CIRCUITRON CORPORATION SITE
SUFFOLK COUNTY, NEW YORK
REMEDIAL SYSTEM EVALUATION REPORT

NYSDEC SITE NUMBER: 152082

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
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REMEDIAL SYSTEM EVALUATION REPORT
CIRCUITRON CORPORATION SITE
NYSDEC SITE NO. 152082

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1.0 INTRODUCTION

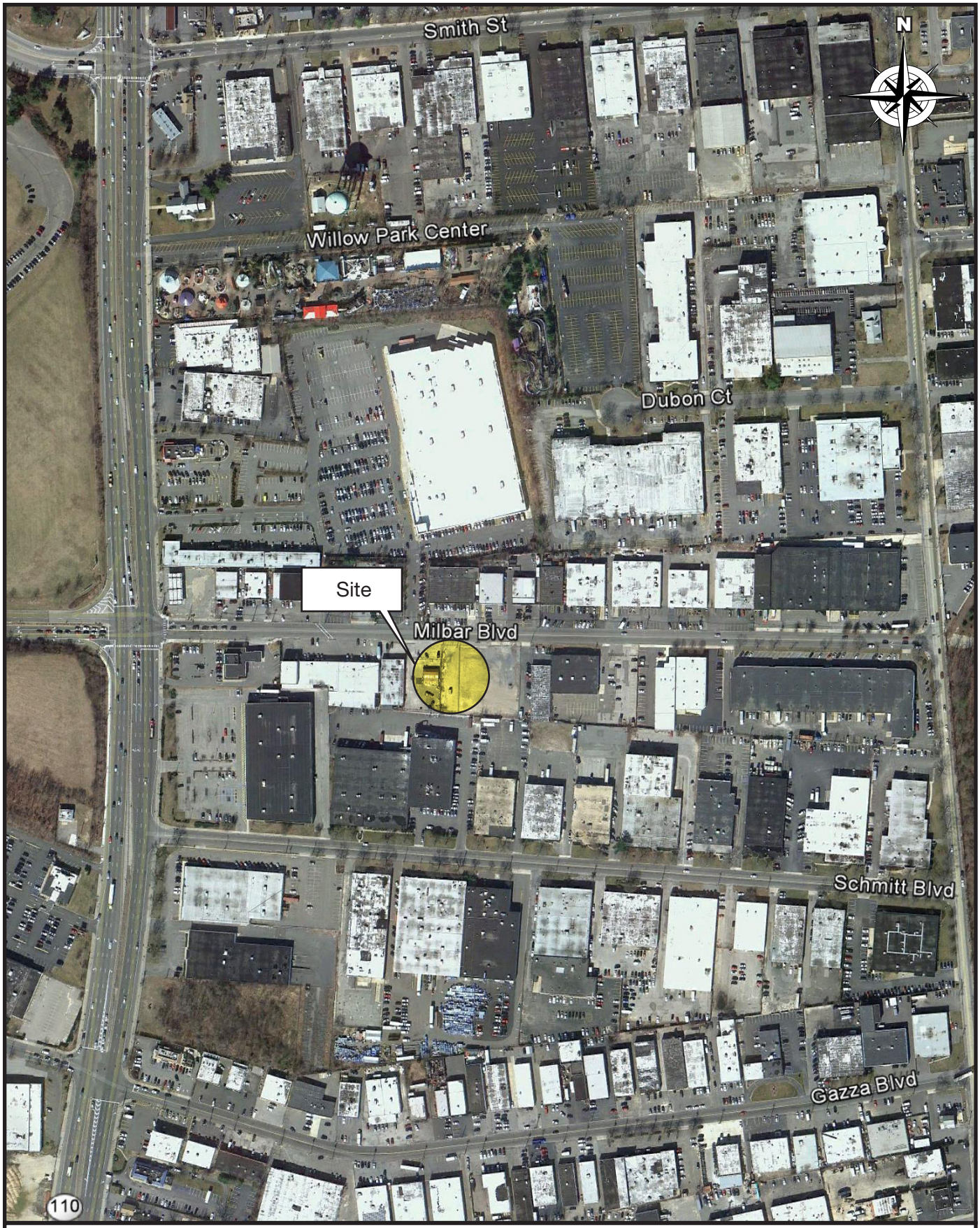
The Circuitron Corporation Site (NYSDEC Site No. 152082) is located in East Farmingdale, Suffolk County, New York. A site location map is provided as Figure 1-1. This site has undergone remediation and is in Site Management. The Site Management activities include monitoring and the operation of a Pilot Source Area Treatment System (PSTS). The PSTS is a single integrated groundwater circulation well with an in-well vapor stripping and soil vapor extraction (GCW/IVS/SVE) system. Operation of the system has been transferred to the New York State Department of Environmental Conservation (NYSDEC) with funds allocated under the New York State Superfund Program. D&B Engineers and Architects, P.C. (D&B) has been tasked by the NYSDEC to perform a Remedial System Optimization (RSO) study for the GCW/IVS/SVE system.

This report presents the results, findings, conclusions and recommendations associated with the soil sampling and remedial system evaluation activities recently completed at the site. The purpose of the soil sampling and remedial system evaluation activities was to collect additional data needed to support the on-going RSO efforts at the Site. D&B completed the work under a Site Management (SM) Work Assignment (WA) issued by the NYSDEC. This report is a deliverable under the WA was well as D&B's May 13, 2015 letter to NYSDEC regarding the scope of work for the soil sampling and remedial system evaluation activities.

1.1 Site Location and Project Description

The Circuitron Corporation Site is located at 82 Milbar Boulevard in East Farmingdale, New York in an industrial park. The main site feature is a small trailer, which contains equipment associated with the PSTS. The remainder of the Site consists of paved, stoned or vegetated areas. A site lay out map is provided as Figure 1-2.

The PSTS consists of a single integrated GCW/IVS/SVE system. The PSTS system was placed into operation by the United States Environmental Protection Agency (USEPA) in March



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CIRCUITRON CORPORATION SITE
EAST FARMINGDALE, NEW YORK

SITE LOCATION MAP

Scale: 1" = 400ft

FIGURE 1-1

MILBAR BLVD

SITE ENTRANCE

SD–1

CB–1

CB–2

GENMECH AEROSPACE CORP. PROPERTY

CIRCUITRON SITE

FORMER BUILDING LOCATION

SV–N45S/D

GW–N45

CCSB–05

SV–N30S/D

ABOVE GROUND TREATMENT TRAILER FOR THE GCW/IVS/SVE & AS PILOT SYSTEM

SD–2

SV–N07

GW–N15

GW–N07

GCW/IVS/SVE WELL & SPY–S (7.8 ug/L) & SPY–D

CCSB–02 (30 ug/kg 26'–28')

CCSB–03

SV–SE07

CCSB–01/AS–01S (140,000 ug/kg 26'–28')

GW–SE07 (14 ug/L)

SV–N15S/D

GW–SW45

GW–SW30

GW–SE30

GW–SE15

MW–4D

CCSB–04 (62 ug/kg 23'–25')

MW–4S (6.3 ug/L)

MID–ISLAND BINDERY INC. PROPERTY

LEGEND

- STORM DRAINS
- MONITORING WELL (1,1,1–TCA CONCENTRATION 6/2015)
- GW MONITORING WELL CLUSTER (SHALLOW WELL 1,1,1–TCA CONCENTRATION 6/2015)
- GCW/IVS/SVE WELL + SPY–S & SPY–D MONITOR WELLS
- SOIL BORING LOCATION (1,1,1–TCA CONCENTRATION IN SOIL 6/2015)
- SOIL BORING/AIR SPARGE WELL (1,1,1–TCA CONCENTRATION IN SOIL 6/2015)
- SITE BOUNDARY
- CHAINLINK FENCE
- SOIL VAPOR PROBE

NOTE

SOIL VAPOR PROBE AND SOIL BORING LOCATIONS ARE APPROXIMATE.

1"=30'–0"

30 15 0 30'

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CIRCUITRON CORPORATION SITE
EAST FARMINGDALE, NEW YORK

SITE LAYOUT MAP

FIGURE 1-2

F:\3150-11C\DWGS\3150-FIG 1 PROPOSED BORING LOCATIONS-10-30-15.dwg, 11/30/2015 2:48:59 PM, Adobe PDF

2008 to address moderate levels of residual contamination (chlorinated solvents) within soil and groundwater in the southwest corner of the Site. The GCW/IVS/SVE system was operated and maintained by the USEPA through June 2011 when site management responsibilities were transferred to the NYSDEC consistent with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements. Site management activities are now performed by the NYSDEC with funds allocated under the New York State Superfund Program. D&B has been tasked by the NYSDEC to perform a RSO study for the Circuitron GCW/IVS/SVE system.

The Site is flat and is approximately 1-acre in size. Commercial properties surround the Site on all sides. The closest residential area to the Site is approximately 0.5 miles to the north on Cinnamon Court.

Except for the PSTS and associated features (e.g. trailer, monitoring wells, soil vapor probes, etc.), the Site is currently vacant. Circuitron Corporation, a circuit board manufacturing facility, operated at the property from 1961 to 1986 and occupied a single building. Process wastes from the manufacturing operations contained metals and solvents and were discharged to the ground surface at the Site.

