Hazardous Waste Section

File Room Document Transmittal Sheet

Your Name:	Mary Siedlecki
EPA ID:	NCD057451270
Facility Name:	Daikin Former Heatcraft Remediation Site
Document Group:	Inspection/Investigation (I)
Document Type:	Other (O)
Description:	Work Plan to Assess Soil Gas`
Date of Doc:	6/28/2016
Author of Doc:	CORR Environmental

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NCD057451270

	Month	Day	Year	
Date Recieved by File Room:				Scanner's Initials:
Date Scanned:				

From:	Raymond Roblin
To:	Siedlecki, Mary
Cc:	Heim, Paul
Subject:	RE: Emailing - NCD057451270 Daikin Former Heatcraft DEQ Comments on REVISED Soil Gas Testing Work Plan 06272016.pdf
Date:	Tuesday, June 28, 2016 9:59:26 AM
Attachments:	image001.png Soil gas and ambient air sampling SOP, Oct 2013, Revised April 2016.pdf Final Soil Gas Testing Work Plan, June 2016.pdf Proposed SSD Wells Fig 3, June 2016 PDF.PDF Soil gas testing locations Fig 1; June 16 PDF.PDF Soil gas testing locations, north creek area, Fig 2 PDF.PDF

Mary – Attached is the final version of the soil gas testing work plan. I have incorporated your comment concerning sampling at 133/135 CVD. We will attempt with all due actions to gain access permission to this property address. Also attached is CORR's SOP for soil gas and indoor air quality testing which should provide the information concerning leak testing comment in your email from yesterday, June 27.

I will keep you apprised of the schedule and access issues.

Raymond Roblin PG
CORR Environmental Resources, Inc.
972-303-1039 office direct
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972-534-1725 fax
correri@verizon.net

From: Siedlecki, Mary [mailto:mary.siedlecki@ncdenr.gov]
Sent: Monday, June 27, 2016 11:22 AM
To: Mateikis, Bill J; Heim, Paul; Mccarty, Bud; Siedlecki, Mary; Mort, Sandra L; Nelms, Robert; correri@verizon.net
Subject: Emailing - NCD057451270 Daikin Former Heatcraft DEQ Comments on REVISED Soil Gas Testing Work Plan 06272016.pdf

Attached are our comments on the soil gas sampling work plan. Please feel free to call me if you have any questions or comments.

Mary Siedlecki
Project Manager
Facility Management Branch
Hazardous Waste Section
Division of Waste Management
Department of Environmental Quality

919-707-8208 office
Mary.siedlecki@ncdenr.gov

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1646 Mail Service Center
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Nothing Compares

CORR Environmental Resources, Inc.

June 28, 2016

Ms. Mary Siedlecki
North Carolina Department of Environmental Quality
Hazardous Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Re: Revised Soil Gas Testing Scope of Work
Sub Slab Mitigation Pilot Testing
Former Heatcraft Facility, Wilmington, North Carolina
NCD #057 451 270
CORR Project # 3080 (16)

Ms. Siedlecki:

CORR Environmental Resources, Inc., (CORR) on behalf of Daikin Applied Americas, Inc. (DAA) presents this scope of work concerning soil gas testing associated with the former Heatcraft facility. The soil gas sampling will be conducted consistent with the Hazardous Waste Section (HWS) June 1, 2016 email request to prepare a work plan to collect soil gas samples as an ongoing assessment of vapor intrusion issues. The intent of the plan is to determine if latent dissolved solvent in shallow groundwater has the potential to impact indoor air quality offsite. A secondary task is outlined to begin initial sub slab mitigation testing using sub slab depressurization techniques to remove dissolved solvent vapors from beneath the plant floor.

Background and Objectives

The request for testing is based on the Section's assessment of the risk posed by elevated groundwater contaminant values in selected offsite shallow monitoring wells. The Section calculated the vapor intrusion risk using the highest value measured for each constituent from historic groundwater data results. The output of these calculations indicated a possible risk for residential settings.

The following text outlines the methods and procedures to be used to conduct the soil gas sampling tasks, analytical testing methods, data evaluation and reporting to the Section. The scope of work for the field sampling and testing activities conforms to the NCDEQ Division of Waste Management, Vapor Intrusion Guidance document, dated April 2014. Analytical testing results will be compared with the most recent Soil Gas Screening Levels (SGSLs) for residential and nonresidential exposure to assist in the evaluation of potential vapor intrusion impacts. The most recent update to the residential vapor intrusion screening levels is dated March 2016.

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

- **TCE** – 79-01-6; 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 are not routinely indicated above either the laboratory MDLs or various air quality benchmarks in calendar year 2016 testing.

