RESPONSES TO U.S. EPA QUESTIONS (email dated 1/22/10 and 1/27/10)
ON THE POLYCHLORINATED BIPHENYL (PCB) NOTIFICATION PLAN APPLICATION
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California

FIRST SET OF QUESTIONS	RESPONSE
1. Application, Section 7.0: The "Certification" included in Section 7.0 of the Application does not meet the requirements in 40 CFR 761.61(a)(3). The certification needs to include the language in that section of the regulations **and** the language under "Certification" in 40 CFR 761.3 (Definitions). The certification must be **signed by both** the owner of the property and party conducting the cleanup. Please submit the required written, signed certification as soon as possible.	A revised certification page will be provided as noted.
2. Application, Section 4.0: The evaluation of risks in Section 4.0 of the Application appears not to include an assessment of ecological risks or a justification why such an assessment would not be necessary for the Pechiney site. Please explain why ecological risks were not considered in the Application. The TSCA standard is protection against risk of injury to health and the environment.	As described in Section 1.1 of the report, the Pechiney site is industrialized, as are the neighboring properties. A chain-link fence surrounds the site, which is entirely covered by either concrete floor slabs from former buildings or asphalt pavement. The combination of fencing surrounding the property and the presence of concrete floor slabs and asphalt pavement effectively limits the access of animals to impacted environmental media. Furthermore, future redevelopment plans (use as a power generating facility, fire training facility, or for some other commercial/industrial use) would not provide adequate ecological habitat at the site, even for small mammals with a limited home range or transitory birds. Given the similar lack of habitat at the surrounding industrialized properties, it is unlikely that the Pechiney site is or could be used for ecological habitat and potential impacts to ecological receptors are not considered significant. Finally, as determined by the U.S. Fish and Wildlife Service[1], there are no federally endangered, threatened, proposed, or candidate species, or any designated critical habitat, potentially present in the vicinity of the site. A copy of the email correspondence is attached. Based on the lack of critical habitat and any federally listed species, deed restrictions for open space are not necessary for the property.
3. Application, Section 2.2: The clarifications requested here are necessary to make certain regulatory interpretations under TSCA concerning the Pechiney site. Section 2.2 makes reference to excavation of PCB containing soils, backfilling (and sometimes also capping) of excavation areas, and capping of PCB contaminated concrete conducted in December 1998, January 1999, and April to July 1999. Please clarify under which regulatory authority were these activities conducted at the site. Section 2.2 states that ". Alcoa previously conducted remediation activities in specific areas of the Site containing PCB-impacted soil under the direction of the City of Vernon H&EC." Therefore, we believe this work may not have been conducted under an approved TSCA PCB cleanup plan. The amendments to the TSCA regulations introducing for first time the cleanup and disposal regulations for PCB remediation waste (40 CFR 761.61) were in effect in 1998. In addition, Section 1.1 (Background) of the Application states that ALCOA sold the 26.9-acre western portion of its facility to Century Aluminum in 1998, and that Pechiney purchased the 26.9-acre property in 1999. Was there an agreement between ALCOA and the purchasing parties to cleanup the property as part of the sale?	With the exception of the consent agreement between U.S. Environmental Protection Agency (EPA) and Alcoa for the work at Building 114, the activities were conducted under the oversight of the City of Vernon Health and Environmental Control (H&EC). Alcoa's environmental testing and limited soil removal work was conducted to close out its City of Vernon hazardous materials permit as required by the City of Vernon H&EC. There is a 1998 purchase agreement between Alcoa and Century Aluminum which addresses cleanup activities. In addition, there is a 1999 purchase agreement between Century Aluminum and Pechiney which also addresses cleanup activities. There is no direct contractual relationship between Alcoa and Pechiney. Moreover, the referenced PCB cleanup activities conducted by Alcoa pre-dated Pechiney's acquisition of the 26.9 acres.

[1] U.S. Fish and Wildlife Service, 2010, Email Correspondence Concerning Federally Endangered, Threatened, Proposed, and Candidate Species and their Critical Habitat Potentially Present in the Vicinity of 3200 Fruitland Avenue, City of Vernon, Los Angeles County, California, Between William B. Miller, U.S. Fish and Wildlife Service, Carlsbad, California, and Todd Bernhardt, AMEC Geomatrix Inc., February 1.

