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December 8, 2015

VIA PRIVATE CARRIER

Land Management Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 625
Baltimore, Maryland 21230

Subject: Transmittal of the Block G Soil Remedial Action Plan
Addendum 4: Transformer Investigation II
Lockheed Martin Middle River Complex, Middle River, Maryland

Dear Mr. Carroll:

For your review, please find enclosed two hard copies with CD of the above-referenced document. This addendum presents proposed exploratory activities in areas that were identified as possible transformer burial locations in Tax Block G at Lockheed Martin's Middle River Complex in Middle River, Maryland. If possible, w

 Remediation

ENCLOSURES.

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Block G Soil Remedial Action Plan Addendum 4: Transformer Investigation II Lockheed Martin Middle River Complex 2323 Eastern Boulevard Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

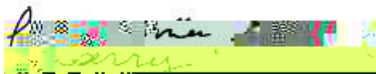
Prepared by:

Tetra Tech, Inc.

December 2015



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Section 1

Previous Transformer Investigations

1.1 BACKGROUND - POTENTIAL DISPOSAL AREAS

Discussions with current Middle River Complex (MRC) employees identified two potential transformer disposal areas within Block G at the Middle River Complex (Figure 1-1) (Tetra Tech, Inc. [Tetra Tech], 2013). An excerpt from that interview follows:

“On July 7, 2011, Tetra Tech interviewed three Lockheed Martin personnel to obtain additional information regarding historical or existing subsurface utilities in Block G that might not have been mapped on the MRC utility drawing. During that interview, a current Middle River Complex electrician recalled that electrical transformers had been buried in two areas in Block G in

1.2 RECENT FINDINGS IN BLOCK G

1.2.1 June 2015

During the completion of the scheduled soil removal activity in Excavation Area J in Block G, parts for two electrical transformers were uncovered. The parts were found buried 2-3 feet below ground surface (bgs) northwest of Area J, in an area being cleared for placement of a stormwater bypass pipe. This area had not been identified as a possible disposal area during the previous geophysical survey because vegetation limited access and nearby concrete slabs caused interference. This transformer location, overlain on the geophysical survey results, is shown on Figure 1-2 below. Note that limited access areas are depicted in black on Figure 1-2.