Sampling Strategy

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

- Collect ten to twelve near surface soil gas samples in proximity to both onsite and offsite monitoring wells with elevated concentrations of site related COCs. One additional sample will be located outside of the known shallow groundwater plume as a background location. The background sample will be located in the general vicinity of onsite monitoring well FNW-2A which has no historic impacts from dissolved solvent constituents.

- Since the groundwater is typically within a few feet of the surface in low lying areas offsite, the shallow groundwater elevations will be measured at the various monitoring wells to determine the depth to static below ground surface (bgs). These data will then be used to establish the depth to place the intake screen(s) for soil gas sampling.

- It is anticipated the average depth will likely not exceed approximately 4-ft bgs to ensure no excess soil moisture or groundwater will enter the intake and compromise sample integrity and/or damage the sample canister or regulator(s).

- The sample boreholes will be advanced using hand auger techniques if possible. The use of a hand auger can allow for inspection of the lithology in reference to soil type, moisture and degree of saturation ahead of setting soil gas well. The soil gas screen intake will use typical six-inch length stainless steel well screen attached to new Light Density Polyethylene (LDPE) type tubing. The well screen interval will be backfilled with clean fine grained sand to a point several inches above the screen intake; the remaining borehole annulus will be backfilled with fine chipped bentonite clay to the surface. The bentonite clay will be hydrated in the top foot or so of the borehole to effectively seal surface or atmospheric air intrusion to the soil gas well bore.

- Once the soil gas well installations have been completed, the sampling will commence. The initial task will be to purge static air within the outlet tubing and

to conduct field screening with a calibrated photoionizing device (PID) with an 11.7 eV lamp. Once the purging and field screening is deemed complete, the outlet tubing will be attached directly to the sample canister regulator(s).

- To employ time-integrated sampling methods, laboratory prepared and certified SUMMA type vacuum canisters will capture soil gas over an approximate 2-hour time interval. 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 below -10 psi but not at zero pressure (negative ~2-5 psi is ideal), or the full 2-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 to Test America laboratory located in Burlington, Vermont.

- Analytical testing will use EPA Method TO-15 for volatile organic compounds at appropriate Method Detection Limits (MDL) as compared with the both residential and nonresidential SGSL and any appropriate EPA benchmarks.

Sampling Locations

Offsite Locations

The soil gas investigation will focus on the general downgradient areas of the shallow water table aquifer east of the site in the developed property parallel to the north creek drainage way. Please reference the attached Figures 1 and 2 for approximate locations of the proposed sampling assessment.

The target properties are located along Chula Vista Drive (CVD) and Hollins Road (HR) north of the north creek. The property address immediately adjacent to the creek is a dual residential property at 133 and 135 Chula Vista. The neighboring property north of 133/135 is owned by Mr. Horace Prevatte at 131. The offsite well nest OSW-7 is located on the 131 property.

Currently Daikin Applied does not have a right of entry access agreement with the property owner at 133/135 CVD as this property has recently been sold and is now occupied by renters. As directed by the Section, Daikin Applied will identify and discuss the soil gas sampling task with the property owner. Daikin will then offer an access and

right of entry agreement for the sampling task. Once access is granted, sampling will be conducted within 30 days of the agreement.

The second area of investigation will be associated with offsite well nest OSW-8 and the City of Wilmington easement which runs parallel to and crosses the north creek. Two sample locations are proposed; one within the perpendicular easement north of the creek and the second parallel to Hollins Road in the open area around the OWS-8 well nest. This sampling will be conducted as soon as practical along with the other onsite tasks.

Onsite Locations

Additional sampling is proposed to be conducted on the Heatcraft property west of Sunnyvale Drive and north of the creek. This single soil gas sampling location can provide information in reference to extent of possible impacts north of the creek and toward other residential properties west of Sunnyvale.

The pulse air sparging system has a number of shallow soil gas wells which were installed for routine field screening purposes onsite. These wells were installed to approximate two-foot depths with two-inch well screen set within a flush mount driveway box similar to groundwater monitoring wells. We propose to collect soil gas samples from two of these existing wells. The actual locations will be determined in the field; however one will be in the area of monitoring well FNW-3A and the second from adjacent to the northeastern side of the plant building.

Other proposed locations include a background sample (near well FNW-2A) and two or three locations on the back side of the plant building in the driveway area of the former SWMU 7 and the former degreasing high bay section of the plant building.

Ten to twelve total soil gas samples are proposed. Exact sample locations will be determined at the time of the field work tasks based on access and weather conditions.

