Hazardous Waste Section

File Room Document Transmittal Sheet

Your Name:	Mary Siedlecki
EPA ID:	NCD057451270
Facility Name:	Former Heatcraft Remediation Site
Document Group:	Inspection/Investigation (I)
Document Type:	Other (O)
Description:	Confirmation Indoor Air Quality Testing Plan
Date of Doc:	3/27/2016
Author of Doc:	CORR Environmental Resources, Inc.

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From: Raymond Roblin
To: Siedlecki, Mary
Cc: Heim, Paul; srpacking@aol.com
Subject: Confirmatory air sampling plan; Heatcraft Site
Date: Sunday, March 27, 2016 1:40:24 PM
Attachments: March 16 Confirmatory Air Sampling Plan; Heatcraft Site.pdf

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Mary – As you requested, attached is the air sampling plan for the confirmatory sampling to be conducted in the coming week. I have provided for the sampling to mirror the January 2016 testing methods with the exception of an 8-hour testing period as opposed to the 24-hour sampling conducting in January.

Please let me know if you have any comments or questions. The work in scheduled for either Wednesday March 30 or Thursday the 31st dependent upon receipt of the air canisters and S&R's work schedules.

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CORR Environmental Resources, Inc.

March 27, 2016

Ms. Mary Siedlecki
North Carolina Department of Environment and Natural Resources
Hazardous Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Re: Confirmation Indoor Air Quality Testing Plan
Former Heatcraft Facility, Wilmington, North Carolina
NCD #057 451 270
CORR Project # 3079

Ms. Siedlecki:

CORR Environmental Resources, Inc., (CORR) on behalf of Daikin Applied Americas, Inc. (DAA) presents this scope of work concerning the confirmation indoor air quality testing at the former Heatcraft facility. The air quality sampling will be conducted as required to verify the concentrations of latent solvent vapors as indicated in January 2016 initial testing.

Background and Objectives

The North Carolina Department of Environment and Natural Resources; Hazard Waste Section (HWS) as a component of the Administrative Order in Lieu of Post Closure Permit (the Order) listed the Groundwater to Indoor Air pathway as an assessment requirement. The assessment of potential groundwater to effect indoor air quality was tested in January 2016. The air quality testing identified the TCE constituent above USEPA permissible acute exposure limit of 8.8 µg/M³ for indoor or enclosed air space(s) at various locations within the factory building.

The indication of TCE concentrations in excess of the EPA benchmark will therefore require confirmatory sampling be conducted to verify these baseline concentrations.

Besides TCE, other Chemicals of Concern (COC's) primarily associated with the former Heatcraft remediation site include the following (including their respective CAS#):

- **1,1,1 TCA** – 71-55-6; **1,1 DCE** – 75-35-4; **1,1 DCA** – 75-34-3; **cis-1,2 DCE** – 156-59-2; **trans-1,2 DCE** – 156-60-5; **1,4 dioxane** – 123-91-1 and **vinyl chloride** – 75-01-4.

These other volatile constituents were not indicated above either the laboratory MDL or various air quality benchmarks in January 2016, however the full TO-15 analytical testing will be conducted by the laboratory for each sample collected.

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Sampling Strategy

The objective of the investigation plan is to provide Daikin Applied and the HWS with the following information:

- Collect seven indoor air samples at the same approximate locations within the plant building to include the enclosed offices and the employee break area. One additional sample will be located outside of the building as a background or upwind location. The background sample will be located dependent on wind direction at the time of testing.

- To employ time-integrated sampling methods, laboratory prepared and certified SUMMA type vacuum canisters will capture indoor air over an approximate 8-hour time interval as opposed to the initial 24-hour time interval in January 2016. This can allow for a simulation of a typical worker shift period. The sampling canisters will be positioned so the air intake line is located at approximately 4-feet above the floor for breathing zone purposes. The canisters will be fitted with laboratory provided regulators to ensure the intake flow rate is equal to or less than 200-milliliters per minute.

- The sample area temperature and barometric pressure will be recorded along with initial canister pressure(s). The canisters will be monitored during the sampling period to ensure proper operation.

- Once the canister pressure reading is near to but not at zero pressure (~2 psi), or the full 8-hour time has elapsed, the regulator will be shut off and the canister sealed. The canister pressure along with ambient air temperature and barometric pressure will be recorded. The canister identification tag will then be noted and the information added to a Chain of Custody document. Sample canisters will then be placed back into their original shipping containers, sealed and shipped via overnight courier service.

- Analytical testing will use EPA Method TO-15 for volatile organic compounds at appropriate Method Detection Limits (MDL) as compared with RSL and EPA acute exposure benchmarks.

- Exact sample locations will be determined at the time of the field work tasks with the approval of the facility ownership (Port City LLC as S&R Packing and Crating). Figure 1 presents a plan view site map with the proposed sampling locations.

Indoor Air Quality Issues

To address the likelihood of possible corrective measures to indoor air quality, CORR will also attempt to meet with potential contractors to determine the best approach to providing enhanced circulation or outdoor 'fresh' air to the various areas of the building and enclosed spaces. This can include an evaluation of return air circulation within the office and break area HVAC systems and for the main factory areas which are not provided conditioned air beyond open bay doors and the typical use of industrial fans. The possible contractors will be allowed to conduct a survey of the enclosed areas and provide their recommendations to CORR and DAA. Once these recommendations are received, CORR in consultation with DAA, S&R and the HWS, will move forward as warranted.

Health and Safety Considerations

The air sampling work will be conducted following general health and safety procedures associated with work within the facility per S&R Packing and Crating work rules. The general site health and safety plan will be amended ahead of the in-facility work. The amendments will define the general sampling procedures as well as other safety considerations.