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4. Application, Section 2.3.1: Section 2.3.1 (Recent Sampling Procedures) states that in 2006 Geomatrix conducted additional concrete sampling following the grid sampling requirements in 40 CFR 761.130 for self implementing PCB cleanups. This section of the TSCA PCB regulations is under the PCB Spill Cleanup Policy in 40 CFR 761, Subpart G. The requirements that should have been followed are in 40 CFR 761, Subpart N. Please confirm whether the regulatory reference is incorrect. The grid described in Section 2.3.1 is not consistent with Subpart N. USEPA also did not approve the earlier Self Implementing PCB cleanup notification that was submitted by Geomatrix to USEPA. Please provide an assessment of the sufficiency and quality of soil and concrete sampling characterization data for the Pechiney site consistent with 40 CFR 761.61(a)(2) and 40 CFR 761 Subpart N requirements. USEPA has a Standard Operating Procedure (SOP) for collection of concrete samples for PCB analysis. We can provide a copy of this SOP upon request. The sampling procedures described in Section 2.3.1 were not approved by USEPA. Potentially, depending on the method followed for collection of concrete bulk samples and the amount of sample collected, upon crushing those samples at the laboratory, dilution of the PCBs may have occurred due to the volume of concrete in the sample. The referenced SOP contains a collection method to prevent dilution of PCBs in the concrete sample.	As discussed during the phone call on January 29, 2010, soil and concrete assessment work conducted by Geomatrix focused on areas known historically to contain equipment that may have used hydraulic oils containing PCBs, dielectric fluids containing PCBs (extrusion areas, vertical pits, electrical transformers, etc.), and in areas that exhibited surface staining on the concrete floor slabs. The majority of these historical operations or surface staining was located in Buildings 106/108 and 104. For concrete, sampling followed a systematic and iterative approach that took into consideration Alcoa's original data and the historical operations. Because of the size of the floor slabs, Subpart G was used only to calculate the number of samples that would be representative of evaluating potential impacts, which we felt was insufficient given the size of the building. Therefore, Subpart N was used, but the sampling grid approached was modified for the site conditions and building square footage. The concrete floor slabs associated with the building footprint are relatively continuous and cover approximately 590,000 square feet. If we applied a north/south 1.5 meter (5 feet) grid approach specified under Subpart N, with a sample collected at each grid node, it would result in over 23,000 concrete samples. As such, the concrete sampling approach was modified as summarized below. The locations of the concrete samples are shown on Figure 4 of the 2009 application (analytical data are summarized in Table 1). 1. Initial testing included Geomatrix's 2005 concrete samples that were co-located at soil/soil vapor sampling locations (19 sampling locations). This sampling approach resulted in 28 samples, and in most cases, additional concrete testing was conducted in these areas during subsequent testing phases described below under item 3. 2. Building wide-sampling was conducted to assess the potential for other areas to contain PCB-impacted concrete and in areas where low concentrations of PCBs were detected (between 2 to 10 milligrams per kilogram [mg/kg] and greater than 50 mg/kg). This phase of sampling used a larger grid measuring 80 feet by 160 feet (Buildings 108, 112, and 112A) and 80 feet by 120 feet (Buildings 104 and 106) to cover the footprint of the approximately 590,000 square feet of floor slabs. Concrete samples were collected from grid centers. 3. Source area/surface staining sampling approach was conducted in Buildings 104 (approximately 78,000 square feet of concrete) and Buildings 106/108 (approximately 112,300 square feet). A grid sampling approach that included both a 20 feet by 20 feet and 10 feet by 10 feet grid was used to assess the extent of the PCB-impacted concrete to 1 mg/kg. The grid sampling approach described in Items 2 and 3 above resulted in the collection and analysis of 204 concrete samples, in addition to the previous collection of concrete samples conducted by Alcoa and Geomatrix (an additional 51 samples). Except for earlier sampling conducted by Alcoa and some of the 2005 core samples, the concrete core samples were collected as described in Subpart O (core measuring >2 centimeters [cm] - <3 cm [approximately 1.5-inches] and 7.5 cm [approximately 3-inches] thick). In some cases, only the upper ½ of the 1.5 inch-core was tested. Layer testing also was conducted if more than one layer of concrete was observed at the core location. The concrete cores were sent to the laboratory for crushing to minimize the potential for cross-contamination in the field and analyzed for PCBs using EPA Method 8082. Dilution is not likely based on the methods specified in Subpart O.