Sub Slab Mitigation Action

As a response to the indoor air quality issues and the recommendations offered based on the initial sub slab sampling conducted in late April 2016, preliminary sub slab mitigation actions are proposed to include the installation of up to three suction [or sub slab depressurization-SSD] point wells within the plant building. The installation of the initial suction point well allow for a determination as to the extent of the negative pressure field beneath the floor slab. If the initial data suggest a fairly wide pressure field distance, the two other proposed SSD wells will be installed as warranted. Figure 3 presents the approximate locations along with indoor air quality results and initial sub slab TCE concentrations.

These mitigation task activities include the following:

- Conduct pilot testing for the use of typical SSD methods as a mitigation action to collect and remove solvent vapors from beneath the building floor in the former degreasing area. Conduct pressure field extension testing to determine the areal extent of negative pressure(s) beneath the floor to assist in the determination of the number and placement of additional depressurization points as warranted.

- The initial suction pit will be located in the vicinity of the former vapor degreasing area, specifically as close to the sub slab sample location SS-1 with the significant VOC concentrations from the April 27, 2016 testing.

The strategy to be employed for the pilot testing will be to core a 4 to 6-inch diameter hole in the floor of the plant building to expose the underlying soils. The upper 6 to 8-inches of the soils will be removed by hand auger or vacuum methods to create an open sump or suction pit. The open hole in the floor will then be fitted with standard PVC piping which will be slotted to allow for sub slab vapor intake from the suction pit. The PVC piping will be sealed at the floor opening with radon type caulking and a flange to prevent indoor air entry to the suction pit.

Once the suction pit and the initial outlet piping is set, the radon fan will be temporarily attached to the piping stub out and flexible type outlet piping attached to the fan and extended away from the pit to outside air. This will allow for testing of the sub slab pressure field while the fan is operating. The pressure field testing will involve drilling small diameter boreholes in the plant floor in an array surrounding and away from the suction pit. The pressures will be monitored using a typical electronic pressure meter with a range of up to 150 psi (10 bar). Typical sub slab pressure readings should equal to or exceed -3 to -5 Pascals to indicate the horizontal extent of depressurization beneath the floor. A secondary task will be to identify any short circuiting due to cracks or perforations in the floor and sealing with appropriate radon type caulking or other methods.

The fixed outlet piping will then be routed vertically along a structural support column to near the ceiling. At a point near the ceiling, a typical 4 or 6-inch diameter radon type fan will be installed to provide the negative pressure to the suction pit. Above the radon fan, the outlet piping will be routed through the ceiling and exhaust above the roof line. The actual routing of the piping and exhaust will be dependent upon the best location to penetrate the roof. The intent will be to use existing ventilation openings to avoid additional penetrations of the plant roof structure. To confirm ongoing operation of the pressure field, the outlet piping will be fitted with a water based manometer with graduations indicating pressure differential readings. The outlet piping will also be labeled with the initial pressure reading, date of installation, fan type and other relevant information.

The exhaust fan(s) typically operate on standard 110-volt low amperage electrical supply. CORR will contract a licensed electrician to provide power to the fans.

The recommendation to conduct the pilot testing is offered as an ongoing task in addressing latent solvent vapor both within indoor air and beneath the floor. The outlined pilot testing mitigation tasks, once completed, will be provided to the HWS with as warranted recommendations for additional corrective actions. Follow on indoor air quality testing will also be conducted once the pilot testing has operated for approximately 30 days. This indoor air quality testing will allow for ongoing mitigation of the vapor intrusion issues within the plant building.

Health and Safety Considerations

The outlined work tasks will be conducted following general health and safety procedures associated with typical environmental assessment field work. All proposed work tasks within the plant building will follow S&R safety rules. The general site health and safety plan will be amended to account for the outlined work tasks. The amendments will define the general sampling procedures as well as other safety considerations.

Schedule

CORR envisions these tasks can be completed in an approximate 30 to 45-day period from approval to proceed by HWS. The field soil gas sampling work tasks will be weather dependent as sampling during rain events could compromise sample integrity due to saturated soils and infiltration through the sandy soils. It is critical no excess soil moisture is present during actual soil gas sample collection. The proposed schedule can allow for the mitigation tasks to be undertaken during the summer season when the high bay access doors are commonly open during working hours and potential exposure is minimized with greater fresh air circulation within the plant building.

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 with results compared with the SGSL benchmarks;
- update to the Site Conceptual Model (if warranted); and
- conclusions and recommendations as necessary.

