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Hexachlorocyclopentadiene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Hexachloroethane	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Indeno(1,2,3-cd)pyrene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Isophorone	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
N-Nitroso-di-n-dipropylamine	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
N-Nitrosodiphenylamine	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Naphthalene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Nitrobenzene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Pentachlorophenol	SVOA	5260	UD	5260	5090	UD	5090	3380	UD	3380	1720	U	1720
Phenanthrene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Phenol	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345
Pyrene	SVOA	1050	UD	1050	1020	UD	1020	675	UD	675	345	U	345

Attachment	1	Sheet No.	41 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R3F1, Zone 3 Seg. 7			J1R3F2, Zone 3 Seg 4			J1R3F3, Zone 3 Seg. 4			J1R3F4, Zone 2 Seg. 3		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
1,2-Dichlorobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
1,3-Dichlorobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
1,4-Dichlorobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,4,5-Trichlorophenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,4,6-Trichlorophenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,4-Dichlorophenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,4-Dimethylphenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,4-Dinitrophenol	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
2,4-Dinitrotoluene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2,6-Dinitrotoluene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2-Chloronaphthalene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2-Chlorophenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2-Methylnaphthalene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2-Methylphenol (cresol, o-)	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
2-Nitroaniline	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
2-Nitrophenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
3+4 Methylphenol (cresol, m+p)	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
3,3'-Dichlorobenzidine	SVOA	696	U	696	686	U	686	701	U	701	743	U	743
3-Nitroaniline	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
4,6-Dinitro-2-methylphenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
4-Bromophenylphenyl ether	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
4-Chloro-3-methylphenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
4-Chloroaniline	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
4-Chlorophenylphenyl ether	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
4-Nitroaniline	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
4-Nitrophenol	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
Acenaphthene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Acenaphthylene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Anthracene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Benzo(a)anthracene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Benzo(a)pyrene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Benzo(b)fluoranthene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Benzo(ghi)perylene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Benzo(k)fluoranthene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Bis(2-chloroisopropyl)ether	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Bis(2-Chloroethoxy)methane	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Bis(2-chloroethyl) ether	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Bis(2-ethylhexyl) phthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Butylbenzylphthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Carbazole	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Chrysene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Di-n-butylphthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Di-n-octylphthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Dibenz[a,h]anthracene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Dibenzofuran	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Diethyl phthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Dimethyl phthalate	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Fluoranthene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Fluorene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Hexachlorobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Hexachlorobutadiene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Hexachlorocyclopentadiene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Hexachloroethane	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Indeno(1,2,3-cd)pyrene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Isophorone	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
N-Nitroso-di-n-dipropylamine	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
N-Nitrosodiphenylamine	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Naphthalene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Nitrobenzene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Pentachlorophenol	SVOA	1740	U	1740	1710	U	1710	1750	U	1750	1860	U	1860
Phenanthrene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Phenol	SVOA	348	U	348	343	U	343	350	U	350	371	U	371
Pyrene	SVOA	348	U	348	343	U	343	350	U	350	371	U	371

Attachment	1	Sheet No.	42 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R3F5, Zone 3 Seg. 8			J1R3F6, Zone 2 Seg. 16			J1R3F7, Zone 2 Seg 15			J1R3F8, Zone 2 Seg. 10		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
1,2-Dichlorobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
1,3-Dichlorobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
1,4-Dichlorobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,4,5-Trichlorophenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,4,6-Trichlorophenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,4-Dichlorophenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,4-Dimethylphenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,4-Dinitrophenol	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
2,4-Dinitrotoluene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2,6-Dinitrotoluene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2-Chloronaphthalene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2-Chlorophenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2-Methylnaphthalene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2-Methylphenol (cresol, o-)	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
2-Nitroaniline	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
2-Nitrophenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
3+4 Methylphenol (cresol, m+p)	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
3,3'-Dichlorobenzidine	SVOA	723	U	723	2030	UD	2030	678	U	678	699	U	699
3-Nitroaniline	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
4,6-Dinitro-2-methylphenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
4-Bromophenylphenyl ether	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
4-Chloro-3-methylphenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
4-Chloroaniline	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
4-Chlorophenylphenyl ether	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
4-Nitroaniline	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
4-Nitrophenol	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
Acenaphthene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Acenaphthylene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Anthracene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Benzo(a)anthracene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Benzo(a)pyrene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Benzo(b)fluoranthene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Benzo(ghi)perylene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Benzo(k)fluoranthene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Bis(2-chloroisopropyl)ether	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Bis(2-Chloroethoxy)methane	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Bis(2-chloroethyl) ether	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Bis(2-ethylhexyl) phthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Butylbenzylphthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Carbazole	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Chrysene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Di-n-butylphthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Di-n-octylphthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Dibenz[a,h]anthracene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Dibenzofuran	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Diethyl phthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Dimethyl phthalate	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Fluoranthene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Fluorene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Hexachlorobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Hexachlorobutadiene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Hexachlorocyclopentadiene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Hexachloroethane	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Indeno(1,2,3-cd)pyrene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Isophorone	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
N-Nitroso-di-n-dipropylamine	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
N-Nitrosodiphenylamine	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Naphthalene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Nitrobenzene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Pentachlorophenol	SVOA	1810	U	1810	5070	UD	5070	1690	U	1690	1750	U	1750
Phenanthrene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Phenol	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350
Pyrene	SVOA	362	U	362	1010	UD	1010	339	U	339	350	U	350