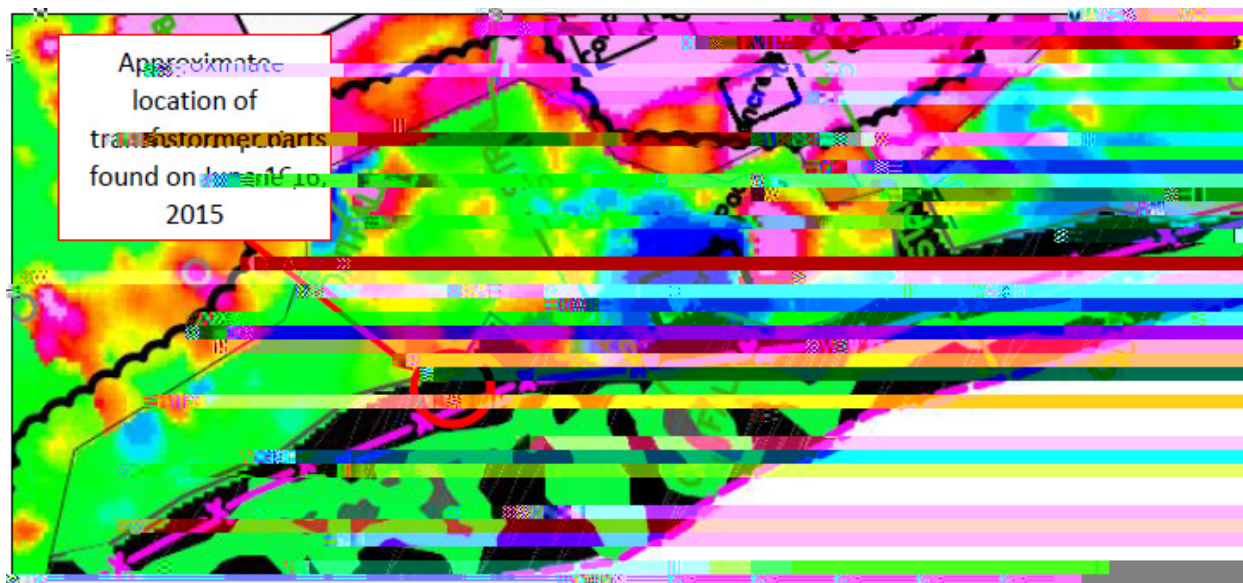


Figure 1-2

When found, the transformer parts and soil adjacent to the transformers were excavated and placed in covered roll-off boxes, pending the completion of analysis for polychlorinated biphenyls (PCBs) via United States Environmental Protection Agency (USEPA) Method 8082A. Four samples were collected and analyzed for PCBs. Samples G-TR-1 and G-TR-2 were collected from the holes from which the transformers were removed. Composite soil samples G-TR-WC1 and G-TR-WC2 were collected from soil placed in the roll-off boxes. The results of the analyses are in Table 1-1.

Aroclor-1260 was the only PCB mixture detected in the samples. One of four detections exceeds the USEPA regional screening levels (RSLs) for industrial soils, and two of four detections exceed

the USEPA RSLs for residential soils (established at the 1×10^{-6} cancer risk level). No detections exceed either RSL if set at the 1×10^{-5} risk level. These concentrations do not exceed the (Block E) soil remedial goal established for Aroclor 1260 in for the industrial worker (10 milligrams per kilogram [mg/kg], set at the 1×10^{-5} cancer risk level). In addition, the maximum Aroclor 1260 detection would not present an adverse non-cancer risk for the worker or for a resident. The residual risk assessment would not have targeted this area for remediation (for purposes of direct contact worker protection). This is not a significant direct-contact risk issue for the worker.

To further investigate the possible presence of transformers in Block G, the following investigations, noted in subsequent sections, were recommended in Addendum 2 of the remedial action plan (RAP) for Block G. The proposed investigations were adjacent to recently identified transformer-disposal location and other areas within Block G.

1.2.2 30 × 30 Foot Gird Area – September 2015

On September 16, 2016 additional exploratory activities began adjacent to Excavation Area J (Figure 1-3), as described in Addendum 2 of the (RAP) for Block G (Tetra Tech, 2015). A 30 feet by 30 feet area adjacent to the location where the transformer parts were found on June 16, 2015 was excavated. The 30×30-foot area extended north/northwest of Excavation Area J along the limits of the existing silt fence installed for the soil removal activities.

Metallic pieces associated with a possible transformer were discovered during these exploratory activities approximately four feet bgs, along the southern edge of the excavation area and adjacent to the temporary silt fence. These newly discovered metallic pieces were located approximately two feet southwest of the suspected transformer found on June 16, 2015 and at a depth approximately 2 to 3 feet deeper (Figure 1-3).

Two wipe samples (G-WC-XFRMR-W3 and G-WC-XFRMR-W4) were collected from the metallic pieces on September 17th, and were sent to an off-site laboratory for PCB analysis by Method 8082A. One sample (G-WC-XFROR-COMP) was also collected from the stockpiled soil and sent to an off-site laboratory for PCB analysis by Method 8082A and volatile organic compound (VOC) analysis by Method 8260B.

No metallic pieces or evidence of transformers was discovered in these test pit areas. All test pits were backfilled and restored at the end of each day's work. Restoration included regrading and seeding.