The mitigation pilot testing report of findings will provide the following information to the Section:

- Suction pit location(s), detail drawings and list of equipment installed;
- Pressure field extension testing results and locations of test boreholes in relation to the suction pit;
- Fan make and model numbers, maximum wattage, maximum air flow in cubic feet per minute (cfm), initial manometer readings;
- Detailed map showing location of suction pits, outflow piping runs and ceiling penetration locations;
- A schedule to conduct confirmation testing; and
- Recommendations for additional corrective measures as warranted.

CORR believes the report of findings should be available within three weeks or sooner of the completion of the field work for the soil gas testing tasks dependent upon timely laboratory turnaround. The soil gas testing results will be reported to the Section as a stand along document given the urgency of these results.

The proposed mitigation pilot testing tasks may require additional time as an exception to the soil gas testing. The Section will be updated with the status of the pilot testing activities as tasks are completed and the system is operating.

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 .

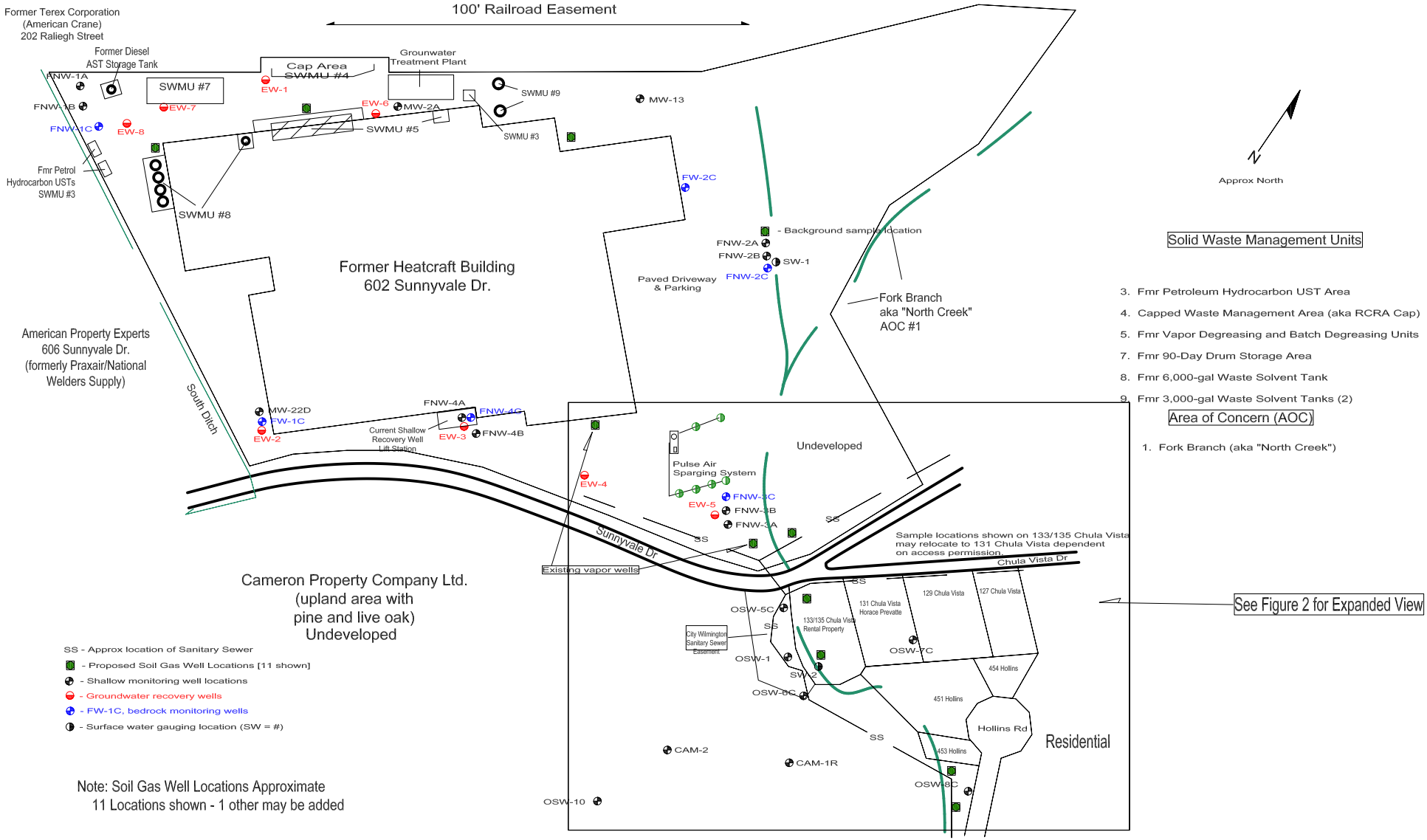
Cordially,

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 revised soil gas testing.SOW



CORR ENVIRONMENTAL RESOURCES, INC.