Attachment	1	Sheet No.	43 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R3F9, Zone 2 Seg. 10			J1R3H0, Zone 2 Seg. 5			J1R3H1, Zone 2 Seg. 8			J1R3H7, Split of J1R3D8		
		12/10/2012			12/10/2012			12/10/2012			12/10/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	29	U	29
1,2-Dichlorobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	23	U	23
1,3-Dichlorobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	13	U	13
1,4-Dichlorobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	14	U	14
2,4,5-Trichlorophenol	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
2,4,6-Trichlorophenol	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
2,4-Dichlorophenol	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
2,4-Dimethylphenol	SVOA	1060	UD	1060	352	U	352	342	U	342	69	U	69
2,4-Dinitrophenol	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	350	U	350
2,4-Dinitrotoluene	SVOA	1060	UD	1060	352	U	352	342	U	342	69	U	69
2,6-Dinitrotoluene	SVOA	1060	UD	1060	352	U	352	342	U	342	29	U	29
2-Chloronaphthalene	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
2-Chlorophenol	SVOA	1060	UD	1060	352	U	352	342	U	342	22	U	22
2-Methylnaphthalene	SVOA	1060	UD	1060	352	U	352	342	U	342	20	U	20
2-Methylphenol (cresol, o-)	SVOA	1060	UD	1060	352	U	352	342	U	342	14	U	14
2-Nitroaniline	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	52	U	52
2-Nitrophenol	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
3+4 Methylphenol (cresol, m+p)	SVOA	1060	UD	1060	352	U	352	342	U	342	34	U	34
3,3'-Dichlorobenzidine	SVOA	2120	UD	2120	703	U	703	683	U	683	94	U	94
3-Nitroaniline	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	76	U	76
4,6-Dinitro-2-methylphenol	SVOA	1060	UD	1060	352	U	352	342	U	342	340	U	340
4-Bromophenylphenyl ether	SVOA	1060	UD	1060	352	U	352	342	U	342	20	U	20
4-Chloro-3-methylphenol	SVOA	1060	UD	1060	352	U	352	342	U	342	69	U	69
4-Chloroaniline	SVOA	1060	UD	1060	352	U	352	342	U	342	85	U	85
4-Chlorophenylphenyl ether	SVOA	1060	UD	1060	352	U	352	342	U	342	22	U	22
4-Nitroaniline	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	76	U	76
4-Nitrophenol	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	100	U	100
Acenaphthene	SVOA	1060	UD	1060	352	U	352	342	U	342	11	U	11
Acenaphthylene	SVOA	1060	UD	1060	352	U	352	342	U	342	18	U	18
Anthracene	SVOA	1060	UD	1060	352	U	352	342	U	342	18	U	18
Benzo(a)anthracene	SVOA	1060	UD	1060	352	U	352	342	U	342	21	U	21
Benzo(a)pyrene	SVOA	1060	UD	1060	352	U	352	342	U	342	21	U	21
Benzo(b)fluoranthene	SVOA	1060	UD	1060	352	U	352	342	U	342	27	U	27
Benzo(ghi)perylene	SVOA	1060	UD	1060	352	U	352	342	U	342	17	U	17
Benzo(k)fluoranthene	SVOA	1060	UD	1060	352	U	352	342	U	342	42	U	42
Bis(2-chloroisopropyl)ether	SVOA	1060	UD	1060	352	U	352	342	U	342	24	U	24
Bis(2-Chloroethoxy)methane	SVOA	1060	UD	1060	352	U	352	342	U	342	24	U	24
Bis(2-chloroethyl) ether	SVOA	1060	UD	1060	352	U	352	342	U	342	17	U	17
Bis(2-ethylhexyl) phthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	48	U	48
Butylbenzylphthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	45	UX	45
Carbazole	SVOA	1060	UD	1060	352	U	352	342	U	342	38	U	38
Chrysene	SVOA	1060	UD	1060	352	U	352	342	U	342	28	U	28
Di-n-butylphthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	30	U	30
Di-n-octylphthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	15	U	15
Dibenz[a,h]anthracene	SVOA	1060	UD	1060	352	U	352	342	U	342	20	U	20
Dibenzofuran	SVOA	1060	UD	1060	352	U	352	342	U	342	21	U	21
Diethyl phthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	27	U	27
Dimethyl phthalate	SVOA	1060	UD	1060	352	U	352	342	U	342	24	U	24
Fluoranthene	SVOA	1060	UD	1060	352	U	352	342	U	342	38	U	38
Fluorene	SVOA	1060	UD	1060	352	U	352	342	U	342	19	U	19
Hexachlorobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	30	U	30
Hexachlorobutadiene	SVOA	1060	UD	1060	352	U	352	342	U	342	10	U	10
Hexachlorocyclopentadiene	SVOA	1060	UD	1060	352	U	352	342	U	342	52	U	52
Hexachloroethane	SVOA	1060	UD	1060	352	U	352	342	U	342	22	U	22
Indeno(1,2,3-cd)pyrene	SVOA	1060	UD	1060	352	U	352	342	U	342	23	U	23
Isophorone	SVOA	1060	UD	1060	352	U	352	342	U	342	18	U	18
N-Nitroso-di-n-dipropylamine	SVOA	1060	UD	1060	352	U	352	342	U	342	32	U	32
N-Nitrosodiphenylamine	SVOA	1060	UD	1060	352	U	352	342	U	342	22	U	22
Naphthalene	SVOA	1060	UD	1060	352	U	352	342	U	342	32	U	32
Nitrobenzene	SVOA	1060	UD	1060	352	U	352	342	U	342	23	U	23
Pentachlorophenol	SVOA	5290	UD	5290	1760	U	1760	1710	U	1710	340	U	340
Phenanthrene	SVOA	1060	UD	1060	352	U	352	342	U	342	18	U	18
Phenol	SVOA	1060	UD	1060	352	U	352	342	U	342	19	U	19
Pyrene	SVOA	1060	UD	1060	352	U	352	342	U	342	13	U	13

Attachment	I	Sheet No.	44 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R4J5, Zone 4 Seg. 3			J1R4L0, Duplicate of J1R4J5			J1R4J6, Zone 4 Seg. 1			J1R4J7, Zone 4 Seg. 3		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
1,2-Dichlorobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
1,3-Dichlorobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
1,4-Dichlorobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,4,5-Trichlorophenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,4,6-Trichlorophenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,4-Dichlorophenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,4-Dimethylphenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,4-Dinitrophenol	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
2,4-Dinitrotoluene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2,6-Dinitrotoluene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2-Chloronaphthalene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2-Chlorophenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2-Methylnaphthalene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2-Methylphenol (cresol, o-)	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
2-Nitroaniline	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
2-Nitrophenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
3+4 Methylphenol (cresol, m+p)	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
3,3'-Dichlorobenzidine	SVOA	2130	UD	2130	1380	UD	1380	691	U	691	1430	UD	1430
3-Nitroaniline	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
4,6-Dinitro-2-methylphenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
4-Bromophenylphenyl ether	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
4-Chloro-3-methylphenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
4-Chloroaniline	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
4-Chlorophenylphenyl ether	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
4-Nitroaniline	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
4-Nitrophenol	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
Acenaphthene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Acenaphthylene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Anthracene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Benzo(a)anthracene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Benzo(a)pyrene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Benzo(b)fluoranthene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Benzo(ghi)perylene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Benzo(k)fluoranthene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Bis(2-chloroisopropyl)ether	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Bis(2-Chloroethoxy)methane	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Bis(2-chloroethyl) ether	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Bis(2-ethylhexyl) phthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Butylbenzylphthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Carbazole	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Chrysene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Di-n-butylphthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Di-n-octylphthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Dibenz[a,h]anthracene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Dibenzofuran	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Diethyl phthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Dimethyl phthalate	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Fluoranthene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Fluorene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Hexachlorobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Hexachlorobutadiene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Hexachlorocyclopentadiene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Hexachloroethane	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Indeno(1,2,3-cd)pyrene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Isophorone	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
N-Nitroso-di-n-dipropylamine	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
N-Nitrosodiphenylamine	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Naphthalene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Nitrobenzene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Pentachlorophenol	SVOA	5330	UD	5330	3440	UD	3440	1730	U	1730	3590	UD	3590
Phenanthrene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Phenol	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717
Pyrene	SVOA	1070	UD	1070	688	UD	688	346	U	346	717	UD	717