Following initial sampling efforts, the Site was found to represent a significant threat to the environment and was placed on the National Priorities List in March 1989 with USEPA as the lead agency. As a result, a Phase I Investigation and a Remedial Investigation/Feasibility Study were completed for the Site. A remedial program, consisting of source area removal for on-site soil and sediments and groundwater extraction and treatment for on-site and off-site groundwater, were selected in the March 1991 Record of Decision (ROD) for Operable Unit 1 (OU1) and September 1994 ROD for Operable Unit 2 (OU2).

The source removal portion of the OU1 (i.e., soil remediation program) remedy was completed in January 1997 and included demolition and removal of the on-site building. Construction of the groundwater extraction and treatment system was completed in June 2000.

This system operated until 2008 when it was replaced by the current PSTS. The groundwater extraction and treatment system was dismantled and removed from the Site in 2011.

As indicated above, USEPA operated and maintained the PSTS through June 2011 when SM responsibilities were transferred to the NYSDEC. Given the prior remedial efforts completed at the Site, NYSDEC reclassified the Site on July 21, 2011 to a Class 4 site (i.e., site properly closed - requires continued management) in the New York State Registry of Inactive Hazardous Waste Disposal Sites.

D&B has performed SM activities at the Site on behalf of NYSDEC since July 2011. Currently, SM activities include PSTS operation and maintenance, routine site inspections, semiannual on-site groundwater sampling, annual off-site groundwater sampling, performance monitoring, remedial site optimization, and reporting.

The operational and performance data set for the PSTS indicates that the system, as configured, may be approaching asymptotic conditions and may not be capable of achieving Remedial Action Objectives (RAOs) established for the Site in a timely and cost-effective manner. Accordingly, D&B prepared a RSO report in April 2014 on behalf of the NYSDEC to develop and evaluate alternative remedial technologies/approaches that may be applicable to the Site. In response to the RSO, additional soil sampling and remedial system evaluation activities were completed at the Site between June 2015 and October 2015. These activities are discussed in the sections below.

2.0 INVESTIGATION ACTIVITIES

The investigation activities completed as part of the most recent sampling program consisted of the advancement of five soil borings and collection of five soil samples to further define subsurface conditions at the Site. All samples collected were sent to a laboratory for chemical analysis, as discussed below. All investigation activities were completed in accordance with NYSDEC's February 2013 WA, D&B's May 2015 letter detailing the scope of work for the soil sampling and remedial system evaluation activities, and applicable NYSDEC remedial program guidance.

Clean Globe Environmental (CGE), D&B's existing SM subcontractor, advanced all soil borings and assisted with collection of all soil samples. Soil boring advancement and sampling was completed in June 2015.

2.1 Soil Borings

D&B and CGE completed the soil borings and collected the soil samples at the Site on June 2 and June 3, 2015. Five soil borings (CCSB-01, CCSB-02, CCSB-03, CCSB-04, and CCSB-05) were advanced in the vicinity of former storm drains SD2 and SD3 using direct-push drilling techniques. The soil boring and former storm drain locations are shown on Figure 1-2.

Prior to initiation of any intrusive activities, New York 811, Inc. was contacted and utility mark outs were completed at the Site. Additionally, each soil boring location was hand-cleared to a minimum of five feet below ground surface (bgs) utilizing a decontaminated hand auger to ensure the location was free of underground utilities.

Each soil boring was continuously logged for geology, screened for visual indications of contamination (e.g., staining or odors) and screened for organic vapors using a photoionization detector (PID) from the ground surface to approximately four feet below groundwater. Boring logs for each soil boring are provided as Appendix A. Evidence of contamination, such as

elevated PID readings, chemical-like odors, staining and/or sheens, were not identified at any of the completed soil boring locations.

One subsurface soil sample was collected from each boring location and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via USEPA Method 8260B. It should be noted that the May 2015 scope of work for the sampling activities called for two soil samples to be collected from each soil boring, one from the interval exhibiting the greatest evidence of contamination and the second from immediately above groundwater. However, only one sample was collected from the interval immediately above groundwater, since no evidence of contamination was noted.

All soil generated from the soil boring processes was returned to the borehole from which it was generated. Any remaining open space was backfilled with a bentonite, sand and gravel mixture, and the ground surface in the vicinity of each boring was restored with either topsoil or asphalt, as needed, depending on the soil boring location.

2.2 Sample Analysis

All samples collected as part of the soil sampling program were submitted under proper chain-of-custody procedures for laboratory analysis at Con-Test Analytical Laboratories (Con-Test) located in East Longmeadow, Massachusetts. Con-Test is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory. All samples were analyzed using a standard turnaround time (TAT). Complete analytical laboratory reports for all samples collected as part of this program are included as Appendix B.

3.0 SOIL VAPOR EXTRACTION/AIR SPARGE SYSTEM EVALUATION

Initially, D&B completed the soil vapor extraction (SVE) and air sparge (AS) system evaluations at the Site over the period from July 7, 2015 through July 9, 2015. A second SVE system evaluation was also completed on October 9, 2015 following the review of the data from the first evaluation. Periods of heavy rain immediately prior to the July 2015 evaluation may have caused poor SVE test results. As such, a second SVE evaluation was completed in October 2015. The results of the October evaluation were found to be acceptable, and therefore, were used for this report. The goal of this evaluation was to provide sufficient information for:

- The selection of an operating flow rate for the SVE system to influence areas of vadose zone soils exhibiting VOC concentrations in excess of NYSDEC UU-SCOs identified during the soil boring program;
- The selection of an operating flow rate for the SVE system to fully encompass areas of AS system influence; and,
- The selection of an operating flow rate for the AS system and additional air sparge points to address the residual VOC concentrations found to exist within shallow groundwater based on the results of routine groundwater sampling performed at the Site.

D&B used CGE, the existing SM subcontractor for the Site, to assist with the system evaluation activities. All evaluation activities were completed in accordance with NYSDEC's February 2013 WA and D&B's May 2015 letter detailing the scope of work for the soil sampling and remedial system evaluation.

3.1 SVE System Evaluation

3.1.1 SVE System Evaluation Objectives

The objectives of the SVE system evaluation were to:

- Define air flow patterns in subsurface soil, including areas of potential short circuiting

- Estimate the radius of influence (ROI) from the existing PSTS well

3.1.2 SVE System Equipment

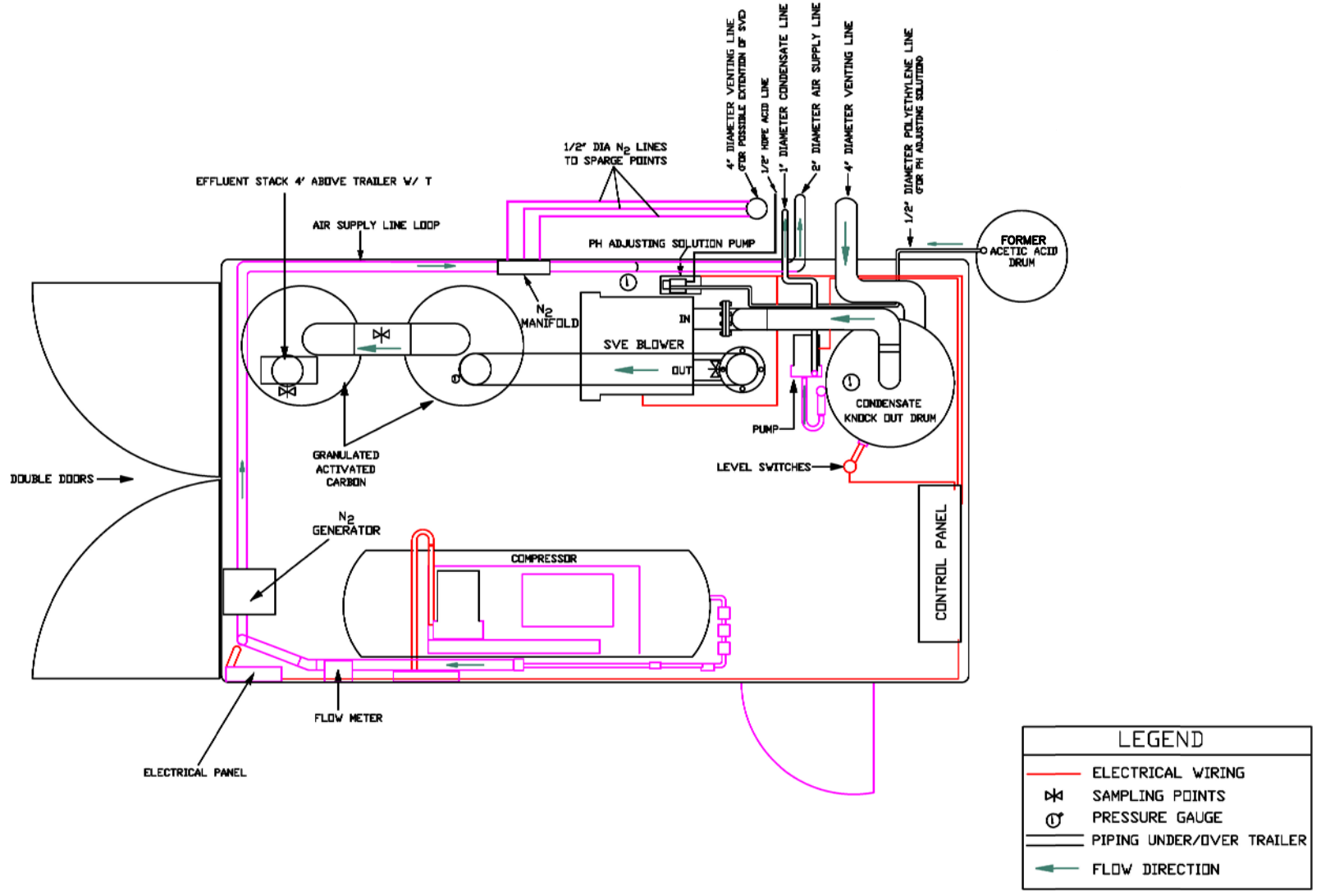
D&B and CGE used the SVE component of the existing PSTS to complete the SVE system evaluation. The system contained all the necessary equipment and controls needed to apply a vacuum to the subsurface as well as obtain air flow rates and vacuum response readings. Specifications of the SVE system components are listed below:

- SVE Transfer Line: Four-inch diameter Schedule 40 polyvinyl chloride (PVC) connected to a 6-inch by 4-inch PVC reducer T-fitting, located at the PSTS wellhead.
- Condensate Knock-Out Drum: Standard 55-gallon steel drum with acid-resistant coating on the inside wall, 4-inch diameter tangential inlet, 4-inch diameter outlet at the top, 4-inch thick demister pad below the outlet, three float switches (low, high and high-high level), a bottom side drain and a sight glass.
- SVE Blower (vacuum): Ametek Rotron regenerative blower (15 horse power), Model No. EN9098G72WL.

Figure 3-1 presents a schematic of the PSTS and Figure 3-2 presents a process and instrumentation diagram for the system.

3.1.3 SVE System Evaluation Methodology

The existing PSTS well and equipment was used to induce a series of air flow rates (i.e., 100 standard cubic feet per minute [SCFM], 250 SCFM, and 500 SCFM) and operating vacuums on the subsurface soil. The system was operated at each flow rate for approximately one hour. Throughout the evaluation activities, subsurface vacuum measurements were recorded approximately every 15 minutes from six permanent soil vapor probes (SV-SE15S, SV-SE15D, SV-N30S, SV-N30D, SV-N45S and SV-N45D) associated with the PSTS. The distance of the soil vapor probes from the PSTS well ranges from approximately 15 to 45 feet. Vacuum measurements were not collected from soil vapor probes SV-N07 or SV-SE07, which are



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EAST FARMINGDALE, NEW YORK

PILOT SOURCE AREA TREATMENT SYSTEM

FIGURE 3-1

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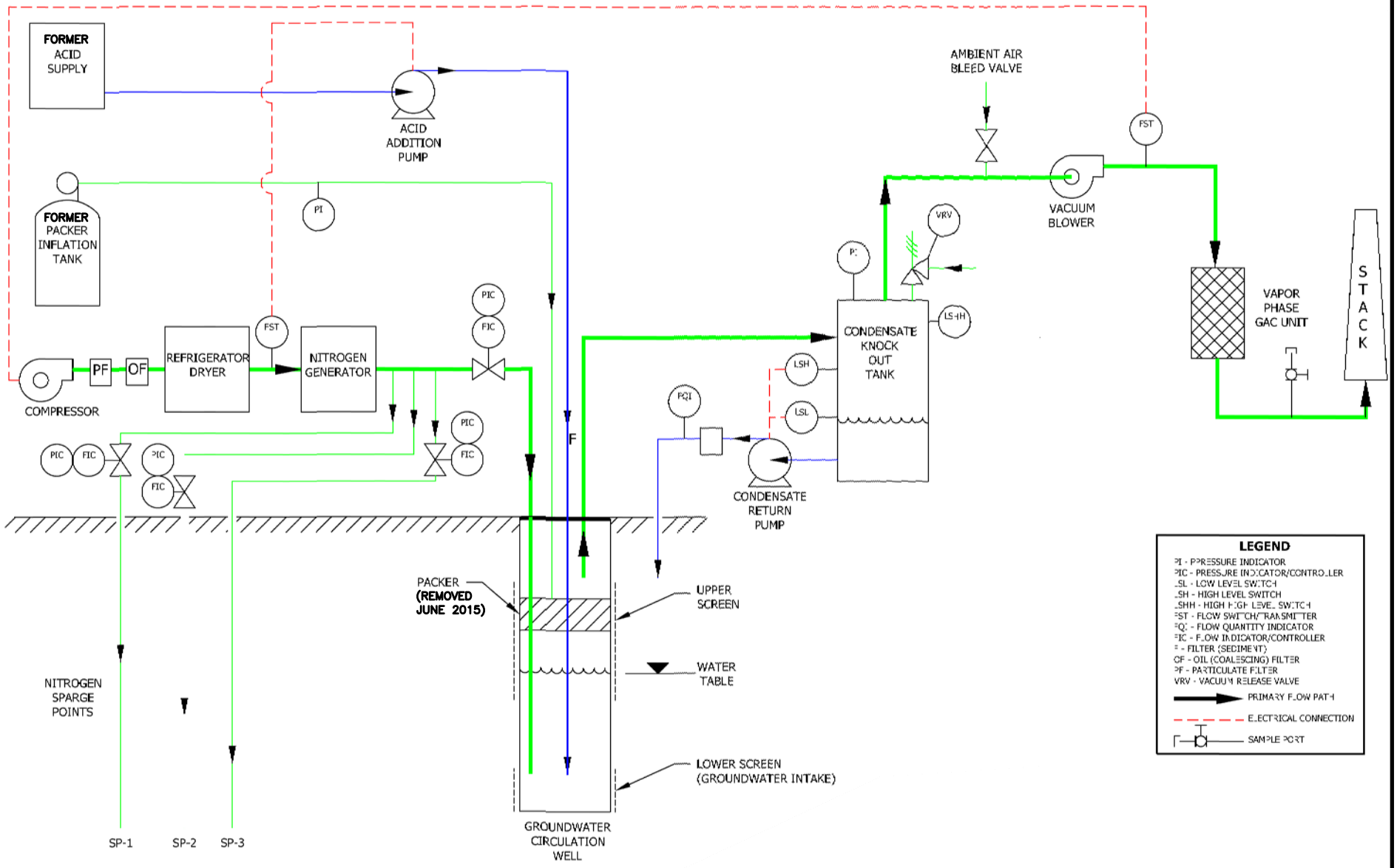

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CIRCUITRON CORPORATION SITE
EAST FARMINGDALE, NEW YORK

PROCESS AND INSTRUMENTATION DIAGRAM
PILOT SOURCE TREATMENT SYSTEM

FIGURE 3-2

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approximately 7 feet from the PSTS well, since these points are clogged. The soil vapor probes are constructed to depths of either 12 feet bgs or 22 feet bgs and are designated by the suffixes "S" for shallow and "D" for deep. The location of the PSTS and soil vapor probes are presented on Figure 1-2.

Prior to performing the evaluation activities, the inflatable packer assembly in the PSTS well was removed to enhance testing activities by further influencing soils directly above the groundwater interface. Additionally, the passive air inlet wells situated along the southernmost boundary of the Site, were capped to minimize short circuiting during the evaluation activities.

As part of the July 2015 test, a vapor-phase discharge sample was collected and analyzed for VOCs via USEPA Method TO-15 at the SVE system discharge to determine requirements for exhaust gas treatment based on contaminant loading rates observed during the testing. A vapor-phase discharge sample was not collected during the October 2015 test; however, PID readings were recorded to collect relative VOC concentration data at the various flow rates.

3.2 AS System Evaluation

3.2.1 AS System Evaluation Objectives

The objectives of the AS system evaluation were to:

- Determine if the existing air sparge system can be modified to address residual shallow groundwater impacts at the Site
- Determine wellhead sparging pressure required to evacuate the water column and distribute air within the saturate zone
- Gather data to assist in the selection and design of additional air sparge points

3.2.2 AS System Equipment

D&B and CGE used a combination of newly installed and portable equipment to complete the AS system evaluation. This included a portable rotary vane compressor and a newly installed AS well (AS-1). Specifications of the existing AS system components associated with the PSTS as well as the portable equipment used during this evaluation are listed below. Specifications of the newly installed AS well are discussed in Section 3.2.3.