4609 Candlestick, Garland, Tx 75043

APPROVED BY: RAYMOND W ROBLIN, PG

DATE: June 15, 2016
DESIGNED BY: RWR
CHECKED BY: RWR
DRAWING NO.: Soil Gas Wells
PROJECT: PN 3080 (16)

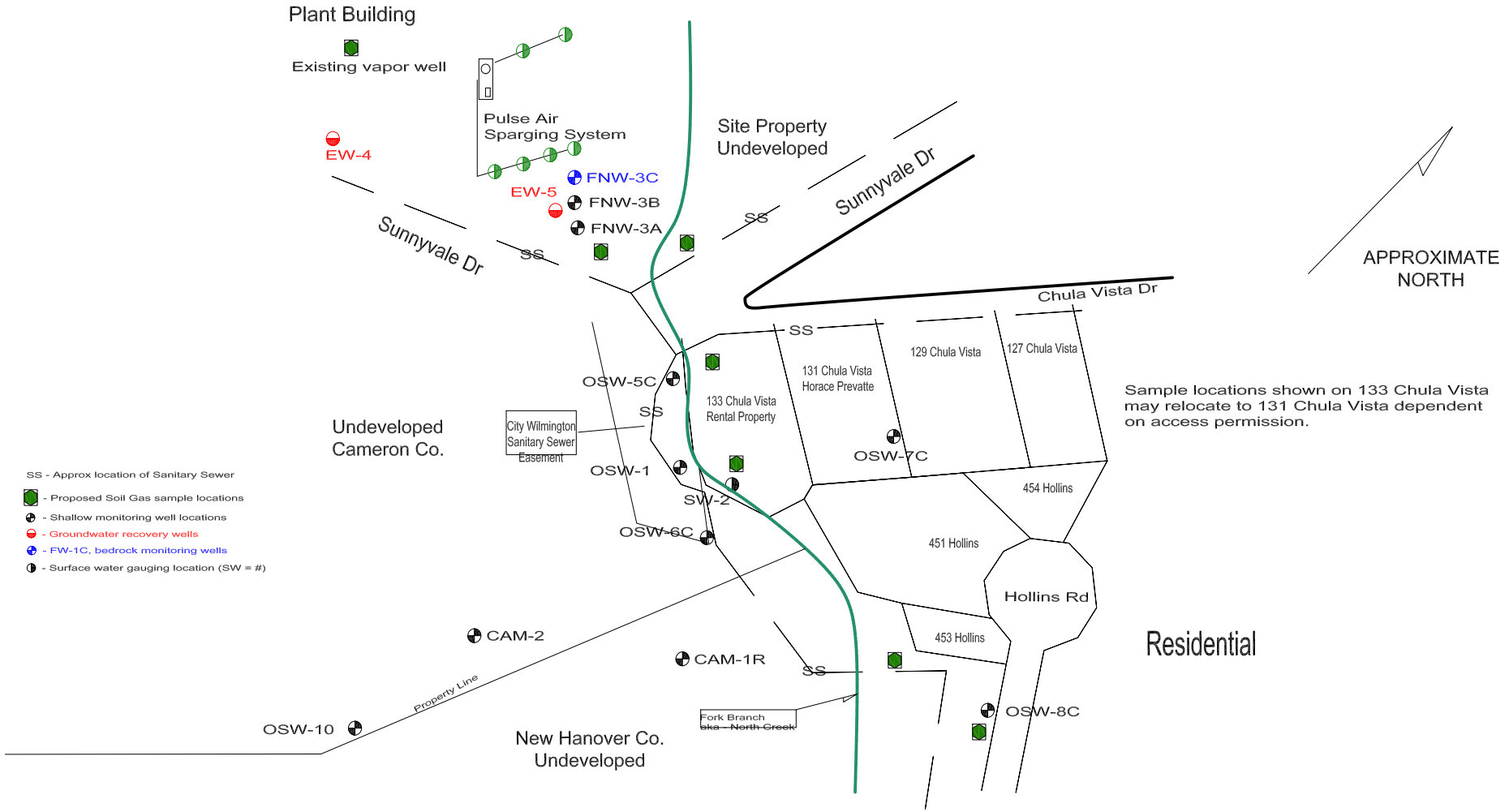
REV. NO	DATE	COMMENT
0	4-20-16	Initial drawing with OSW-7 and OSW-8
1	6-1-16	Revise SWMU's and AOC locations per NCDEQ request.
2	6-15-16	Revised gen site plan, add proposed soil gas well locations

NO SCALE INTENDED

Figure 1
General Site Plan
Proposed Soil Gas Wells

Former HeatCraft Facility
Wilmington, North Carolina

FILE: C:\CORR\DAA\WILM\16CADD\soil gas well locs



Note: Reference Figure 1 for site wide plan map
Locations are Approximate

CORR ENVIRONMENTAL RESOURCES, INC.