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	For soil, sampling targeted suspected and known source areas that utilized PCB-containing oils and where high concentrations of PCBs were historically detected in concrete samples collected by Alcoa. Additional soil testing for PCBs was conducted in areas previously remediated by Alcoa (near storm water outfalls #6 and #7 and along the north side of the cooling tower). The locations of the soil borings advanced for the PCB testing and the concentration of the PCBs detected in soil are also presented on Figures 5a and 5b of the 2009 application (and summarized in Table 2). Figure 6 also depicts the remaining PCB concentrations in soil in areas previously remediated by Alcoa. Deeper soil borings were advanced by direct-push and hollow-stem auger drill methods and the associated soil samples were collected in acetate liners or by split-spoon sampling methods, respectively. Near surface and shallow borings and associated soil samples were obtained by hand auger sampling methods. The sampling method employed was based on access and sampling depths. The Geomatrix soil testing work included the collection and analysis of 230 soil samples, which in addition to the historical Alcoa data, were used to support the screening level Human Health Risk Assessment (HHRA).
5. Application, Section 3.0 and 4.0: In Section 3.0 (Delineation of Impacted Areas) the Application states that ". . . the extent of PCB-impacts in concrete and those remaining in soil (including soil remaining in place after previous remediation work described in Section 2.2) have been identified in the Site areas listed below." A TSCA consent agreement and final order (CAFO) entered into by USEPA and ALCOA addressed only Building 114 at the ALCOA property. Based on our review of the CAFO, the CAFO did not include or addressed the "other areas" (e.g., Building 104) of the site mentioned in Section 3.0 of the Application. Based on this information, we believe that a TSCA approval to leave in place PCB contamination at the "other areas" of the former ALCOA property was not issued by USEPA including after the property was sold to Century Aluminum and Pechiney subsequently acquired the property from Century Aluminum. Please provide an assessment of the quality and sufficiency of the sampling characterization data referenced in Section 3.0 and to develop Section 4.0 (Screening-Level Human Health Risk Assessment) of the Application in accordance with the requirements in 40 CFR 761.61(a)(2) and 40 CFR 761 Subpart N.	Figure 6 depicts the locations where Alcoa conducted PCB sampling in soil and where soil removal work was performed. Additional soil boring locations and soil PCB concentrations are shown on Figures 5a and 5b of the 2009 application. In most cases, soil sampling focused on potential source areas, similar to the approach taken for concrete sampling as described above. This focused testing for PCBs provided sufficient data to support the screening level HHRA. For purposes of the screening-level HHRA, screening for potential direct contact exposure was based on the maximum concentrations detected in soil in the upper 15 feet (zone of potential exposure to impacted soil) and maximum detected concentrations in concrete. Detected concentrations of PCBs in soil at all depths were used to evaluate potential future impacts to groundwater.
SECOND SET OF QUESTIONS	**RESPONSE**
1. What is the justification for the number of soil samples to be collected beneath PCB-impacted concrete and sampling grid used to arrive to the number of samples? What is the rationale for the number of samples proposed in the table included in Section 61.1.3?	Our approach was based on the 10-foot grid spacing modified from Subpart N and to target soil directly beneath areas with the highest concentrations of PCBs detected in concrete.
2. What is the justification for the number of bulk concrete samples proposed to determine the concentration of PCBs in concrete that will be crushed for disposal on site? What is the rationale for the sampling grid that will be used for collection of these concrete samples? Recently, USEPA provided to AMEC Geomatrix the SOP for sampling porous surfaces (such as concrete).	A large number of concrete samples have been collected at the site to date and testing included areas of suspected PCB usage (hydraulic oils) and in areas of the facility assumed not to be associated with former PCB related activities. Where PCBs were found in concrete above 1 mg/kg, additional sampling and testing was conducted to characterize the extent of the PCB impacts to 1 mg/kg or less. Grid spacing was adjusted as areas expanded as noted in response to the first set of questions #4.