- In-Well Vapor Stripper: Three quarter inch diameter Schedule 40 PVC nitrogen injection line connected to a 2-inch diameter Schedule 40 PVC 10 slot (0.010 inch) diffuser screens (24 inches in length), positioned from 46 to 48 feet bgs.
- Air Injection Compressor: Quincy QR-25 (5 horse power), Model No. F325 (Feeds compressed air to the nitrogen generator).
- Nitrogen Generator: On-Site Gas Systems, Inc. Model No. NM-25M (Membrane Type).
- Packer System: 14-inch Fixed-end Inflatable Packer, with rubber bladder, set approximately 24 inches above the water table (25 feet bgs).
- N2 Injection Flow Rate and Pressure (average): N2 injection flow rate = 1-3 SCFM to the IVS, 0.3 - 0.5 SCFM to each sparge point. N2 injection pressure = 14.5 psi to IVS, 40 psi to each sparge point.
- PSTS Well: 12¼-inch diameter boring, 70 feet total depth, 6-inch diameter Schedule 40 PVC screen and riser, Upper Screened Interval = Johnson 20-slot screen positioned 15-35 feet bgs, Lower Screened Interval = Standard 20-slot screen 50-60 feet bgs and Johnson 20-slot screen 60-70 feet bgs.
- Portable Compressor (pressure): Gast Manufacturing Inc. rotary vane compressor (1.5 horse power), Model No. 7Z783.

Figure 3-1 presents a schematic of the PSTS and Figure 3-2 presents a process and instrumentation diagram for the system.

3.2.3 Air Sparge Pilot Well Installation

One shallow air sparge well (AS-1S) was installed at the Site to determine wellhead sparging pressures required to evacuate the water column and distribute air within the saturated zone. Air sparge well AS-1S was installed approximately four feet west of the PSTS well as presented on Figure 1-2.

AS-1S was installed in an 8-inch diameter borehole, which was completed to a depth of approximately 48 feet bgs using hollow stem auger drilling techniques. The well was constructed using 45 feet of 2-inch diameter Schedule 40 PVC well riser from the ground surface to 45 feet bgs and 2 feet of 2-inch diameter 0.020-inch slot well screen from 45 feet bgs to 47 feet bgs. A sand pack was placed in the annulus between the borehole base and wall and the well screen to a depth of approximately 42 feet bgs. A bentonite seal was placed above the sand pack to a depth of approximately 40 feet bgs. A cement/bentonite grout was placed using a tremie pipe between the well casing and formation above the bentonite seal of the well. A lockable expansion cap was installed on the well riser and flush-to-grade protective steel casing was installed around the riser pipe in concrete surface pad. A well construction log is presented in Appendix C.

3.2.4 AS System Evaluation Methodology

Following installation of AS-1S, the portable rotary vane compressor was connected to the well using a flexible coupling. A step test was conducted using the compressor to supply air to the well at various flow rates (5 SCFM, 10 SCFM, and 15 SCFM) and operating pressures. The purpose of the test was to determine if the existing AS system could be modified to address residual shallow groundwater impacts; determine wellhead sparging pressure required to evacuate the water column and distribute air within the saturate zone; and, gather data to assist in the selection and design of additional air sparge points.

Prior to conducting the test, subsurface pressure measurements, dissolved oxygen readings, total organic vapor readings and groundwater elevations were collected from five

existing monitoring wells (MW-4S, GCW-SPY-S, GW-SE07S, GW-SE15S and GW-SE30S) at the Site. These wells were also used as monitoring points during the test to collect periodic pressure influence and total organic vapor readings. Pressure measurement, dissolved oxygen readings, total organic vapor readings and groundwater elevations were also recorded from the wells prior to adjusting the air flow rates. The well locations are presented on Figure 1-2.

The AS evaluation activities were conducted over a period of two days using the various flow rates described above. The existing SVE system was also operated, as needed, throughout the performance of the evaluation to capture potential off-gassing resulting from the stripping/volatilization process. The compressor was operated at each flow rate for approximately two hours.

A vapor sample was collected and analyzed for VOCs via EPA Method TO-15 at the SVE system discharge to determine requirements for exhaust gas treatment based on contaminant loading rates observed during the testing. Prior to the collection of the vapor sample, the SVE system was turned on and operated at a flow rate of approximately 500 SCFM for 15 minutes. The vapor sample was than collected with both the SVE and AS blowers activated.

4.0 SUMMARY OF FINDINGS

The following summarizes the findings of the soil sampling and remedial system evaluation activities recently completed at the Circuitron Corporation Site.

4.1 Soil Borings

As outlined in Section 2.1, a total of five soil borings (CCSB-01, CCSB-02, CCSB-03, CCSB-04, and CCSB-05) were advanced in the vicinity of former storm drains SD2 and SD3 using direct-push drilling techniques to further define subsurface conditions at the Site. A total of five soil samples were collected for VOC analysis as part of this program. Tabulated analytical results for the soil samples are provided in Appendix D. The soil sample results are compared to NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted Use (UU) and Commercial Use (CU). Soil boring locations are shown on Figure 1-2

Consistent with previous investigations, subsurface soil encountered at the Site during this investigation generally consisted of tan to brown fine to coarse sand, with varying amounts of fine to coarse gravel. Evidence of contamination, including elevated PID readings, staining and odors were not identified at any of the soil boring locations.

1,1,1-Trichloroethane was the only constituent detected at a concentration above NYSDEC UU SCOs. 1,1,1-Trichloroethane was detected in CCSB-01 (26-28 ft. bgs) at a concentration of 140,000 µg/kg, which exceeds its UU-SCO of 680 µg/kg. No other VOCs were detected above their respective NYSDEC SCOs. CCSB-01 was advanced approximately 4 feet west of the PSTS well. Analytical results from CCSB-01 are consistent with previous soil sampling events which identified 1,1,1-Trichloroethane at concentrations ranging from 105 µg/kg to 153,000 µg/kg at depths of 26 to 27 ft. bgs in the area south of the PSTS well.

4.2 SVE System Evaluation

As detailed in Section 3.1, the SVE component of the existing PSTS was used to complete the SVE system evaluation. The objectives of the SVE system evaluation were to define air flow patterns in subsurface soil, including areas of potential short circuiting; and, to estimate the ROI from the existing PSTS well. The existing PSTS well and equipment were used to induce a series of air flow rates (i.e., 100 SCFM, 250 SCFM, and 500 SCFM) and operating vacuums on the subsurface soil.

Vacuum response measurements were collected at 15 minute intervals throughout the SVE system evaluation from the six permanent soil vapor probes (SV-SE15S, SV-SE15D, SV-N30S, SV-N30D, SV-N45S and SV-N45D), which range in distance from approximately 15 to 45 feet away from the PSTS. Consistent with the PSTS design, a vacuum response reading greater than -0.1 inches of water column was selected as the minimum value necessary to demonstrate a response from the air flow and vacuum at the PSTS well. A summary of the vacuum response readings collected from the soil vapor probes during the evaluation, corresponding to various air flow rates and vacuum applied at the wellhead is provided as Table 4-1.

A vacuum response greater than -0.1 inches of water column was observed in all six soil vapor probes during each test, with the exception of soil vapor probes N45S and N45D during the 100 SCFM test, where vacuum responses of -0.07 and -0.08 inches of water column, respectively, were observed. Generally, vacuum responses in all the soil vapor probes increased with each corresponding flow rate increase at the wellhead.

At the shallow soil vapor probes, vacuum responses ranged from a minimum of -0.07 inches of water column at N45S (100 SCFM) to a maximum of -0.61 inches of water column at SE15S (500 SCFM). At the deep soil vapor probes, vacuum responses ranged from a minimum of -0.08 inches of water column at N45D (100 SCFM) to a maximum of -0.86 inches of water column at SE15D (500 SCFM). The highest vacuum response readings were observed in the soil vapor probes closest to the PSTS.

TABLE 4-1
CIRCUITRON CORPORATION SITE
REMEDIAL SYSTEM EVALUATION REPORT
SVE EVALUATION READINGS
OCTOBER 2015

	Soil Vapor Probe ID	SE15S	SE15D	N30S	N30D	N45S	N45D	
	Total Depth (ft bgs)	12	22	12	22	12	22	
	Radial Distance from PSTS Well	14' 8"	14' 9"	29' 10"	29' 6"	44' 9"	44' 11"	
Time	Applied System Flow at PSTS Well (SCFM/in. H_2O)	Vacuum Reading (in. H_2O)						Comments
Initial	0/0	0.00	0.00	0.00	0.00	0.00	0.00	PID 0.0 ppm
9:30 AM	100/5	-0.18	-0.25	-0.11	-0.17	-0.08	-0.09	
9:45 AM	100/5	-0.18	-0.24	-0.10	-0.16	-0.07	-0.08	
10:00 AM	100/5	-0.18	-0.24	-0.11	-0.15	-0.08	-0.09	PID 1.5 ppm
10:15 AM	100/5	-0.18	-0.24	-0.12	-0.17	-0.08	-0.09	
10:40 AM	250/8	-0.37	-0.53	-0.27	-0.31	-0.17	-0.22	PID 3.5 ppm
10:55 AM	250/8	-0.39	-0.51	-0.24	-0.32	-0.16	-0.23	
11:10 AM	250/8	-0.38	-0.55	-0.25	-0.35	-0.17	-0.20	
11:25 AM	250/8.5	-0.39	-0.55	-0.25	-0.35	-0.18	-0.22	
11:40 AM	250/8	-0.39	-0.54	-0.26	-0.36	-0.19	-0.23	PID 4.5 ppm
12:00 PM	500/14	-0.60	-0.83	-0.38	-0.52	-0.29	-0.33	
12:15 PM	500/14	-0.60	-0.85	-0.38	-0.50	-0.30	-0.34	PID 0.0 ppm
12:30 PM	500/14	-0.60	-0.84	-0.39	-0.51	-0.28	-0.34	
12:45 PM	500/14	-0.60	-0.86	-0.40	-0.55	-0.28	-0.36	
1:00 PM	500/14	-0.61	-0.85	-0.39	-0.56	-0.28	-0.36	PID 0.0 ppm

Notes

ID: Identification
ft bgs: Feet below ground surface
PSTS: Pilot Source Treatment System
SCFM: Standard cubic feet per minute
in. H_20: Inches of water
PID: Photoionization detector
ppm: Parts per million

In general, air flow rates and vacuum responses remained relatively constant at the PSTS well during each step of the evaluation. At the soil vapor probes, the vacuum response measurements show the most even distribution of vacuum at 250 SCFM in the shallow and deep zones. Vacuum response measurements increased by more than 50 percent in all six soil vapor probes with the increase in air flow from 100 SCFM to 250 SCFM at the PSTS well. Vacuum response measurements increased by more than 30 percent in all six soil vapor probes with the increase in air flow from 250 SCFM to 500 SCFM at the PSTS well.