4609 Candlestick, Garland, Tx 75043

APPROVED BY: RAYMOND W ROBLIN, PG

DATE: June 17, 2016
DESIGNED BY: RWR
CHECKED BY: RWR
DRAWING NO.: Soil Gas loc's
PROJECT: PN 3080

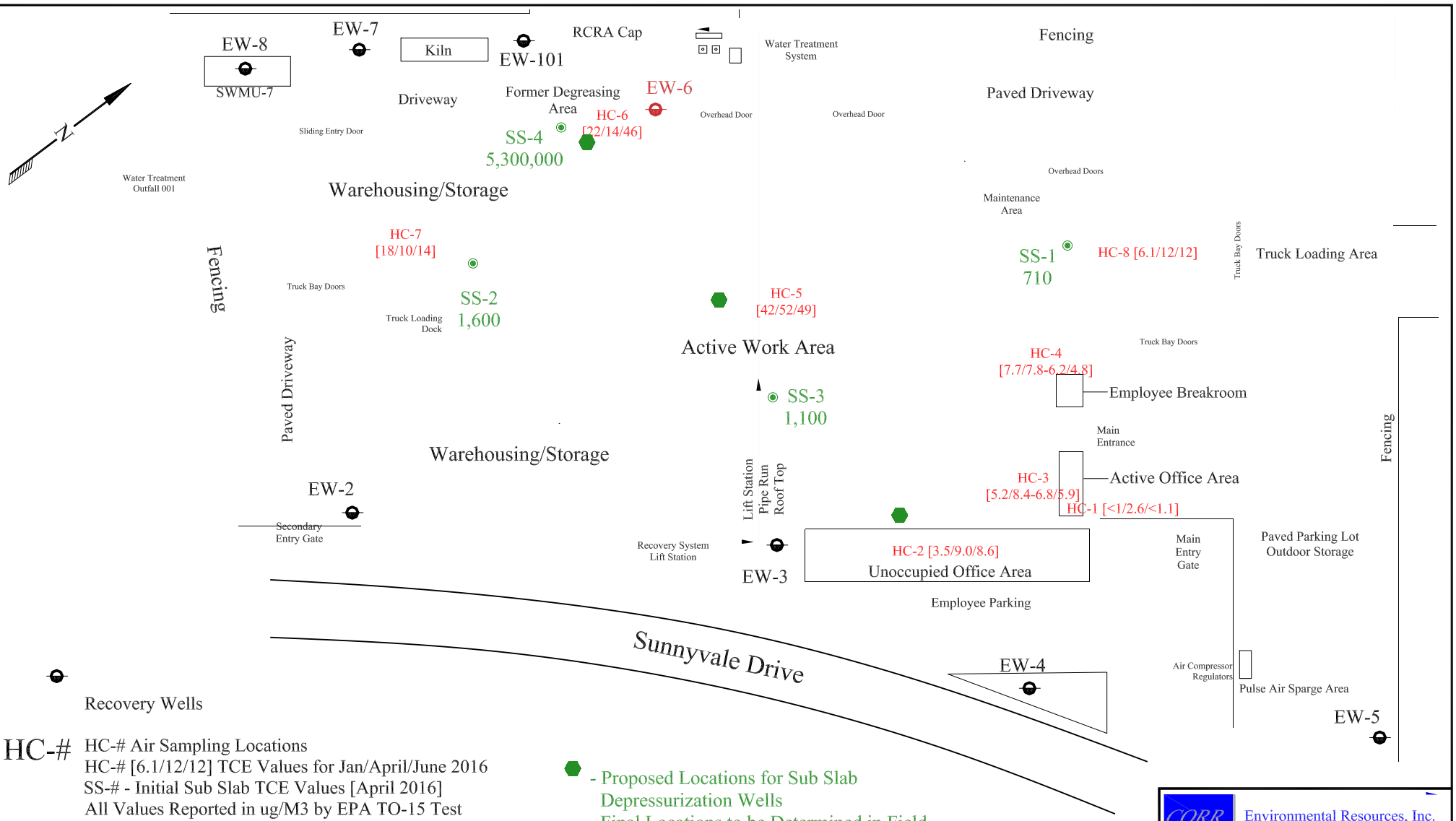
REV. NO	DATE	COMMENT
0	6-17-16	Initial drawing, close up of offsite soil gas locations

NO SCALE INTENDED

Figure 2
Expanded View, Offsite Soil Gas Sample Locations

Former HeatCraft Facility
Wilmington, North Carolina

FILE: C:\CORR\DAA\WILM\16CADD\Gsoilgascloseup



CORR Environmental Resources, Inc.