Attachment	1	Sheet No.	45 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R4J8, Zone 4 Seg. 1			J1R4J9, Zone 1 Seg. 12			J1R4K0, Zone 1 Seg. 19			J1R4K1, Zone 1 Seg. 19		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
1,2-Dichlorobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
1,3-Dichlorobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
1,4-Dichlorobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,4,5-Trichlorophenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,4,6-Trichlorophenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,4-Dichlorophenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,4-Dimethylphenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,4-Dinitrophenol	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
2,4-Dinitrotoluene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2,6-Dinitrotoluene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2-Chloronaphthalene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2-Chlorophenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2-Methylnaphthalene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2-Methylphenol (cresol, o-)	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
2-Nitroaniline	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
2-Nitrophenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
3+4 Methylphenol (cresol, m+p)	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
3,3'-Dichlorobenzidine	SVOA	1410	UD	1410	2020	UD	2020	1390	UD	1390	2070	UD	2070
3-Nitroaniline	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
4,6-Dinitro-2-methylphenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
4-Bromophenylphenyl ether	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
4-Chloro-3-methylphenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
4-Chloroaniline	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
4-Chlorophenylphenyl ether	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
4-Nitroaniline	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
4-Nitrophenol	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
Acenaphthene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Acenaphthylene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Anthracene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Benzo(a)anthracene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Benzo(a)pyrene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Benzo(b)fluoranthene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Benzo(ghi)perylene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Benzo(k)fluoranthene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Bis(2-chloroisopropyl)ether	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Bis(2-Chloroethoxy)methane	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Bis(2-chloroethyl) ether	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Bis(2-ethylhexyl) phthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Butylbenzylphthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Carbazole	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Chrysene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Di-n-butylphthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Di-n-octylphthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Dibenz[a,h]anthracene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Dibenzofuran	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Diethyl phthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Dimethyl phthalate	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Fluoranthene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Fluorene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Hexachlorobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Hexachlorobutadiene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Hexachlorocyclopentadiene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Hexachloroethane	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Indeno(1,2,3-cd)pyrene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Isophorone	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
N-Nitroso-di-n-dipropylamine	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
N-Nitrosodiphenylamine	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Naphthalene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Nitrobenzene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Pentachlorophenol	SVOA	3540	UD	3540	5050	UD	5050	3490	UD	3490	5180	UD	5180
Phenanthrene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Phenol	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040
Pyrene	SVOA	707	UD	707	1010	UD	1010	697	UD	697	1040	UD	1040

Attachment	1	Sheet No.	46 of 47
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R4K2, Zone 5 Seg. 1			J1R4K3, Zone 5 Seg. 4			J1R4K4, Zone 5 Seg. 5			J1R4K5, Zone 1 Seg. 13		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
1,2-Dichlorobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
1,3-Dichlorobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
1,4-Dichlorobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,4,5-Trichlorophenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,4,6-Trichlorophenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,4-Dichlorophenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,4-Dimethylphenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,4-Dinitrophenol	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
2,4-Dinitrotoluene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2,6-Dinitrotoluene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2-Chloronaphthalene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2-Chlorophenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2-Methylnaphthalene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2-Methylphenol (cresol, o-)	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
2-Nitroaniline	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
2-Nitrophenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
3+4 Methylphenol (cresol, m+p)	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
3,3'-Dichlorobenzidine	SVOA	2110	UD	2110	1390	UD	1390	689	U	689	689	U	689
3-Nitroaniline	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
4,6-Dinitro-2-methylphenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
4-Bromophenylphenyl ether	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
4-Chloro-3-methylphenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
4-Chloroaniline	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
4-Chlorophenylphenyl ether	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
4-Nitroaniline	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
4-Nitrophenol	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
Acenaphthene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Acenaphthylene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Anthracene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Benzo(a)anthracene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Benzo(a)pyrene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Benzo(b)fluoranthene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Benzo(ghi)perylene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Benzo(k)fluoranthene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Bis(2-chloroisopropyl)ether	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Bis(2-Chloroethoxy)methane	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Bis(2-chloroethyl) ether	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Bis(2-ethylhexyl) phthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Butylbenzylphthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Carbazole	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Chrysene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Di-n-butylphthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Di-n-octylphthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Dibenz[a,h]anthracene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Dibenzofuran	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Diethyl phthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Dimethyl phthalate	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Fluoranthene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Fluorene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Hexachlorobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Hexachlorobutadiene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Hexachlorocyclopentadiene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Hexachloroethane	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Indeno(1,2,3-cd)pyrene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Isophorone	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
N-Nitroso-di-n-dipropylamine	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
N-Nitrosodiphenylamine	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Naphthalene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Nitrobenzene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Pentachlorophenol	SVOA	5270	UD	5270	3480	UD	3480	1720	U	1720	1720	U	1720
Phenanthrene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Phenol	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344
Pyrene	SVOA	1050	UD	1050	697	UD	697	344	U	344	344	U	344

Attachment	1	Sheet No.	47 of 49
Originator	N. K. Schiffern	Date	1/21/13
Checked	I. B. Berezovskiy	Date	1/21/13
Calc. No.	0300X-CA-V0166	Rev. No.	0

Attachment 1. 300-15:2 Subsite VerificationSample Results (Organics).