Figure 1-4 Potential Transformer Test Pit Exploration Boundaries



Table 1-1
PCB Results in Soil Samples Collected Near Transformer Parts

	G-TR-1	G-TR-2	G-TR-WC1	G-TR-WC2
SAMPLE ID				

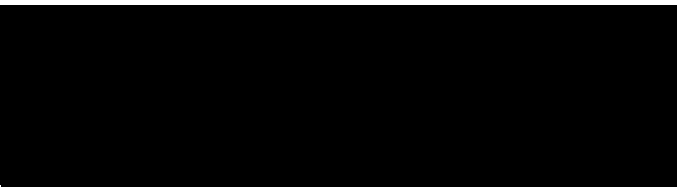


Table 1-2

Summary of Soil Results and Wipe Samples from Transformer Investigation
Samples Collected September 19, 2015
Lockheed Martin Middle River Complex, Middle River, Maryland
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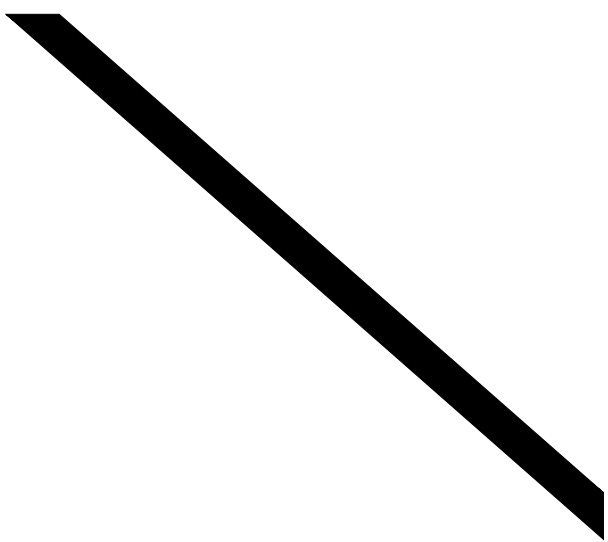
NSAMPLE
LAB ID
SAMPLE DATE
SAMPLE TYPE
Volatile organic compounds (mg/kg)

Table 1-2

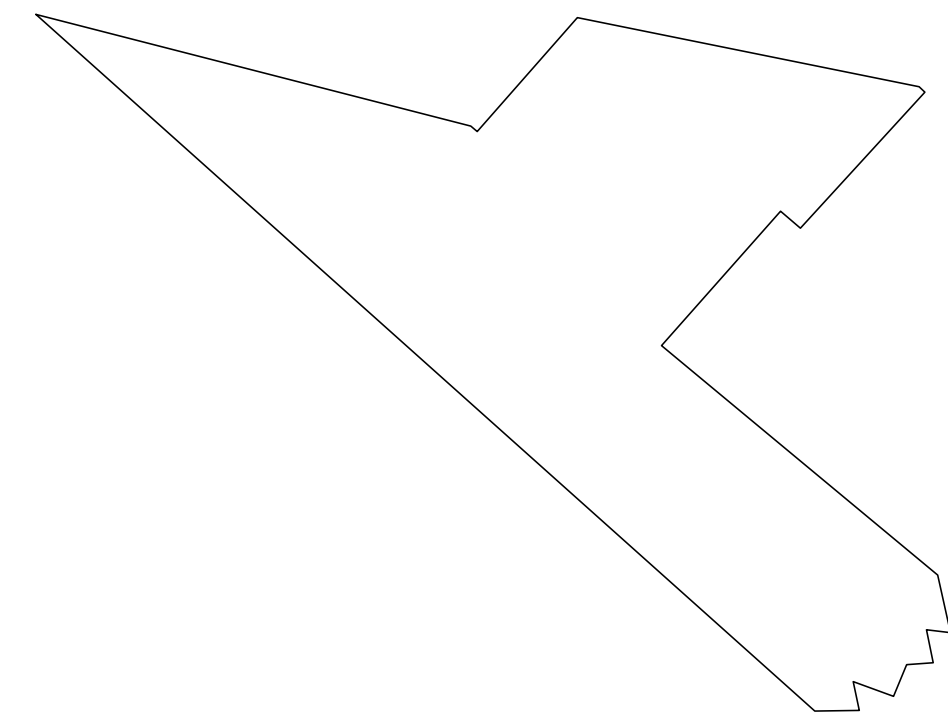
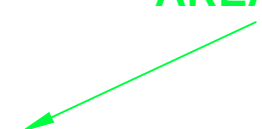
Summary of Soil Results and Wipe Samples from Transformer Investigation
Samples Collected September 19, 2015
Lockheed Martin Middle River Complex, Middle River, Maryland
Page 2 of 3