FIGURE 3
Sub Slab Vapor Recovery Locations
Former Heatcraft Site

DRAWN:	RR	DATE: 5-19-16	PROJECT NUMBER:	REV.
APPV'D:	RWR	FILE: wil sub slab	PN 3079	0

CORR Environmental Resources, Inc.

Standard Operating Procedure

Creation Date: October 2013

SOIL GAS AND INDOOR AIR QUALITY SAMPLING

1.0 Procedure

1.1 Purpose

This Standard Operating Procedure (SOP) provides general guidelines for the collection of soil gas vapor samples and/or indoor/outdoor ambient air samples using negatively pressurized canisters for analytical testing of organic contaminants. Please note: Some analytical laboratories have specific sampling and canister handling instructions for their units. These instructions should be reviewed and used in conjunction with this SOP when available.

1.2 Equipment and Supplies

- Laboratory prepared, negatively pressurized sampling canister(s) as provided
- An in-line particulate trap or filter should be used as needed
- Protective shipping containers
- Inert tubing such as polyethylene or Teflon in the correct diameter to attach to the sample canister and/or the regulator
- Utility knife or scissors, nitrile disposable gloves, safety gear as required
- Wrench or other appropriate hand tools for attaching/removing connectors
- Borehole sealing compound such as bentonite or similar for soil gas probes
- Chain of Custody Documents
- Vacuum, hand pump or syringe for purge tubing and sample port
- Calibrated photoionizing device (PID) for screening purposes

1.3 Procedure

Inspect laboratory supplied canisters and regulators to ensure all necessary parts and equipment are present and operable.

- Record in a field log book the following information;
    - Canister serial # or ID #
    - Flow control regulator serial # or ID#
    - Initial pressure reading from canister vacuum gauge
    - Sample identification as borehole or other identifier
    - Temperature and barometric pressure at time of sampling
    - Complete and attach the sample canister identification label or tag (do not attach sticker label to canister)

- Ensure all sample locations are clearly marked to avoid tripping or other hazards while working or sampling.

1.3.1 Canister and Pressure Regulatory Leak Testing

The procedure for the collection of SUMMA canister samples is provided below.

- Confirm that that SUMMA canister serial number and flow control regulator serial numbers are identical and record these numbers on the Sampling Collection Record Form (SCRF) and the Chain of Custody (COC). If the serial numbers for the regulators and canisters do not match the laboratory supplied inventory list, the non-matching SUMMA canister(s) and regulator(s) will not be used for sample collection and will be replaced with a matching SUMMA canister and flow metering regulator set.
- Assign sample identification on canister ID tag, and record on the SCRF and the COC.
- For pre-sampling leak testing, remove brass plug from canister fitting.
- Install the flow control regulator assembly on canister valve fitting and tighten. Install the brass plug from the canister fitting onto the open end of the flow control regulator assembly and seat it firmly (do not overtighten). Check all other fittings on flow control regulator for tightness.
- Quickly open and close canister valve. If the vacuum gauge reading begins to drop (i.e., returns toward zero), then the assembly is leaking and the fittings need to be tightened or reconfigured. Repeat this step if tightening or reconfiguration is required.
- Once the flow control regulator assembly is deemed leak-tight, record the gauge pressure on the SCRF and COC. The pressure gauge must read no less than 28 ± 2 inches Hg vacuum. Replace SUMMA canister if gauge initially reads a vacuum less than 26 inches Hg.
- Remove brass plug from gauge fitting and store for later use.
- Open SUMMA canister valve to initiate sample collection. Depending on the time length of the sampling period, conduct periodic inspection of valve pressures to insure proper operations.
- Record date and local time (24-hour basis) of valve opening on the SCRF sheet(s).

For subsurface sampling of soil gas vapors both indoor and outdoor environments use the following guidelines:

- Ensure all public and private utilities (as can be determined) are clearly marked prior to advancing any subsurface tools. Any traffic or pedestrian detours should be in place.
- Advance the sampling point to the desired depth using mechanical or hand operated techniques (direct push drilling, hand augur, shovel etc). Concrete penetration can be accomplished as needed using rotary or hammer type equipment.