The ROI for each flow rate was calculated by plotting the measured vacuum response in each soil vapor probe and the distance from the PSTS well to the soil vapor probes on a semi-log graph. The distance from the PSTS well to the soil vapor probes was placed on the logarithmic scale and the measured vacuum response was placed on the arithmetic scale for each flow rate. A best-fit line was placed on each graph. The distance where the vacuum response was -0.1 inches of water was considered to be within the zone of influence. ROI graphs are presented as Appendix E

Based on the test data, the approximate ROI for the shallow soil vapor probes was 38 feet for the 100 SCFM test, 73 feet for the 250 SCFM test, and 80 feet for the 500 SCFM test. The approximate ROI for the deep soil vapor probes was 45 feet for the 100 SCFM test, 73 feet for the 250 SCFM test, and 82 feet for the 500 CFM test.

The analytical results from the vapor sample collected at the conclusion of the test indicated concentrations of total volatile organic compounds (TVOCs) were 3,949.8 µg/m^3. This is the highest concentration detected at the SVE system effluent since site management activities were transferred to NYSDEC in 2011. Based on an average air discharge flow rate of 505 SCFM while the PSTS is operating and the TVOC concentration detected in the vapor sample collected during the test, the TVOC discharge rate would be approximately 0.0075 lbs/hr, which is below the site-specific effluent limit of 0.5 lbs/hr. As such, no treatment would be required prior to discharge. It should be noted that the system includes a series of vapor phase adsorption vessels that are currently bypassed based on historically low contaminant concentrations detected

in the extracted soil vapor. These vessels can be put back online in the event that contaminant concentrations within the extracted soil vapor exceed the site-specific effluent limit of 0.5 lbs/hr. A summary of the vapor discharge results is provided as Appendix D.

4.3 AS System Evaluation

A step test was conducted at AS-1 using various flow rates (5 SCFM, 10 SCFM, and 15 SCFM) and operating pressures. Pressure and flow readings were measured at AS-1 during the test to determine air-entry pressures, well capacity, approximate AS ROI, and general system requirements. A breaking pressure of 7 pounds per square inch (psi) and running pressures of 5 to 5.25 psi were observed at AS-1S at all three air flow rates.

Supplemental measurements including subsurface pressure, dissolved oxygen readings, total organic vapor and groundwater elevations were collected during the test from five existing monitoring wells (MW-4S, GCW-SPY-S, GW-SE07S, GW-SE15S and GW-SE30S). These measurements were collected to assist in evaluating the AS ROI as well as the potential for volatilization of contaminants. It should be noted that these measurements are typically not definitive given the numerous conditions (e.g., monitoring point construction, air channel position, equipment sensitivity, length of test, etc.) affecting the measurements, and therefore, should not be solely relied on to evaluate the test results. Rather, this information should be used, where possible, to refine the ROI estimates developed from the observed running pressures and site geology.

During the test, dissolved oxygen and groundwater elevations varied slightly. However, no significant changes were observed in any of the field measurements collected from the monitoring wells. Table 4-2 presents a summary of the readings collected during the test.

The analytical results from the vapor sample collected at the conclusion of the test indicated concentrations of TVOCs were 4,041.5 $\mu g/m^3$. This concentration is slightly higher than the TVOC concentration detected in the vapor sample collected during the SVE test. The

TABLE 4-2
CIRCUITRON CORPORATION SITE
REMEDIAL SYSTEM EVALUATION REPORT
AIR SPARGE EVALUATION READINGS
JULY 2015

	Monitoring Well ID	MW-4S				SPY-S				GW-SE-07S				GW-SE-15S				GW-SE-30S				
	Screen Depth (ft bgs)	25-35				25-30				30-35				30-35				30-35				
	Radial Distance from PSTS Well (ft)	7.19				5.04				13.18				16.66				36.17				
Time	Applied System Flow at AS-1 (SCFM/PSI)	DTW (ft bgs)	DO (mg/L)	PID (ppm)	Pressure (in. H2O)	DTW (ft bgs)	DO (mg/L)	PID (ppm)	Pressure (in. H2O)	DTW (ft bgs)	DO (mg/L)	PID (ppm)	Pressure (in. H2O)	DTW (ft bgs)	DO (mg/L)	PID (ppm)	Pressure (in. H2O)	DTW (ft bgs)	DO (mg/L)	PID (ppm)	Pressure (in. H2O)	Comments
Initial 7/8/15	0/0	28.44	0.65	0.00	0.00	28.08	0.60	0.00	0.00	29.21	0.58	0.00	0.00	29.25	0.56	0.00	0.00	29.21	1.02	0.00	0.00	
10:30 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
10:45 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
11:00 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
11:15 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
11:30 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Breaking pressure 7 psi
11:45 AM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Running pressure 5 psi
12:00 PM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
12:15 PM	5/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
12:30 PM	5/5	28.44	4.18	0.0	0.0	28.07	0.65	0.0	0.0	29.21	1.15	0.0	0.0	29.25	0.63	0.0	0.0	29.21	0.70	0.0	0.0	
1:30 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
1:45 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
2:00 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
2:15 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
2:30 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Breaking pressure 7 psi
2:45 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Running pressure 5 psi
3:00 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
3:15 PM	10/5	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
3:30 PM	10/5	28.48	2.05	0.0	0.0	28.08	2.27	0.0	0.0	29.21	1.62	0.0	0.0	29.26	0.68	0.0	0.0	29.22	2.39	0.0	0.0	
Initial 7/9/15	0/0	28.49	0.72	0.0	0.0	28.09	0.65	0.0	0.0	29.24	0.63	0.0	0.0	29.26	0.61	0.0	0.0	29.25	1.10	0.0	0.0	
8:15 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
8:30 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
8:45 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
9:00 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Breaking pressure 7 psi
9:15 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	Running pressure 5.25
9:30 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	psi
9:45 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
10:00 AM	15/5.25	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	NM	NM	0.0	0.0	
10:15 AM	15/5.25	28.50	1.02	0.0	0.0	28.10	0.88	0.0	0.0	29.24	1.40	0.0	0.0	29.26	0.63	0.0	0.0	29.25	0.93	0.0	0.0	

Notes

ID: Identification
NM: Not measured
ft bgs: Feet below ground surface
PSTS: Pilot Source Treatment System
SCFM: Standard cubic feet per minute
PSI: Pounds per square inch
in. H2O: Inches of water
mg/L: milligram per liter
ppm: Parts per million

TVOC concentrations detected in the SVE and AS test vapor samples are the highest concentrations detected at the SVE system effluent since site management activities were transferred to NYSDEC in 2011. However, both concentrations are well below the site-specific TVOC discharge limit of 0.5 lbs/hr based on an average system operating air flow rate of 505 SCFM. As such, no treatment would be required prior to discharge. A summary of the vapor discharge results is provided as Appendix D.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Soil sampling and remedial system evaluation activities were recently completed at the Site to collect additional data needed to support the on-going RSO efforts associated with the PSTS. The scope of work included advancement of five soil borings in the vicinity of former storm drains SD2 and SD3 to further define subsurface conditions at the Site as well as SVE and AS system evaluations to collect data necessary to optimize performance of the existing PSTS.

5.1 Conclusions

The following conclusions are based on the findings of this investigation/evaluation as well as a review of historic data obtained during prior studies at the Site.