CONSTITUENT	CLASS	J1R4K6, Zone 1 Seg.13			J1R4K7, Zone 1 Seg. 13			J1R4K8, Zone 5 Seg. 6			J1R4K9, Zone 5 Seg. 7		
		12/7/2012			12/7/2012			12/7/2012			12/7/2012		
		ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL	ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
1,2-Dichlorobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
1,3-Dichlorobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
1,4-Dichlorobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,4,5-Trichlorophenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,4,6-Trichlorophenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,4-Dichlorophenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,4-Dimethylphenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,4-Dinitrophenol	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
2,4-Dinitrotoluene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2,6-Dinitrotoluene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2-Chloronaphthalene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2-Chlorophenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2-Methylnaphthalene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2-Methylphenol (cresol, o-)	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
2-Nitroaniline	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
2-Nitrophenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
3+4 Methylphenol (cresol, m+p)	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
3,3'-Dichlorobenzidine	SVOA	2090	UD	2090	1370	UD	1370	1390	UD	1390	1350	UD	1350
3-Nitroaniline	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
4,6-Dinitro-2-methylphenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
4-Bromophenylphenyl ether	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
4-Chloro-3-methylphenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
4-Chloroaniline	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
4-Chlorophenylphenyl ether	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
4-Nitroaniline	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
4-Nitrophenol	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
Acenaphthene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Acenaphthylene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Anthracene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Benzo(a)anthracene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Benzo(a)pyrene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Benzo(b)fluoranthene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Benzo(ghi)perylene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Benzo(k)fluoranthene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Bis(2-chloroisopropyl)ether	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Bis(2-Chloroethoxy)methane	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Bis(2-chloroethyl) ether	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Bis(2-ethylhexyl) phthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Butylbenzylphthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Carbazole	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Chrysene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Di-n-butylphthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Di-n-octylphthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Dibenz[a,h]anthracene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Dibenzofuran	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Diethyl phthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Dimethyl phthalate	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Fluoranthene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Fluorene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Hexachlorobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Hexachlorobutadiene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Hexachlorocyclopentadiene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Hexachloroethane	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Indeno(1,2,3-cd)pyrene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Isophorone	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
N-Nitroso-di-n-dipropylamine	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
N-Nitrosodiphenylamine	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Naphthalene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Nitrobenzene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Pentachlorophenol	SVOA	5220	UD	5220	3430	UD	3430	3470	UD	3470	3380	UD	3380
Phenanthrene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Phenol	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677
Pyrene	SVOA	1040	UD	1040	685	UD	685	695	UD	695	677	UD	677

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Checked	I. B. Berezovskiy	Date	1/21/13
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Attachment 1. 300-15:2 Subsite Verification Sample Results (Organics).

CONSTITUENT	CLASS	J1R4F8, Split of J1R4J5		
		12/7/2012		
		ug/kg	Q	PQL
1,2,4-Trichlorobenzene	SVOA	29	U	29
1,2-Dichlorobenzene	SVOA	23	U	23
1,3-Dichlorobenzene	SVOA	13	U	13
1,4-Dichlorobenzene	SVOA	14	U	14
2,4,5-Trichlorophenol	SVOA	10	U	10
2,4,6-Trichlorophenol	SVOA	10	U	10
2,4-Dichlorophenol	SVOA	10	U	10
2,4-Dimethylphenol	SVOA	69	U	69
2,4-Dinitrophenol	SVOA	350	UX	350
2,4-Dinitrotoluene	SVOA	69	U	69
2,6-Dinitrotoluene	SVOA	29	U	29
2-Chloronaphthalene	SVOA	10	U	10
2-Chlorophenol	SVOA	22	U	22
2-Methylnaphthalene	SVOA	20	U	20
2-Methylphenol (cresol, o-)	SVOA	14	U	14
2-Nitroaniline	SVOA	52	U	52
2-Nitrophenol	SVOA	10	U	10
3+4 Methylphenol (cresol, m+p)	SVOA	34	U	34
3,3'-Dichlorobenzidine	SVOA	94	U	94
3-Nitroaniline	SVOA	76	U	76
4,6-Dinitro-2-methylphenol	SVOA	340	UX	340
4-Bromophenylphenyl ether	SVOA	20	U	20
4-Chloro-3-methylphenol	SVOA	69	U	69
4-Chloroaniline	SVOA	85	U	85
4-Chlorophenylphenyl ether	SVOA	22	U	22
4-Nitroaniline	SVOA	76	U	76
4-Nitrophenol	SVOA	100	U	100
Acenaphthene	SVOA	11	U	11
Acenaphthylene	SVOA	18	U	18
Anthracene	SVOA	18	U	18
Benzo(a)anthracene	SVOA	21	U	21
Benzo(a)pyrene	SVOA	21	U	21
Benzo(b)fluoranthene	SVOA	27	U	27
Benzo(ghi)perylene	SVOA	17	U	17
Benzo(k)fluoranthene	SVOA	42	U	42
Bis(2-chloroisopropyl)ether	SVOA	24	U	24
Bis(2-Chloroethoxy)methane	SVOA	24	U	24
Bis(2-chloroethyl) ether	SVOA	17	U	17
Bis(2-ethylhexyl) phthalate	SVOA	48	U	48
Butylbenzylphthalate	SVOA	45	U	45
Carbazole	SVOA	38	U	38
Chrysene	SVOA	28	U	28
Di-n-butylphthalate	SVOA	30	U	30
Di-n-octylphthalate	SVOA	15	U	15
Dibenz[a,h]anthracene	SVOA	20	U	20
Dibenzofuran	SVOA	21	U	21
Diethyl phthalate	SVOA	27	U	27
Dimethyl phthalate	SVOA	24	U	24
Fluoranthene	SVOA	38	U	38
Fluorene	SVOA	19	U	19
Hexachlorobenzene	SVOA	30	U	30
Hexachlorobutadiene	SVOA	10	U	10
Hexachlorocyclopentadiene	SVOA	52	U	52
Hexachloroethane	SVOA	22	U	22
Indeno(1,2,3-cd)pyrene	SVOA	23	U	23
Isophorone	SVOA	18	U	18
N-Nitroso-di-n-dipropylamine	SVOA	32	U	32
N-Nitrosodiphenylamine	SVOA	22	U	22
Naphthalene	SVOA	32	U	32
Nitrobenzene	SVOA	23	U	23
Pentachlorophenol	SVOA	340	U	340
Phenanthrene	SVOA	18	U	18
Phenol	SVOA	19	U	19
Pyrene	SVOA	13	U	13

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APPENDIX B

DATA QUALITY ASSESSMENT

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DATA QUALITY ASSESSMENT

VERIFICATION SAMPLING

A data quality assessment (DQA) was performed to compare the verification sampling approach and resulting analytical data with the sampling and data requirements specified in the site-specific sample designs (WCH 2012, WCH 2013d). This DQA was performed in accordance with site specific data quality objectives found in the *300 Area Remedial Action Sampling and Analysis Plan* (SAP) (DOE-RL 2011).