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SECOND SET OF QUESTIONS	RESPONSE
3. The Application indicates that areas of concrete assumed not to be associated with former PCB related activities are assumed to have PCB concentrations below the risk based soil levels calculated in the Application and that such concrete can be crushed and used on site as fill. Preliminarily, we do not agree with this assumption and request that use of crushed concrete at the site be supported by PCB analysis of a reasonable and representative number of concrete samples collected from concrete not yet tested for PCBs.	As discussed during the January 29, 2010 conference call, additional concrete testing will be proposed to further support the reuse of concrete containing PCBs below the remediation goal of 5.3 mg/kg. The additional sampling will focus on a random sampling approach utilizing a 40 by 40 foot grid spacing (approximately matching the spacing of the below grade footing and foundations). A total of 50 random sample locations will be selected at intersecting grid nodes across the entire floor slab, with the grid initiated in the northwest corner of the slab (see Figure 1 attached). Random sample points will be reassigned if they fall within an area proposed for the removal and off-site disposal of concrete containing PCBs at concentrations greater than 5.3 mg/kg, or if they fall outside the building slab in asphalt covered parking lots and driveways. Concert cores measuring approximately 1.5 inches in diameter and 3 inches thick (as described in Subpart O) will be collected at the proposed locations, and sent to the laboratory to be crushed prior to analysis. These samples will be analyzed for PCBs using EPA Method 8082. Our sampling plan will follow under separate cover.
4. Except for Building 114, USEPA has not been involved with sampling, investigatory, and removal activities conducted to date at the Pechiney site. Does the Pechiney facility encompass Building 114?	Yes; the former footprint of Building 114 was located in the front parking lot near Fruitland Avenue.
5. What is the PCB concentration of soils deeper than 15 feet at the Pechiney site? What are the plans for these soils if PCBs are present?	A summary of the locations and concentration of PCBs that remain in soil below 15 feet are provided below (see Figures 5a, 5b and 6 of the 2009 application). Soil Vapor Sampling Location #8: (Aroclor-1248) • 16.1' – 62 micrograms per kilogram (µg/kg) (0.062 mg/kg) Soil Boring #46: (Aroclor-1248) • 21.1' – 730 µg/kg (0.73 mg/kg) Soil Boring #127(B): (Aroclor-1248) • 21.0' – 1200 µg/kg (1.2 mg/kg) • 31.0' – 330 µg/kg (0.33 mg/kg) Soil Boring #98 (within the decommissioned vertical pit): (Aroclor-1248) • 30.5' – 12,000 µg/kg (12 mg/kg) Soil Boring #40: (Aroclor-1248) • 21.5' – 2,000,000J µg/kg (2,000J mg/kg) • 26.5' – 280J µg/kg (0.28J mg/kg) • 31.5' – 710 µg/kg (0.71 mg/kg) • 41.5' – 440 µg/kg (0.44 mg/kg) • 51.5' – 520 µg/kg (0.52 mg/kg) • 61.5' – 400 µg/kg (0.40 mg/kg) • 71.5' – 490 µg/kg (0.49 mg/kg)

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	Soil Boring #95: (Aroclor-1248) • 20.5' – 2,000,000 µg/kg (2,000 mg/kg) • 30.5' – 260 µg/kg (0.26 mg/kg) • 40.5' – 580 µg/kg (0.58 mg/kg) IWDP Samples (Excavated Area) (Aroclor-1254) • Depth unknown for sidewall samples – 4,000 µg/kg (4 mg/kg) • 30' – 890 µg/kg (0.89 mg/kg) • 30' – 900 µg/kg (0.90 mg/kg) In most cases, the PCB concentrations decreased dramatically with depth, indicating PCBs in soils at these locations do not pose a threat to groundwater quality, which was supported by the modeling evaluation included in Section 4.0 of the application and discussed in detail in Appendix C. We are proposing to leave these soils in place and document the locations in the deed covenant to prevent future disturbance (similar to the buried structures associated with former Building 114).