- Utilizing a disposable sampling tip or screen, attach the appropriate inert tubing to the sample tip and add several inches of clean drilling sand to the borehole annulus so the sample tip is resting on the sand 'pad'. Also ensure no groundwater has entered the borehole. Once the sample tip is lowered and placed in the borehole, backfill the sample tip with clean sand to a point no greater than 6-inches above the screen tip.
- Seal the remaining borehole annulus with a hydrating non-shrinking material (bentonite clay) or other suitable material to the surface to prevent short circuiting or allowing surface air to enter the borehole. Allow bentonite to fully hydrate ahead of sample collection.
- Connect a purging device to the outlet tubing and remove approximately two volumes to ensure static air has been removed from the outlet tubing.
- Subsequent to purging, clamp the outlet tubing to temporarily seal the tubing. Some State's require an initial screening of the soil gas with a PID; if so conduct the purging with the PID.
- Subsequent to purging and screening, attach the outlet tubing to the canister regulator and remove the clamp. Inspect the connections to ensure adequate seals for leaks.
- Record start time, ambient temperature, barometric pressure and humidity (if required) and slowly open the regulator valve to begin soil gas withdrawal. Observe the outlet tubing for the presence of soil particles and/or water; if so stop sample collection and contact project manager for guidance.
- Sampling can be considered complete if the vacuum pressure is nearly completed. A small vacuum reading on the canister is ideal (-3 to -5). Duration of sample collection should be defined ahead of the field work tasks and as approved by the regulatory agency. Sample durations can last from several minutes to many hours. Be sure to determine appropriate sample durations and consult the laboratory so the correct regulator(s) are supplied based on duration.
- Record the time, temperature, barometric pressure and humidity (if required) in the field log book, the Chain of Custody document and the canister tag. Remove the outlet tubing from the closed regulator or canister by first crimping the outlet tubing. The PID can then be attached to the outlet tubing for additional field screening as required.

For indoor or outdoor air quality sampling use the following guidelines:

- As provided in the approved Scope of Work, define the sampling locations based on the sublet work to be accomplished. In areas where employees, customers or traffic may be of issue, determine the safest location for positioning the canisters and inlet tubing. This can involve placing detour signage, surveyor flagging, brightly colored cones to minimize interference with the sample collection activities. In locations where employees work or congregate, attempt to place the canisters such that they will not be disturbed.
- Indoor air sampling inlet tubing should be placed at a height in a typical breathing zone, between 4 to 5-ft above the floor. Utilize some type of stand or appropriately sturdy point to attach the inlet tubing. The end of the tubing should be positioned to arch downward or at 90 degrees from the horizontal. There may be a need for an inlet filter as required.

- Connect a purging device to the inlet tubing and remove approximately two volumes to ensure static air has been removed from the inlet tubing.
- Subsequent to purging, clamp the inlet tubing to temporarily seal. Some State's require an initial screening of the ambient air with a PID; if so conduct the purging with the PID.
- Subsequent to purging and screening, attach the inlet tubing to the canister regulator and remove the clamp. Inspect the connections to ensure adequate seals for leaks.
- Record start time, ambient temperature, barometric pressure and humidity (if required) and slowly open the regulator valve to begin ambient air collection. Observe the tubing for the presence of particles and/or water; if so stop sample collection and contact project manager for guidance.
- Sampling can be considered complete if the vacuum pressure is nearly completed. A small vacuum reading on the canister is ideal (above zero). Duration of sample collection should be defined ahead of the field work tasks and as approved by the regulatory agency. Sample durations can last from several minutes to many hours. Be sure to determine appropriate sample durations and consult the laboratory so the correct regulator(s) are supplied based on duration.
- Record the time, temperature, barometric pressure and humidity (if required) in the field log book, the Chain of Custody document and the canister tag. Remove the inlet tubing from the closed regulator or canister by first crimping the tubing. The PID can then be attached to the inlet tubing for additional field screening as required.

Subsequent to collection of soil gas, soil vapor or ambient air, the work area should be cleared and left in an orderly condition. For the soil gas or vapor wells, either abandon as require or seal the boreholes for future testing using appropriate materials and equipment.

For soil gas, soil vapor or ambient air sampling, at the conclusion of the test collection, the canisters should be returned to the original shipping containers. It is recommended the regulators matching the canister unit be placed with the canister for return to the laboratory. Complete the Chain of Custody document(s) as required and seal the shipping containers using Custody Seal procedures. The sample shipping containers can then be delivered to overnight shipping services or directly to the laboratory.