A review of the sample designs (WCH 2012, WCH 2013d), the field logbooks (WCH 2013a, WCH 2013b), and the applicable analytical data packages has been performed as part of this DQA. All samples were collected and analyzed per the sample design. To ensure quality data, the SAP data assurance requirements and the data validation procedures for chemical analysis (BHI 2000) are used as appropriate. This review involves evaluation of the data to determine if they are of the right type, quality, and quantity to support the intended use (i.e., closeout decisions). The DQA completes the data life cycle (i.e., planning, implementation, and assessment) that was initiated by the data quality objectives process (EPA 2006).

Verification sample data collected at the 300-15:2 subsite were provided by the laboratories in 12 sample delivery groups (SDGs) KJP0399, JP0427, JP0428, JP0429, JP0437, KP0116, KP0133, KP0163, KP0165, KP0166, KP0174, and KP0180. SDG KP0113 was submitted for third-party validation. Major deficiencies were identified in the analytical data set. Major and minor deficiencies are discussed for the 300-15:2 data set, as follows below. If no comments are made about a specific analysis, it should be assumed that no deficiencies affecting the quality of the data were found.

Major Deficiencies

In the Method 300.0 anions analysis, holding times for nitrate, nitrite, and orthophosphate were exceeded for all of the SDGs. Third-party validation qualified the nondetected results for these analytes in SDG KP0133 as rejected with "UR" flags. The project has qualified the nondetected results for these analytes in SDGs KJP0399, JP0427, JP0428, JP0429, KP0116, KP0163, KP0165, and KP0166 as rejected. The short holding time in the Method 300.0 analysis was recognized and Method 353.2 was also requested to obtain usable data for nitrate and nitrite. The Method 353.2 data effectively replaces the rejected nitrate and nitrite data. Orthophosphate is not a regulated compound. The resulting data set is sufficient and usable for decision-making purposes.

Minor Deficiencies

SDG KP0399

This SDG comprises one soil samples (J1PWM0), a split of sample J1PW76 collected from the shallow zone of the 300-15:2 subsite. This sample was analyzed for gross alpha, gross beta, gamma emitting analytes (GEA), total uranium, volatile organic analysis (VOA), semivolatile organic analysis (SVOA), polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), inductively coupled plasma (ICP) metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2). Minor deficiencies are as follows:

In the VOA, matrix spike (MS) and matrix spike duplicate (MSD) recoveries for bromomethane (48%, 53%) and chloroethane (43%, 46%) are outside laboratory control limits. The laboratory has qualified the associated data with "T" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, serial dilutions indicate physical and chemical interferences are present. The laboratory has qualified the associated data with "X" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, low levels of barium, copper, vanadium and uranium were detected in two of the method blanks (MB). The laboratory determined that the detected levels were less than half of the associated reporting limits and therefore require no qualification. These data are usable for decision-making purposes.

In the ICP metals analysis, the laboratory control sample (LCS) recovery for silicon is outside control limits and biased low. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the total cyanide analysis and in the sulfide analysis, the MS recovery is outside the laboratory control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the anions analysis, sulfate was detected in the MB. The laboratory determined that the MB concentration was less than half of the reporting limit and that no qualification was needed. These data are usable for decision-making purposes.

SDG KP0427

This SDG comprises one soil sample (J1R4H1), a split of sample J1R4C7 collected from the shallow zone of the 300-15:2 subsite. This sample was analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2). Minor deficiencies are as follows:

In the VOA, low levels of acetone, bromoform and carbon disulfide were detected in the MB. The laboratory has qualified associated sample results above the method detection limit (MDL) or the reporting limit (RL) with "B" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the VOA, the MS recoveries for bromoform (76%), chlorobenzene (73%), ethylbenzene (68%), styrene (72%), tetrachloroethene (68%), and toluene (76%) are outside the laboratory control limits. The laboratory has qualified the impacted data with "T" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the VOA, the calculated relative percent differences (RPDs) for bromomethane (49%), carbon disulfide (51%), carbon tetrachloride (36%), chloroethane (53%), chloromethane (31%), 1,1-dichloroethene (33%), tetrachloroethene (34%), 1,1,1-trichloroethane (39%), and vinyl chloride (46%) are above the project quality control limit. Elevated RPDs in environmental samples are generally attributed to natural heterogeneities in the sample matrix. The data are usable for decision-making purposes.

In the PCB analysis, the laboratory has quantitated and reported aroclor-1248. However, the match to aroclor-1248 is poor. The aroclor-1248 result for sample J1R4H1 should be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, serial dilutions indicate physical and chemical interferences are present. The laboratory has qualified the associated data with "X" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, low levels of chromium, copper, manganese, vanadium, zinc, and uranium were detected in the MBs for two of the sample batches. The laboratory has qualified the associated sample data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, the LCS recovery for silicon is outside control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the total cyanide analysis, the MS recovery is outside the laboratory control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the anions analysis, the MS recoveries for orthophosphate and fluoride are outside the control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0428

This SDG comprises one soil sample (J1R4F8), a split of sample J1R4J5 collected from the shallow zone of the 300-15:2 subsite. This sample was analyzed for gross alpha, gross beta,

GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2). Minor deficiencies are as follows:

In the VOA, low levels of acetone, bromoform and carbon disulfide were detected in the MB. The laboratory has qualified associated sample results above the MDL or the RL with "B" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the VOA, the MSD recovery for bromoform is outside the control limits. An acceptable LCS result for bromoform indicates the analytical system was functioning within control. The laboratory has qualified all of the associated data for bromoform with "T" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the MSD recoveries for 4,6-dinitro-2-methylphenol and 2,4-dinitrophenol are outside the control limits. Acceptable LCS results for these analytes indicate that the analytical system was functioning within control. The laboratory has qualified all of the associated data with "T" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the Northwest total petroleum hydrocarbons-diesel range organics (NWTPH-Dx) analysis, low levels of C10-C36, and C10-C28 were detected in the MB. Concentrations detected in the MB are less than half of the reporting limit. The laboratory has qualified all of the associated data with "B" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, serial dilutions indicate physical and chemical interferences are present. The laboratory has qualified the associated data with "X" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, low levels of barium, calcium, zinc, and uranium were detected in the MBs for two of the sample batches. The laboratory determined that the concentrations detected will have no impact on the field sample data. The data are usable for decision-making purposes.