Schedule

The air sampling is scheduled for either Wednesday March 30 or the 31st dependent upon receipt of the canisters from the laboratory and S&R's work shift activities. As discussed with your office, exterior bay doors will remain closed during the sampling period which may necessitate sample collection after worker shift hours. If the outdoor ambient temperature is at ~70 degrees or lower, S&R typically leaves the various bay doors closed during the shift hours. The timing of the sampling will be determined in the field.

Report Preparation

Laboratory sample analysis will be conducted on a normal turnaround basis, which typically requires approximately ten working days for results. Upon receipt of the final analytical testing results, CORR will prepare a report of findings with data evaluation and will detail the following information:

- sampling procedures if there are any deviations from the work plan;
- analytical data evaluation and testing results;
- any recommendations for improved air fresh circulation;
- update to the Site Conceptual Model (if warranted); and
- conclusions and recommendations as necessary.

CORR believes the report of findings should be available within three weeks or sooner of the completion of the field work dependent upon timely laboratory turnaround.

CORR and Daikin Applied sincerely appreciate your review and approval of this scope of work. If you have any questions regarding the intended work tasks for the project in general, please contact me at 972-523-0487 or via email at correri@verizon.net .

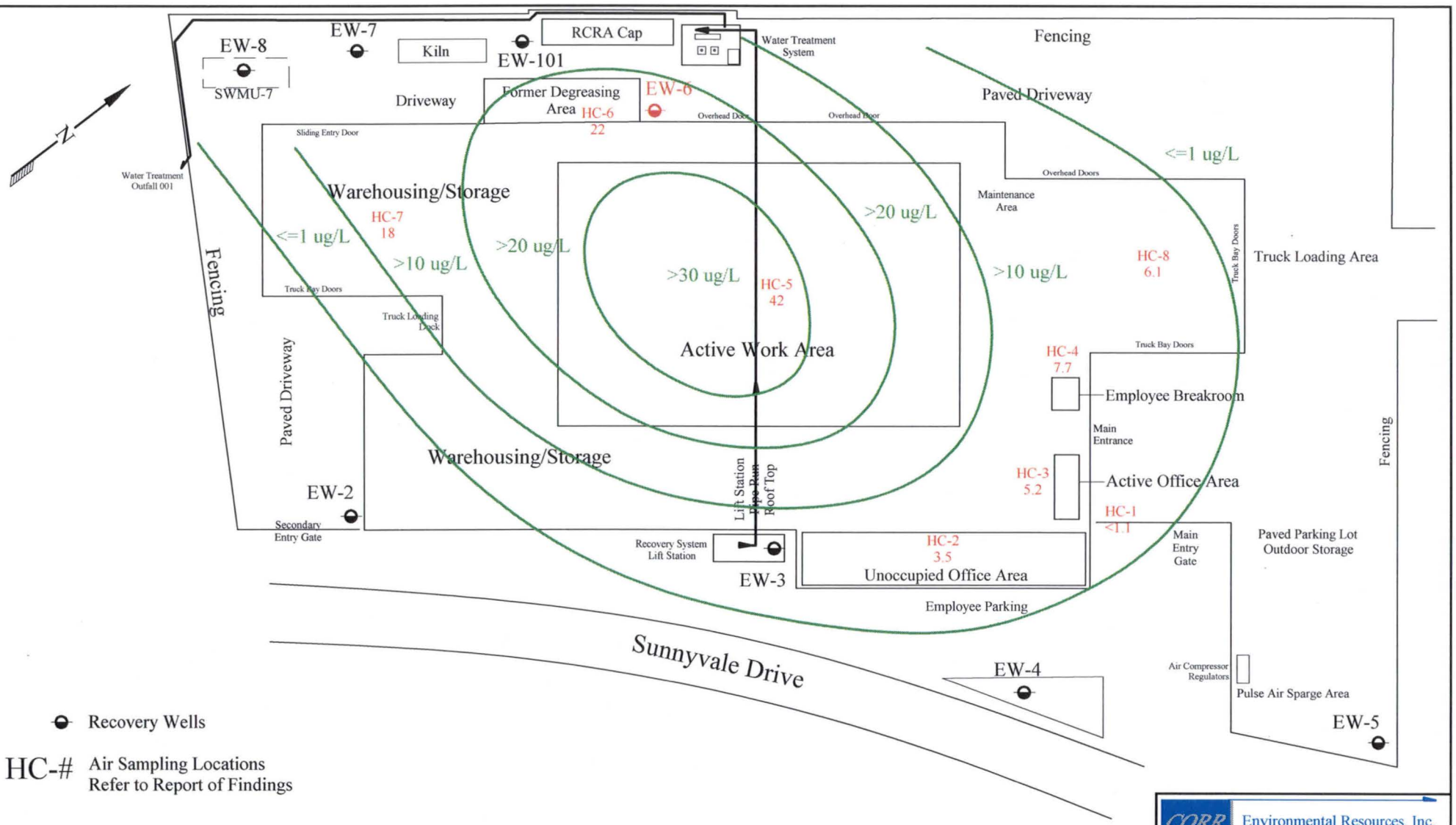
Cordially,

CORR Environmental Resources, Inc.

Raymond Roblin, P.G.
Principal

Cc: Mr. Paul Heim – Daikin Applied
Mr. Steve Thompson – S&R

File: c:\CORR\Wilmington\Wil 2016 confirmatory indoor AQ.SOW



CORR Environmental Resources, Inc.

FIGURE 1

DAIKIN APPLIED, FMR HEATCRAFT FACILITY
WILMINGTON, NC

DRAWN:	RR	DATE:	1-28-16	PROJECT NUMBER:	REV.
APPVD:	RWR	FILE:	wil air sampling	PN 3079	1