NSAMPLE	G-WC-XFRMR-		G-WC-XFRMR-W4
LAB ID	240-55592-3	240-55592-1	240-55592-2
SAMPLE DATE			
SAMPLE TYPE			
Volatile organic compounds (mg/kg)			

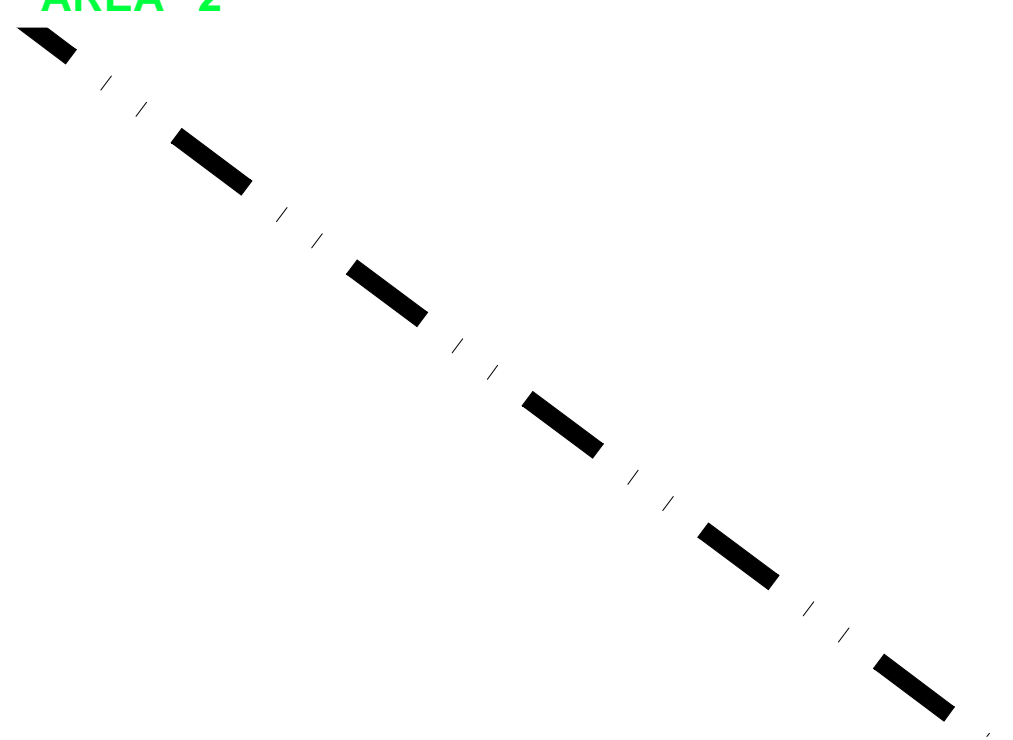
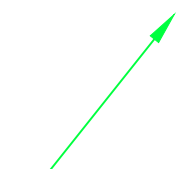
characterized. All soil samples collected during the progress of the work will be analyzed for polychlorinated biphenyls (PCBs) via Method 8082A and volatile organic compounds (VOCs) via Method 8260B, along with any analyses required for characterization and disposal. The transformer or transformer pieces will remain in the overpack drum pending further characterization. The investigation areas will be surveyed at completion, and recorded in the Block G construction report.



PROPOSED EXPLORATION
AREA "1"



PROPOSED EXPLORATION
AREA "2"



Section 3

References

1. Enviroscan, Inc., 2012. *Geophysical Survey, Electrical Transformer Pit Phase 2 Martin Middle River Complex, Middle River, Maryland*. September.
2. Tetra Tech, Inc. (Tetra Tech), 2012. *Utility Cross-Connection Investigation Report, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. January.
3. Tetra Tech, Inc. (Tetra Tech), 2013. *Block G Transformer Investigation Report. Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. April.
4. Tetra Tech, Inc. (Tetra Tech), 2015. *Block G Remedial Action Plan Addendum 2 Supplemental Underground Storage Tank and Transformer Investigation, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. July

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