In the ICP metals analysis, the RPD calculated for uranium is outside the control limit. The laboratory has qualified the associated data with "M" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the total cyanide analysis, the MS recovery is outside the laboratory control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the anions analysis, the MS recovery for orthophosphate is outside the control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0429

This SDG comprises one soil sample (J1R3H7), a split of sample J1R3D8 collected from the shallow zone of the 300-15:2 subsite. This sample was analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2). Minor deficiencies are as follows:

In the VOA, low levels of carbon disulfide were detected in the MB. The laboratory has qualified associated sample results above the MDL or the RL with "B" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the MS/MSD recoveries for butyl benzyl phthalate is outside the control limits. Additionally, the RPD for butyl benzyl phthalate is outside the control limits. Acceptable LCS results for this analyte indicate that the analytical system was functioning within control. Elevated RPDs in environmental samples are generally attributed to natural heterogeneities in the sample matrix. This may also explain the MS/ MSD results. The laboratory has qualified all of the associated data with "T" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the PCB analysis, the laboratory noted matrix interferences in the results. A sulfuric acid clean-up method was applied to reduce interferences but the interferences persisted. Multiple peaks were quantitated as aroclor-1254. Additionally, the RPD between the primary and confirmatory column exceeded 25%. The laboratory has qualified all of the associated data with "P" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, serial dilutions indicate physical and chemical interferences are present. The laboratory has qualified the associated data with "X" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, low levels of barium, calcium, iron, zinc, and uranium were detected in the MBs for two of the sample batches. The laboratory determined that the concentrations detected will have no impact on the field sample data. The data are usable for decision-making purposes.

In the ICP metals analysis, the RPD calculated for uranium is outside the control limit. The laboratory has qualified the associated data with "M" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the total cyanide analysis, the MS recovery is outside the laboratory control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

In the anions analysis, the MS recovery for orthophosphate is outside the control limits. The laboratory has qualified the associated data with "N" flags. These data may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0437

This SDG comprises one soil sample (J1R884), a split of sample J1R876 collected from the shallow zone of the 300-15:2 subsite. This sample was analyzed for PCBs. No deficiencies were identified in this SDG.

SDG KP0133

This SDG comprises six soil samples (J1PW67 through J1PW69, J1PW70 through J1PW72) collected from the shallow zone of the 300-15:2 subsite. These samples were analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2). SDG KP0133 was submitted for third-party validation. Minor deficiencies are as follows:

In the NWTPH-Dx diesel range organic (DRO) analysis, diesel range organics were detected in the MB. Third-party validation qualified all DRO results (except for sample J1PW69) as undetected with "U" flags. These data are usable for decision-making purposes.

In the NWTPH-Dx motor oil (MO) analysis, no MS, MSD, or LCS analysis was performed. Third-party validation qualified all MO results as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the SVOA, the LCS recovery for 2,4,6-trichlorophenol (29%) is outside the quality control (QC) limits. Third party validation qualified all 2,4,6-trichlorophenol results in SDG KP0133 as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the SVOA, the MS recoveries for 2,4,6-trichlorophenol (43%), 4-chloroanaline (42%), 4-nitrophenol (42%), and hexachlorocyclopentadiene (41%) are outside QC limits. Third-party validation qualified all results for these analytes as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the SVOA, the MSD recovery 4-nitrophenol (43%) is outside QC limits. Third-party validation qualified all results for 4-nitrophenol as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the SVOA, a surrogate recovery in sample J1PW68 is outside QC limits. All associated analytes (2,4-dichlorophenol, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, pentachlorophenol, bis(2chloroethyl)ether, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, 4-chlorophenyl phenyl ether, and 4 borophenyl phenyl ether) in sample J1PW68 were qualified as estimated with "J" flags by third-party validation. Estimated data are usable for decision-making purposes.

In the SVOA, RPDs calculated for 1,4-dichlorobenzene (37%), 2,4,5-trichlorophenol (43%), 2,4-dinitrophenol (48%), 4,6-dinitro-2-methylphenol (36%), 4-nitrophenol (37%), and hexachloroethane (32%), are outside QC limits. Third-party validation qualified all associated data as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the Method 300.0 anions analysis, holding times were exceeded for greater than twice the limit. Nondetected results are discussed in the Major deficiencies section above. Third-party validation qualified all detected results for these analytes as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the cyanide analysis, the MS recovery (44.2%) is outside the QC limits. Third-party validation qualified all cyanide results in SDG KP0133 as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the cyanide analysis, due to the lack of an associated MS analysis for samples J1PW70, J1PW71, and J1PW72 third-party validation qualified all cyanide results in these samples as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the VOA, the common laboratory contaminant methylene chloride was detected in the MB. Third-party validation qualified all methylene chloride results in SDG KP0133 as undetected with "U" flags and raised the reported value to the required detection limit. These data are usable for decision-making purposes.

In the ICP metals analysis, MS recoveries for antimony (41.5%), boron (69.1%), copper (45.5%), lead (69.2%), and zinc (67.7%) are outside QC limits. Third-party validation qualified all results for these analytes in SDG KP0133 as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, the LCS recovery for silicon (165%) is outside QC limits. Third-party validation qualified all silicon results in SDG KP0133 as estimated with "J" flags. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, the RPD calculated for copper (61.2%) is outside the QC limits. Third-party validation qualified all copper results in SDG KP0133 as estimated with "J" flags. Estimated data are usable for decision-making purposes.

SDG KP0116

This SDG comprises eight soil samples (J1PW73 through J1PW79, J1PW80) collected from the shallow zone of the 300-15:2 subsite. These samples were analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2) with the exception of sample J1PW79 which is the equipment blank (EB). Sample J1PW79 was analyzed for ICP metals and mercury. Minor deficiencies are as follows:

In the PCB analysis, due to high concentration of target analytes sample J1PW74 was diluted 40 fold. As a result one of the surrogates was recovered outside the QC limits. This is a common result when the sample extract is diluted. There is no impact on the sample data. The data are usable for decision-making purposes.

In the PCB analysis, the MS/MSD recoveries for aroclor-1260 (214%, 256%) are outside the QC limits. Additionally, the associated surrogates were also outside QC limits. The sample from which the MS and MSD were prepared had high concentrations of target analytes and as a result the MS and MSD required dilution. The aroclor-1260 results in SDG KP0166 may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, MS recoveries for 22 analytes are outside the QC limits. This result indicates that the spiking level was not at meaningful concentrations compared to the matrix from which the MS was prepared. The laboratory ran post digestion spikes (PDSs) with acceptable results in the range of 71.8% to 127%. Antimony and manganese had appropriate spiking concentrations in the original MS. Results for antimony and manganese in SDG KP0166 may be considered estimated. Estimated data are usable for decision-making purposes.