- **Soil Borings:** Analytical results from the soil boring program did not identify new or unknown contaminant concentrations in the vicinity of former storm drains SD2 and SD3. 1,1,1-Trichloroethane was the only VOC detected at a concentration in excess of its NYSDEC UU-SCO. 1,1,1-Trichloroethane was detected in CCSB-01 (26 to 28 ft. bgs) at a concentration of 140,000 µg/kg. CCSB-01 was advanced approximately 4 feet west of the PSTS well. Analytical results from CCSB-01 are consistent with previous soil sampling events which identified 1,1,1-Trichloroethane at concentrations ranging from 105 µg/kg to 153,000 µg/kg at depths of 26 to 27 ft. bgs in the area south of the PSTS well. Data from this most recent soil boring program and prior studies are sufficient to define the area of residual contamination requiring further treatment.
- **SVE System Evaluation:** Vacuum responses greater than -0.1 inches of water column were observed in all six soil vapor probes during each test (i.e., 100 SCFM, 250 SCFM, and 500 SCFM), with the exception of soil vapor probes N45S and N45D during the 100 SCFM test, where vacuum responses of -0.07 and -0.08 inches of water column, respectively, were observed. Air flow rates and vacuum responses remained relatively constant at the PSTS well during each step of the evaluation. At the soil vapor probes, the vacuum response measurements show the most even distribution of vacuum at 250 SCFM in the shallow and deep zones.

  The approximate ROIs for the shallow soil vapor probes were 38 feet (100 SCFM), 73 feet (250 SCFM), and 80 feet (500 SCFM). The approximate ROIs for the deep soil vapor probes were 45 feet (100 SCFM), 73 feet (250 SCFM), and 82 feet (500 SCFM).

  The highest TVOC concentrations since site management activities were transferred to NYSDEC in 2011 were detected in the vapor samples collected from the SVE system effluent at the conclusion of the July 2015 test. This is likely attributable to

operation of the SVE system without the inflatable packer assembly in-place and enhanced SVE influence in the soils directly above the groundwater interface.

The above results suggest that it may be possible to operate the SVE system at an air flow rate of 250 SCFM, which is significantly less than the current PSTS average operating air flow rate of 505 SCFM, and achieve a similar ROI given that there were only marginal increases in vacuum response and ROIs observed during the 500 SCFM test. As shown on Figure 5-1 the 73-foot ROI achieved at an operating flow rate of 250 SCFM will be sufficient to influence areas of vadose zone soils exhibiting VOC concentrations in excess of NYSDEC UU-SCOs identified during the soil boring program. In addition, as shown on Figure 5-1 a 73-foot ROI will be sufficient to fully encompass areas of AS system influence. Additionally, the highest instantaneous total organic vapor reading of the test was observed at 250 SCFM, suggesting a possible dilution or short-circuiting at higher flow rates. Data from the SVE system evaluation are sufficient to define subsurface air flow patterns and estimate the ROI from the existing PSTS well.

AS System Evaluation: A breaking pressure of 7 psi and running pressures of 5 to 5.25 psi were observed at AS-1S at all three air flow rates. During the test, dissolved oxygen and groundwater elevations varied slightly in the surrounding monitoring wells; however, no significant changes were observed in any of the field measurements collected and therefore the results of the test were inconclusive. As discussed in Section 4.0, these measurements are not typically relied upon individually to evaluate AS test results due to the numerous conditions (e.g., monitoring point construction, air channel position, equipment sensitivity, length of test, etc.) affecting the readings. Accordingly, the lack variation observed in the readings is not indicative of limited influence during the AS test. Analysis of the observed running pressures at the various flow rates and soil boring logs indicates that the geology at the Site is amenable to air sparging. Based on the relatively coarse-grained material (i.e. sand and gravel) and observed running pressures during the AS test, a ROI of approximately 10 feet can be conservatively estimated at a flow rate of 15 SCFM. Data from the AS system evaluation and periodic groundwater sampling results provided the information necessary to determine if the existing air sparge system can be modified to address residual shallow groundwater impacts, determine wellhead sparging pressure; and, select and design additional air sparge points.

Note that based on the Site Transfer Agreement between the USEPA and NYSDEC dated February 2011, it was anticipated that the ROD RAOs would be achieved within a short timeframe (12-month period) upon the NYSDEC acquiring the Site utilizing the existing PSTS. However, the operational and performance data collected to date have demonstrated that the PSTS as currently configured has not met intended remedial objectives in a timely and cost-

MILBAR BLVD

SITE ENTRANCE

SD–1

CB–1

CB–2

GENMECH AEROSPACE CORP. PROPERTY

CIRCUITRON SITE

FORMER BUILDING LOCATION

SV–N45S/D

GW–N45

CCSB–05

SV–N30S/D

SD–2

ABOVE GROUND TREATMENT TRAILER FOR THE GCW/IVS/SVE & AS PILOT SYSTEM

SV–N07

GW–N15

GW–N07

GCW/IVS/SVE WELL & SPY–S (7.8 ug/L) & SPY–D

CCSB–01/AS–01S (140,000 ug/kg 26'–28')

CCSB–02 (30 ug/kg 26'–28')

CCSB–03

SV–SE07

SV–N15S/D

GW–SW45

GW–SW30

GW–SE30

GW–SE15

GW–SE07 (14 ug/L)

MW–4D

CCSB–04 (62 ug/kg 23'–25')

MW–4S (6.3 ug/L)

MID–ISLAND BINDERY INC. PROPERTY

LEGEND

- STORM DRAINS
- MONITORING WELL (1,1,1–TCA CONCENTRATION 6/2015)
- GW MONITORING WELL CLUSTER (SHALLOW WELL 1,1,1–TCA CONCENTRATION 6/2015)
- GCW/IVS/SVE WELL + SPY–S & SPY–D MONITOR WELLS
- PROPOSED AIR SPARGE WELL
- SOIL BORING LOCATION (1,1,1–TCA CONCENTRATION IN SOIL 6/2015)
- SOIL BORING/AIR SPARGE WELL (1,1,1–TCA CONCENTRATION IN SOIL 6/2015)
- ESTIMATED SVE ROI
- ESTIMATED AS ROI
- SITE BOUNDARY
- CHAINLINK FENCE
- SOIL VAPOR PROBE

NOTE

SOIL VAPOR PROBE AND SOIL BORING LOCATIONS ARE APPROXIMATE.

1"=30'–0"

30 15 0 30'

D&B ENGINEERS AND ARCHITECTS, P.C.

CIRCUITRON CORPORATION SITE
EAST FARMINGDALE, NEW YORK

REVISED SVE/AS SYSTEM LAYOUT

FIGURE 5-1

F:\3150-11C\DWGS\3150-FIG 1 PROPOSED BORING LOCATIONS-AS-ROI AND SVE ROI.dwg, 11/30/2015 3:03:40 PM, Adobe PDF.pc3

effective manner. Specifically, chlorinated VOCS within on-site groundwater continue to exceed site-specific RAOs and are indicative of asymptotic conditions based on the results of routine groundwater sampling conducted at the Site. Furthermore, the results of soil borings advanced as part of recent assessment activities at the Site have also documented residual source contamination to exist within the southwestern sector of the Site.

5.2 Recommendations

Based on the results of the soil boring program, the SVE and AS evaluations, and historical data, the following is recommended for the Site:

- **SVE System:** The existing SVE component of the PSTS well should be operated with the inflatable packer assembly removed at 250 SCFM to maintain an approximate 73-foot ROI. As shown on Figure 5-1 the 73-foot ROI achieved at an operating flow rate of 250 SCFM will be sufficient to influence areas of vadose zone soils exhibiting VOC concentrations in excess of NYSDEC UU-SCOs identified during the soil boring program. Additionally, as shown on Figure 5-1 a 73-foot ROI will be sufficient to fully encompass areas of AS system influence.

- **AS System:** Two additional air sparge wells should be installed at the locations shown on Figure 5-1. For reference purposes Figure 5-1 includes the most recent results of periodic groundwater sampling conducted at the site on June 9 and 10, 2015 for 1,1,1-Trichloroethane. AS-1 and the newly proposed air sparge wells should be used to inject air into the subsurface at depths ranging from approximately 45 to 47 ft. bgs to address the identified residual shallow groundwater impacts. The sparge points should be operated at 15 SCFM to maintain an estimated 10-foot ROI surrounding each injection point. As discussed above, the revised AS/SVE layout would allow for adequate overlapping of injection and vacuum extraction points, minimizing the possibility of fugitive vapor migration. The estimated ROIs for the revised system are depicted in Figure 5-1. Additionally, the system should be modified to "pulse" in order to optimize system performance.

  As part of the recommended AS/SVE system layout, use of the IVS component of the PSTS would be discontinued. As such, equipment associated with the IVS component including the existing reciprocating compressor, refrigerator dryer and nitrogen generator should be removed from the Site. It is recommended that a new rotary vane compressor and associated equipment (i.e., heat exchanger, manifold, etc.) be installed to deliver air to the subsurface. Underground piping should be added, as necessary, to connect AS-1 and the newly installed air sparge wells to the new AS equipment. As part of this effort, two additional underground piping runs should be added and capped to accommodate future air sparge points, if needed.

Given the above, for budgetary purposes, it is estimated that the cost for construction of the proposed system modifications will range from $80,000 to $100,000. Annual operating costs are estimated to increase by approximately $20,000 per year based on the following assumptions:

- Collection of additional groundwater samples from on-site/off-site groundwater monitoring wells prior to system startup, on a monthly basis for three (3) months thereafter, which will then be reduced to a quarterly basis during the remainder of system operation. The samples will be collected from five (5) select shallow monitoring wells (SPY-S, MW-4S, MW-13, GW-SE07, and GW-SE30) to further evaluate the performance of the remedial system modifications; and

- Electrical utility costs associated with operation of the AS compressor installed as part of the recommendations above are estimated to increase approximately $500/month ($6,000 per year).