6. In Section 5.2 of the Application the following PCB remediation goals are proposed: 5.3 mg/kg PCBs for soils to be left exposed at the surface (upper 5 feet), a 35 mg/kg PCBs for soils that will be 5 feet below crushed concrete that contains PCBs below 5.3 mg/kg, and a 5.3 mg/kg PCBs for concrete that may be demolished, crushed, and disposed onsite as fill. However, Section 5.6.1 (Demolition and Disposal of PCB-impacted Concrete) of the Application states that "PCB-impacted concrete slab areas where concentrations exceed the proposed site-specific remediation goal of 5.3 mg/kg and 50 mg/kg will be demarcated in the field by marking the slab surface." Section 5.2 of the Application does not refer to a 50 mg/kg remediation goal. Please reconcile this apparent inconsistency.	Section 5.2 does refer to the 50 mg/kg waste criterion from 40 CFR Section 761.61(a)(4)(i)(A) in the description of how the application of the remediation goal of 5.3 mg/kg for concrete "ensures that the waste criteria for concrete containing PCBs is also met [i.e., less than 50 mg/kg, as defined in 40 CFR Section 761.61(a)(4)(i)(A)]" (bottom of page 27, continuing on to the top of page 28). This same text is also provided in Table 8.
7. Section 6.1.2 (Surface./Shallow PCB Impacted Soil Remedial Action Implementation) states that "[t]his remedy will be implemented after below-grade demolition of surface slabs and pavements, utilities and pipelines, pits, sumps, and other deeper structures is complete." Please explain which section of the Application responds to the issues raised by USEPA in Items 4 through 7 of its October 6, 2006 letter disapproving Geomatrix's September 27, 2006 self implementing PCB cleanup notification. For example, Item 6 in the attached USEPA letter makes reference to galbestos and potential PCB contamination in soil due to potential deterioration of galbestos. Attached is the electronic file (pdf) containing a copy of USEPA's letter.	Average concentrations and concrete wipe samples were not used in the evaluation presented in the 2009 application. The Galbestos was in good condition and the site was paved with asphalt or covered with concrete (including parcel 6; the lot south of the rail road tracks). Furthermore, the surface cover adjacent to the building footprint is and was asphalt and/or concrete. Therefore, there is no potential for past PCB impacts to surface soils/ sediments.
8. Please explain what measures will be taken onsite to prevent worker and public exposure to dust that may be potentially generated during crushing of PCB-contaminated concrete planned for use onsite	As described in Section 6.2 (Soil Management During Below-Grade Demolition), dust suppression and vapor and/or odor control will be implemented by the demolition contractor as needed using the requirements of Section 01501 of the Technical Specifications (Appendix E of the Feasibility Study/Remedial Action Plan [FS/RAP]). Dust control measures will rely on wet methods (water spray, water misting) to control dust emissions. Similar dust control measures will be applied to concrete crushing activities. Perimeter air monitoring also will be conducted during the below grade demolition and remediation work as described in Appendix D of the applications (Geomatrix Quality Assurance Project Plan [QAPP]). The air monitoring plan is included as an appendix to the QAPP (Appendix C).

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SECOND SET OF QUESTIONS	RESPONSE
9. If available, please provide detailed information on the redevelopment plans for the facility. We want to have a clearer understanding of all the land use projects the City of Vernon has approved for the Pechiney site and potential exposure pathways upon redevelopment of the facility.	A deed covenant will be issued for the property to restrict land use to industrial and/or commercial. Based on information provided by the City of Vernon H&EC, potential property reuse may include: • Power plant • Commercial/industrial (warehouses) • Fire station training/emergency operations The "commercial/industrial worker" risk-based screening levels used in the screening-level HHRA were developed with these various scenarios in mind and are considered protective of all three potential receptors, including fire station personnel that may be on-site for more than 40 hours per week (round-the-clock shifts of 2.5 days, or 56 hours, per week, according to the City). According to the City, fire training activities would include simulation of fire (smoke, red lights, etc.), hazardous materials, and rescue emergencies, with no open fires, fire pits, or hazardous material spills. Under such use, the site would be completely paved with concrete and asphalt, such that potential direct contact exposure to PCBs remaining in soil (or PCBs in crushed concrete) would be incomplete.