In the Method 300.0 anions analysis, holding times were exceeded by more than twice the QC limit for nitrate, nitrite, and orthophosphate. Nondetected results for these analytes are discussed in the Major Deficiencies section above. Detected results for these analytes may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0163

This SDG comprises seven soil samples (J1R4C7 through J1R4C9, J1R4D0, J1R4D1, J1R4D3, J1R4D4) collected from the shallow zone of the 300-15:2 subsite. Sample J1R4D1 is a duplicate of J1R4C7. These samples were analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2) with the exception of samples J1R4D3 and J1R4D4 which are the EB and the VOA trip blank, respectively. The EB was (J1R4D3) was analyzed for ICP metals and mercury. The VOA trip blank (J1R4D4) was analyzed for VOA. Minor deficiencies are as follows:

In the SVOA, the sample extracts were diluted 5-fold due to the nature of the matrix. As a result not all of the surrogates were recovered. The surrogate recovery criteria were not met for samples J1R4C7, J1R4C8, J1R4C9, J1R4D0, and J1R4D1. The laboratory review determined that the surrogate 2,4,6-tribromophenol may have reacted with the sample matrix during the extraction process. SVOC results for samples J1R4C7, J1R4C8, J1R4C9, J1R4D0, and J1R4D1 may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the MSD recovery for 4-nitrophenol (12%) is outside the QC limits. Quantitation is confirmed by acceptable MS and LCS results. Results for 4-nitrophenol in SDG KP0163 may be considered estimated. Estimated data are usable for decision-making purposes.

In the NWTPH-Dx analysis, no MS, MSD, or LCS was prepared for the MO fraction. Results for MO may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, silicon and sodium were detected in the MB. The concentration of silicon in the MB is less than 5% of the concentrations in the field samples and there is no significant impact on the field sample data. The concentration of sodium in the MB exceeds

5% of the concentrations measured in the field samples. Results for sodium in SDG KP0163 may be considered estimated. Estimated data are usable for decision-making purposes.

In the Method 300.0 anions analysis, holding times were exceeded by more than twice the QC limit for nitrate, nitrite, and orthophosphate. Nondetected results for these analytes are discussed in the Major Deficiencies section above. Detected results for these analytes may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0165

This SDG comprises 18 soil samples (J1R4J5 through 41R4J9, J1R4K0 through J1R4K9, J1R4L0 through L1R4L2) collected from the shallow zone of the 300-15:2 subsite. These samples were analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2) with the exception of samples J1R4L1 and J1R4L2 which are the VOA trip blank and the EB, respectively. The VOA trip blank (J1R4L1) was analyzed for VOA. The EB (J1R4L2) was analyzed for ICP metals and mercury. Minor deficiencies are as follows:

In the gross alpha analysis, the LCS recovery was noted by the laboratory as being high but within the QC range. This recovery is also within the projects QC range. These data are usable for decision-making purposes.

In the SVOA, the sample extracts were diluted as much as 3-fold due to the nature of the matrix. As a result not all of the surrogates were recovered. The surrogate recovery criteria were not met for samples J1R4J7, J1R4L0, J1R4K2, and J1R4K3. The laboratory review determined that the surrogate 2,4,6-tribromophenol may have reacted with the sample matrix during the extraction process. Semivolatile organic compound results for samples J1R4J7, J1R4L0, J1R4K2, and J1R4K3 may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the LCS recovery of 2,4-dinitrophenol is below the QC limits. In this case the surrogate 2,4,6-tribromophenol recovery and the recoveries of other phenols in the LCS are within QC limits, suggesting that a reaction during the extraction process has not occurred. Erratic analytical response of phenols is not uncommon. The analytical instrumentation appears to be working within parameters. Analytical results for 2,4-dinitrophenol should be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the MS and/or MSD recoveries for 2,4-dinitrophenol, 4-nitrophenol, and 3'-3'dichlorobenzidine are outside the QC limits. Analytical results for these compounds may be considered estimated. Estimated data are usable for decision-making purposes.

In the ICP metals analysis, the MS recoveries for aluminum, antimony, calcium, copper, manganese, and silicon were outside the QC limits. The laboratory has performed a post-digestion spike at meaningful concentrations for these analytes with acceptable results. The data are usable for decision-making purposes

SDG KP0166

This SDG comprises 17 soil samples (J1R3D8, J1R3D9, J1R3F0 through J1R3F9, J1R3H0 through J1R3H4) collected from the deep and shallow zones of the 300-15:2 subsite. These samples were analyzed for gross alpha, gross beta, GEA, total uranium, VOA, SVOA, PCBs, TPH, ICP metals, mercury, total cyanide, and anions (by Method 300.0 and 353.2) with the exception of samples J1R3H3 and J1R3H4 which are the VOA trip blank and the EB, respectively. The VOA trip blank (J1R3H3) was analyzed for VOA. The EB (J1R3H4) was analyzed for ICP metals and mercury. Minor deficiencies are as follows:

In the gross alpha analysis, the LCS recovery was noted by the laboratory as being high but within the QC range. This recovery is also within the projects QC range. These data are usable for decision-making purposes.

In the VOA, the MS and MSD recoveries for acetone (251%, 260%) are above the QC limits. Acetone is a common laboratory contaminant and was detected in all of the field samples at roughly the same concentration, suggesting laboratory contamination and/or a high bias in the field sample data. However, the LCS recovery for acetone was within QC limits and acetone was not detected in the MB. Analytical results for acetone in SDG KP0163 may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the surrogate recoveries for samples J1R3D8, J1R3F6, and J1R3H2 did not meet the QC requirements. Due to the nature of the extracts these samples required 3-fold dilutions. Dilutions sometimes limit the recovery of the surrogates but the laboratory has observed peaks on the chromatogram that indicate the surrogate 2,4,6-tribromophenol was lost due to a chemical reaction. Therefore results for samples J1R3D8, J1R3F6, and J1R3H2 may be considered estimated. Estimated data are usable for decision-making purposes.

In the SVOA, the MS and/or MSD recoveries for 2,4-dinitrophenol, 4-nitrophenol, and pentachlorophenol are outside the QC range. Quantitation for these compounds is confirmed by acceptable LCS results. Results for 2,4-dinitrophenol, 4-nitrophenol, and pentachlorophenol may be considered estimated. Estimated data are usable for decision-making purposes.