The proposed system modifications will be configured to promote optimal performance, as well as long-term efficiency and reliability in an effort to reduce future site management cost. The remedial timeframe for implementation of the proposed system modifications is estimated to take approximately 3 to 6 months. Additionally, based on our current understanding of the Site and implementation of similar remedial technologies at sites with similar contaminants of concern and geology, it is estimated that site-specific RAOs could possibly be achieved within a 24-month to 36-month timeframe upon successful completion of the recommended SVE/AS system enhancements. It should be noted, however, that this estimate does not take into account the potential for additional source areas that may be present at the Site.

As referenced in Section 5.1 of this report, the existing PSTS has not been effective in achieving site-specific RAOs within originally anticipated timeframes. Furthermore, based on recent sampling results, it has also had nominal impact in addressing areas of source contamination found to exist within the southwestern sector of the Site. The system modifications proposed above are intended to aggressively target residual source area and groundwater contamination with the goal of attaining site-specific goals within a reasonable timeframe and in a cost-effective manner.

Based on the above conclusions and recommendations it will be beneficial and cost effective to modify the existing system as recommended since the system as configured has not been effective in achieving the Site-specific RAOs. We believe that the costs associated with the capital and operational implementation of this system modification will be offset when compared to the operation of the current system. These modifications are estimated to shorten the timeframe for active remediation to within three years of implementation compared to operating the current system.

APPENDIX A

SOIL BORING LOGS

D&B ENGINEERS AND ARCHITECTS, P.C.

Project No.: 3150-11
Project Name: Circuitron Corp.

Boring No.: CCSB-01
Sheet 1 **of** 1
By: Carl Schmidlapp

Drilling Contractor: Clean Globe Environmental
Drill Rig: Geoprobe 7720DT
Date Started: 6/2/15

Geologist: Carl Schmidlapp
Drilling Method: Macrocore
Drive Hammer Weight: N/A
Date Completed: 6/2/15

Boring Completion Depth: 35'
Ground Surface Elevation: ---
Boring Diameter: 2"

Depth (ft.)	No.	Type	Rec.	PID (ppm)	Sample Description
0'-5'	1	HA	60"	0.0	0-2": Dark Brown SAND, grass, roots and organic matter.
				0.0	2"-27": Tan to Brown medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
				0.0	27"-60": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
5'-10'	2	MC	12"	0.0	0-12": Tan medium to coarse SAND, some subrounded gravel, loose, poorly sorted, dry, no odor, no staining.
10'-15'	3	MC	4"	0.0	0-2": Gray soft CLAY, moist to damp, slightly plastic, no odor, no staining.
				0.0	2"-4": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
15'- 20'	4	MC	24"	0.0	0-12": Brown to Tan medium to coarse SAND, some subrounded gravel, loose, poorly sorted, dry, no odor, no staining.
				0.0	12"-24": Gray to Brown coarse SAND and coarse gravel, poorly sorted, loose, dry, no odor, no staining.
20'-25'	5	MC	19"	0.0	0-6"": Gray to Brown coarse SAND and some coarse gravel, subrounded, loose, no odor, no staining.
				0.0	6"-12": Brown to Tan medium to coarse SAND, little to trace subrounded gravel, loose, no odor, no staining.
				0.0	12"-19": Gray medium to coarse SAND, some subrounded gravel, damp to moist, no odor, no staining.
25'-30'	6	MC	16"	0.0	0-5": Gray to Tan medium to coarse SAND, some subrounded gravel, loose, moist, no odor, no staining.
				0.0	5"-10": Tan medium to coarse SAND, trace subrounded gravel, loose, moist, no odor, no staining.
				0.0	10"-16": Gray to Tan medium to coarse SAND, some subangular gravel, loose, poorly sorted, moist, no odor, no staining.
30'-35'	7	MC	18"	0.0	0-6": Gray to Tan medium to coarse SAND, little gravel poorly sorted, loose, moist, no odor, no staining.
				0.0	6"-16": Gray to Tan medium to coarse SAND, some gravel, poorly sorted, loose, moist, no odor, no staining.
				0.0	16"-18": Brown to Tan medium to coarse SAND, some gravel, poorly sorted, loose, moist, no odor, no staining.

Sample Types:
HA = Hand Auger
MC = Macrocore

NOTES:
Soil sample CCSB-01 (26'-28') submitted for TCL VOCs EPA Method 8260B analysis.
DTW: 27.80'

D&B Engineers and Architects, P.C.	**Project No.:** 3150-11 **Project Name:** Circuitron Corp.	**Boring No.:** CCSB-02 **Sheet** 1 **of** 1 **By:** Carl Schmidlapp
Drilling Contractor: Clean Globe Environmental **Drill Rig:** Geoprobe 7720DT **Date Started:** 6/2/15	**Geologist:** Carl Schmidlapp **Drilling Method:** Macrocore **Drive Hammer Weight:** N/A **Date Completed:** 6/2/15	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	No.	Type	Rec.	PID (ppm)	Sample Description
0'-5'	1	HA	60"	0.0	0-2": Dark Brown SAND, grass, roots and organic matter.
				0.0	2"-27": Tan medium to coarse SAND, cobbles, some subrounded gravel, poorly sorted, loose, dry, no odor, no staining.
				0.0	27"-60": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
5'-10'	2	MC	30"	0.0	0-30": Tan to light Brown coarse to medium SAND, some fine to coarse subrounded gravel, poorly sorted, loose, no odor, no staining.
10'-15'	3	MC	36"	0.0	0-7": Tan to light Brown coarse to medium SAND, some fine to coarse subrounded gravel, poorly sorted, loose, no odor, no staining.
				0.0	7"-11": Brown to Gray medium to coarse SAND, trace subrounded gravel, poorly sorted, loose dry, no odor, no staining.
				0.0	11"-36": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
15'- 20'	4	MC	21"	0.0	0-10": Tan to Brown medium to coarse SAND, trace subangular quartz gravel, poorly sorted, loose, dry, no odor, no staining.
				0.0	10"-21": Tan medium to coarse SAND, some subangular gravel, poorly sorted, loose, no odor, no staining.
20'-25'	5	MC	19"	0.0	0-9": Dark Brown to Tan medium to coarse SAND, trace subrounded gravel, poorly sorted, dry, no odor, no staining.
				0.0	9"-19": Tan medium to coarse SAND, trace subrounded gravel, poorly sorted, dry, no odor, no staining.
25'-30'	6	MC	13"	0.0	0-9": Brown medium to coarse SAND, trace subrounded gravel, poorly sorted, dry, no odor, no staining.
				0.0	9"-13": Tan medium to fine SAND, trace subangular gravel, poorly sorted, moist, no odor, no staining.
30'-35'	7	MC	9"	0.0	0-9": Tan medium to fine SAND, some subrounded gravel, poorly sorted, wet, no odor, no staining.

Sample Types:
HA = Hand Auger
MC = Macrocore

NOTES:
Soil sample CCSB-02 (26'-28') submitted for TCL VOCs EPA Method 8260B analysis.
DTW: 27.80'

D&B Engineers and Architects, P.C.	**Project No.:** 3150-11 **Project Name:** Circuitron Corp.	**Boring No.:** CCSB-03 **Sheet** 1 **of** 1 **By:** Carl Schmidlapp
Drilling Contractor: Clean Globe Environmental **Drill Rig:** Geoprobe 6610DT **Date Started:** 6/3/15	**Geologist:** Carl Schmidlapp **Drilling Method:** Macrocore **Drive Hammer Weight:** N/A **Date Completed:** 6/3/15	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	No.	Type	Rec.	PID (ppm)	Sample Description
0'-5'	1	HA	60"	0.0	0-2": Dark Brown SAND, grass, roots and organic matter.
				0.0	2"-27": Tan medium to coarse SAND, cobbles, some subrounded gravel, poorly sorted, loose, dry, no odor, no staining.
				0.0	27"-60": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no staining, no odors.
5'-10'	2	MC	38"	0.0	0-17": Dark Brown to Tan medium to coarse SAND, some subrounded gravel, loose dry, no odor, no staining.
				0.0	17"-38": Tan medium to coarse SAND, trace subrounded gravel, loose, dry, no odor, no staining.
10'-15'	3	MC	22"	0.0	0-22": Tan coarse to medium SAND, trace subrounded gravel, well sorted, dry, no odor, no staining.
15'- 20'	4	MC	26"	0.0	0-14": Tan medium to coarse SAND, some subrounded gravel, well sorted, dry, no odor, no staining.
				0.0	14"-26": Tan to light Tan medium to fine SAND, trace subrounded gravel, dry, no odor, no staining.
20'-25'	5	MC	8"	0.0	0-8": Tan fine to medium SAND, trace subrounded gravel, loose, dry, no odor, no staining.
25'-30'	6	MC	7"	0.0	0-7": Brown to light Brown medium to coarse SAND, some subrounded gravel, poorly sorted, moist, no odor, no staining.
30'-35'	7	MC	4"	0.0	0-4": Tan to light Brown medium to fine SAND, trace subrounded gravel, poorly sorted, moist, no odor, no staining.