10. In what manner are the exposure scenarios used in Sections 4.0 to 6.0 of the Application consistent with or more protective than the exposure scenarios assumed for high and low occupancy areas as those areas are defined under Section 761.3 of the TSCA regulations.	The exposure scenarios used in Sections 4.0 to 6.0 of the Application are consistent with the exposure scenarios assumed for high occupancy work areas as defined under Section 761.3. The worker scenarios evaluated are more protective than the minimum standards of 840 hours per calendar year for non-porous surfaces and 335 hours per calendar year for bulk PCB remediation waste.
ADDITIONAL QUESTIONS (1/29/10 Conference Call)	**RESPONSE**
Provide additional information regarding cumulative risk (other chemicals and PCBs) to support 10-5 risk management range.	As described in Section 4.2.3.1 (Risk Characterization of PCBs in Soil), cumulative exposures to all chemicals of potential concern (COPCs) at the site were evaluated as part of the revised FS, which was completed and submitted to the Department of Toxic Substances Control (DTSC) in September 2009. The relevant sections of the revised FS describing the results of the cumulative risk assessment are attached. The revised documents are under review by DTSC. A copy of the revised September 2009 FS is attached on CD. As presented in Section 4.2.3.1 and Table 19 of the FS, cumulative lifetime excess cancer risks for potential future receptors were estimated to exceed $1x10^{-5}$ in the Phase I, Phase II, Phase IIIa, Phase IV and Phase VI areas. PCBs in soil were identified as significant contributors (contributing at least $1x10^{-5}$) to the cancer risk levels estimated for the Phase I, Phase II, and Phase IIIa areas (see Tables 4, 5 and 6 of the FS, respectively). Additional COPCs were identified as significant contributors to the cancer risk levels estimated for these areas, specifically chloroform, PCE, and TCE in shallow soil vapor in the Phase I area, chromium in soil in the Phase II area, and arsenic in soil in the Phase IIIa area. However, the specific areas impacted by these additional COPCs do not overlap with the specific areas impacted by PCBs in soil. As a result, remediation of PCBs to concentrations below the proposed risk-based remediation goals would be sufficient to achieve residual risk levels below the proposed cumulative target cancer risk of 10^{-5}.
Consideration for the potential for co-solvency of PCBs in crushed concrete with soils containing other site chemicals (VOCs, Stoddard solvent, etc.).	We are re-evaluating the site grading plan (post below-grade demolition) to address this concern. Placement of crushed concrete containing PCBs (fill material) will be evaluated to minimize contact with soils containing other chemicals (such as volatile organic compounds [VOCs] and Stoddard solvent).

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ADDITIONAL QUESTIONS (1/29/10 Conference Call)	RESPONSE
Evaluation of dioxin-like PCB congeners to support the HHRA and the established risk-based remediation goals for PCBs.	To address this issue, we have developed an approach for sampling concrete floor slabs and soil for the presence of dioxin-like PCB congeners (also known as coplanar PCB congeners). For the most part, the primary mixture of PCBs detected in soil and concrete at the site has been Aroclor 1248, and to a much lesser extent Aroclor 1254 and Aroclor 1260. The proposed sampling will include eight concrete and 12 soil samples that will target areas where total PCBs (the sum of Aroclor mixtures) were detected at concentrations below 5.3 mg/kg, the proposed risk-based remediation goal protective of potential future exposures to PCBs. Additional samples also will be collected from selected locations where total PCBs were detected at concentrations above 50 mg/kg. Collected samples will be analyzed for Aroclor mixtures using EPA Method 8082 and individual PCB congeners using EPA Method 1668A. Concentrations of dioxin toxic equivalences (TEQs) will be estimated for samples with detected dioxin-like PCB congeners to evaluate the potential health impacts of these congeners. As needed, statistical correlation may be developed between dioxin TEQs and individual Aroclor mixture concentrations (i.e., if the human health impact of dioxin TEQ concentrations appears to be more significant than the impact of the Aroclor mixture concentrations). Such correlations would be used to 1) estimate dioxin TEQ concentrations associated with previous sampling results, 2) support or refine the site-specific PCB remediation goals, and 3) support remediation confirmation sampling. Our sampling plan will follow under separate cover.
Additional concrete testing in areas not suspected to have related historical operations.	Although concrete testing was conducted in all buildings at the site, additional concrete testing will be performed as described above in our response to the first set of questions #3.