In the PCB analysis, the surrogate recovery for sample J1R3F4 is above the QC criteria. Sample J1R3F4 also required a 1,000 fold dilution due to a high concentration of target analytes. Calculation of surrogate recoveries for high dilution extracts is often problematic. Polychlorinated biphenyl results for sample J1R3F4 may be considered estimated. Estimated data are usable for decision-making purposes.

In the TPH analysis for DRO, the surrogate recovery for sample J1R3F4 is above the QC criteria. The high concentration of PCBs in the sample may have interfered with the quantitation of the surrogate. Total petroleum hydrocarbon results for sample J1R3F4 may be considered estimated. Estimated data are usable for decision-making purposes.

SDG KP0174

This SDG comprises one soil sample (J1R7R2) collected from the deep zone of the 300-15:2 subsite. This sample was analyzed for PCBs. No deficiencies were noted for this data.

SDG KP1180

This SDG comprises nine soil samples (J1R876 through J1R879, J1R880 through J1R883, J1R8T5) collected from the deep zone of the 300-15:2 subsite. These samples were analyzed PCBs. Sample J1R8T5 is an EB. No deficiencies were noted for this data.

FIELD QUALITY ASSURANCE/QUALITY CONTROL

Relative percent difference evaluations of main sample(s) versus the laboratory duplicate(s) are routinely performed and reported by the laboratory. Any deficiencies in those calculations are reported by SDG in the previous sections.

Field QA/QC measures are used to assess potential sources of error and cross contamination of samples that could bias results. Field QA/QC samples, listed in the field logbooks (WCH 2013a, WCH 2013b), are shown in Table B-1. The main and QA/QC sample results are presented in Appendix A.

Table B-1. Field Quality Assurance/Quality Control Samples.

Sample Area	Main Sample	Duplicate Sample	Split Sample
Decision Unit 1	J1PW73	J1PW74	--
Decision Unit 1	J1PW76	--	J1PWM0
Decision Unit 1	J1R4C7	J1R4D1	J1R4H1
Decision Unit 2	J1R3D8	J1R3H2	J1R3H7
Decision Unit 3	J1R4J5	J1R4L0	J1R4F8

[a] The radiological data are reported under the nonappended sample number. The nonradiological data are reported under the appended sample number.

Field duplicate samples are collected to provide a relative measure of the degree of local heterogeneity in the sampling medium, unlike laboratory duplicates that are used to evaluate precision in the analytical process. The field duplicates are evaluated by computing the RPD of the sample/duplicate pair(s) for each contaminant of potential concern (COPC). Relative percent differences are not calculated for analytes that are not detected in both the main and duplicate sample at more than five times the target detection limit. Relative percent difference of analytes detected at low concentrations (less than five times the detection limit) are not considered to be indicative of the analytical system performance. The calculation brief in Appendix A provides details on duplicate pair evaluation and RPD calculation.

Split samples are collected to provide a relative measure of the variability in the sampling, sample handling, and analytical techniques used by commercial laboratories. The field main and

split samples are evaluated by computing the RPD of the split samples for each COPC to determine the usability of the verification data. The U.S. Environmental Protection Agency Contract Laboratory Program duplicate sample comparison methodology, *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 2004), is used as an initial test of the data from the splits. Only analytes that had values above five times the CRQL for both the main and split sample were compared. The calculation brief in Appendix A provides details on split pair RPD calculation. The RPD acceptance criteria for project-split samples is ≤30% (less than or equal to 30%).

The calculated RPDs for the field QA/QC duplicate samples were within the acceptance criteria of 30%, with the exception of TPH-motor oil (101.9%) in the decision unit 1 sample set. The calculated RPDs for the field QA/QC split samples were within the acceptance criteria of 35%, with the exception of chromium (43.8%) in decision unit 1, silicone (112.2%) in decision unit 2, and silicone (70.8%) in decision unit 3. Elevated RPDs in the analysis of environmental soil samples are largely attributed to heterogeneities in the soil matrix and only in small part attributed to precision and accuracy issues at the laboratory. The data are usable for decision-making purposes.

A secondary check of the data variability is used when one or both of the samples being evaluated (main and duplicate or split) is less than five times the target detection limit (TDL), including undetected analytes. In these cases, a control limit of ±2 times the TDL is used (Appendix A) to indicate that a visual check of the data is required by the reviewer. No additional major or minor deficiencies were noted as a result of this check. A visual inspection of all of the data is also performed. No additional major or minor deficiencies are noted. The data are usable for decision-making purposes.

Summary

Limited, random, or sample matrix-specific influenced batch QC issues such as those discussed above, are a potential for any analysis. The number and types seen in the data set are within expectations for the matrix types and analyses performed. The DQA review of the 300-15:2 subsite verification sampling data found that the analytical results are accurate within the standard errors associated with the analytical methods, sampling, and sample handling. The DQA review for the 300-15:2 subsite concludes that the reviewed data are of the right type, quality, and quantity to support the intended use. The analytical data were found acceptable for decision-making purposes. The investigative sample analytical data are stored in the Environmental Restoration project-specific database prior to being submitted for inclusion in the Hanford Environmental Information System database. The investigative sample analytical data are also summarized in Appendix B.

REFERENCES

BHI, 2000, *Data Validation Procedure for Chemical Analysis*, BHI-01435, Rev. 0, Bechtel Hanford, Inc., Richland, Washington.

DOE-RL, 2011, *300 Area Remedial Action Sampling and Analysis Plan,* DOE/RL-2001-48, Rev. 3, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

EPA, 2004, *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA 540-R-04-004, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, D.C.

EPA, 2006, *Guidance on Systematic Planning using the Data Quality Objectives Process*, EPA QA/G-4, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, D.C.

WCH, 2012, *Work Instruction for Verification Sampling of 300-15, Fully Excavated Sections North of Apple Street, 300 Area Process Sewer System,* 0300X-WI-G0034, Rev. 0, Washington Closure Hanford, Richland, Washington.

WCH, 2013a, *D4 Waste Site Miscellaneous Sampling*, Logbook EL-1663-03, Washington Closure Hanford, Richland, Washington.

WCH, 2013b, *D4 Waste Site Sampling*, Logbook EL-1665, Washington Closure Hanford, Richland, Washington.

WCH, 2013c, *Work Instruction for Verification Sampling of the 300-15:2, 300 Area Process Sewer, Fully Excavated Sections North of Apple Street Staging Pile Areas,* 0300X-WI-G0041, Rev. 0, Washington Closure Hanford, Richland, Washington.