Sample Types:
HA = Hand Auger
MC = Macrocore

NOTES:
Soil sample CCSB-03 (23'-25') submitted for TCL VOCs EPA Method 8260B analysis.
DTW: 27.80'

D&B Engineers and Architects, P.C.	**Project No.:** 3150-11 **Project Name:** Circuitron Corp.	**Boring No.:** CCSB-04 **Sheet** 1 **of** 1 **By:** Carl Schmidlapp
Drilling Contractor: Clean Globe Environmental **Drill Rig:** Geoprobe 6610DT **Date Started:** 6/3/15	**Geologist:** Carl Schmidlapp **Drilling Method:** Macrocore **Drive Hammer Weight:** N/A **Date Completed:** 6/3/15	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	No.	Type	Rec.	PID (ppm)	Sample Description
0'-5'	1	HA	60"	0.0 0.0 0.0	0-2": Dark Brown SAND, grass, roots and organic matter. 2"-27": Tan medium to coarse SAND, cobbles, some subrounded gravel, poorly sorted, loose, dry, no odor, no staining. 27"-60": Tan medium to coarse SAND, some subrounded gravel, loose, dry, no odor, no staining.
5'-10'	2	MC	18"	0.0	0-18": Tan to Brown medium to coarse SAND, trace organic matter, some subrounded gravel, poorly sorted, dry, no odor, no staining.
10'-15'	3	MC	16"	0.0	0-16": Tan to Brown fine to medium SAND, some subrounded gravel, poorly sorted, dry, no odor, no staining.
15'- 20'	4	MC	15"	0.0	0-15": Brown medium to fine SAND, trace subrounded gravel, poorly sorted, moist, no odor, no staining.
20'-25'	5	MC	11"	0.0	0-11": Tan to Brown medium to fine SAND, trace subrounded gravel, poorly sorted, moist, no odor, no staining.
25'-30'	6	MC	4"	0.0	0-4": Tan medium to fine SAND, trace subrounded gravel, poorly sorted, wet, no odor, no staining.
30'-35'	7	MC	4"	0.0	0-4": Tan medium to fine SAND, trace medium to coarse subrounded gravel, poorly sorted, wet, no odor, no staining.

Sample Types:
HA = Hand Auger
MC = Macrocore

NOTES:
Soil sample CCSB-04 (23'-25') submitted for TCL VOCs EPA Method 8260B analysis.
DTW: 27.80'

D&B ENGINEERS AND ARCHITECTS, P.C.	**Project No.:** 3150-11 **Project Name:** Circuitron Corp.	**Boring No.:** CCSB-05 **Sheet** 1 **of** 1 **By:** Carl Schmidlapp
Drilling Contractor: Clean Globe Environmental **Drill Rig:** Geoprobe 6610DT **Date Started:** 6/3/15	**Geologist:** Carl Schmidlapp **Drilling Method:** Macrocore **Drive Hammer Weight:** N/A **Date Completed:** 6/3/15	**Boring Completion Depth:** 35' **Ground Surface Elevation: ---** **Boring Diameter:** 2"

Depth (ft.)	No.	Type	Rec.	PID (ppm)	Sample Description
0'-5'	1	MC	26"	0.4	0-3": Fragmented asphalt.
				0.0	3"-7": Black to dark Brown asphalt fragments and RCA.
				0.0	7"-26": Tan medium to coarse SAND, some subrounded gravel, poorly sorted, moist, no odor, no staining.
5'-10'	2	MC	18"	0.0	0-4": Gray fine SAND AND CONCRETE.
				0.0	4"-18": Brown medium to coarse SAND, some subrounded gravel, poorly sorted, moist, no odor, no staining.
10'-15'	3	MC	28"	0.0	0-12": Tan to dark Tan medium to fine SAND, some subrounded gravel, moist, no odor, no staining.
				0.0	12"-22": Tan medium to fine SAND, some subrounded gravel, moist, no odor, no staining.
				0.0	22"-28": Tan medium to coarse SAND, some subrounded gravel, moist, no odor, no staining.
15'- 20'	4	MC	22"	0.0	0-15": Tan medium to fine SAND, some subrounded gravel, poorly sorted, moist, no odor, no staining.
				0.0	15"-22"": Tan medium to coarse SAND, some subrounded gravel, poorly sorted, moist, no odor, no staining.
20'-25'	5	MC	23"	0.0	0-6": Tan medium to fine SAND, trace subrounded gravel, well sorted, moist, no odor, no staining.
				0.0	6"-23": Tan medium to coarse SAND, some subrounded gravel and quartz fragments, poorly sorted, moist, no odor, no staining.
25'-30'	6	MC	6"	0.0	0-6": Tan medium to coarse SAND, trace subrounded gravel, moist, no odor, no staining.
30'-35'	7	MC	4"	0.0	0-4": Tan medium to coarse SAND, trace subrounded gravel, wet, no odor, no staining.

Sample Types:
HA = Hand Auger
MC = Macrocore

NOTES:
Soil sample CCSB-05 (23'-25') submitted for TCL VOCs EPA Method 8260B analysis.
DTW: 27.80'

APPENDIX B

ANALYTICAL LABORATORY REPORTS

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 17, 2015

Robbin Petrella
Dvirka And Bartilucci
330 Crossways Park Drive
Woodbury, NY 11797-2015

Project Location: Farmingdale, NY
Client Job Number:
Project Number: 3150-11
Laboratory Work Order Number: 15G0548

Enclosed are results of analyses for samples received by the laboratory on July 13, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

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con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Dvirka And Bartilucci
330 Crossways Park Drive
Woodbury, NY 11797-2015
ATTN: Robbin Petrella

REPORT DATE: 7/17/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 3150-11

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15G0548

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Farmingdale, NY

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SVE-Effluent	15G0548-01	Air		EPA TO-15	
IVS/AS & SVE-Effluent	15G0548-02	Air		EPA TO-15	

con-test® ANALYTICAL LABORATORY
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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

L-01

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene
B126394-BS1

Chloroethane
B126394-BS1

Isopropanol
B126394-BS1

L-05

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone
15G0548-01[SVE-Effluent], 15G0548-02[IVS/AS & SVE-Effluent], B126394-BS1

Ethanol
15G0548-01[SVE-Effluent], B126394-BS1

V-06

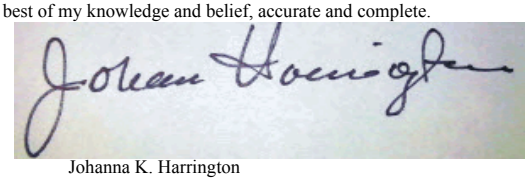
Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Acetone
15G0548-01[SVE-Effluent], 15G0548-02[IVS/AS & SVE-Effluent], B126394-BS1, S008988-CCV1

Isopropanol
B126394-BS1, S008988-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Farmingdale, NY
Date Received: 7/13/2015
Field Sample #: SVE-Effluent
Sample ID: 15G0548-01
Sample Matrix: Air
Sampled: 7/7/2015 13:46

Sample Description/Location:
Sub Description/Location:
Canister ID: 1076
Canister Size: 6 liter
Flow Controller ID: 4058
Sample Type: 15 min

Work Order: 15G0548
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Acetone	160	8.0	V-06, L-05	380	19	4	7/15/15 21:58	TPH
Benzene	0.57	0.20		1.8	0.64	4	7/15/15 21:58	TPH
Benzyl chloride	ND	0.20		ND	1.0	4	7/15/15 21:58	TPH
Bromodichloromethane	ND	0.20		ND	1.3	4	7/15/15 21:58	TPH
Bromoform	ND	0.20		ND	2.1	4	7/15/15 21:58	TPH
Bromomethane	ND	0.20		ND	0.78	4	7/15/15 21:58	TPH
1,3-Butadiene	ND	0.20		ND	0.44	4	7/15/15 21:58	TPH
2-Butanone (MEK)	11	8.0		31	24	4	7/15/15 21:58	TPH
Carbon Disulfide	ND	2.0		ND	6.2	4	7/15/15 21:58	TPH
Carbon Tetrachloride	ND	0.20		ND	1.3	4	7/15/15 21:58	TPH
Chlorobenzene	ND	0.20		ND	0.92	4	7/15/15 21:58	TPH
Chloroethane	ND	0.20		ND	0.53	4	7/15/15 21:58	TPH
Chloroform	0.26	0.20		1.3	0.98	4	7/15/15 21:58	TPH
Chloromethane	ND	0.40		ND	0.83	4	7/15/15 21:58	TPH
Cyclohexane	ND	0.20		ND	0.69	4	7/15/15 21:58	TPH
Dibromochloromethane	ND	0.20		ND	1.7	4	7/15/15 21:58	TPH
1,2-Dibromoethane (EDB)	ND	0.20		ND	1.5	4	7/15/15 21:58	TPH
1,2-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 21:58	TPH
1,3-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 21:58	TPH
1,4-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 21:58	TPH
Dichlorodifluoromethane (Freon 12)	0.65	0.20		3.2	0.99	4	7/15/15 21:58	TPH
1,1-Dichloroethane	8.1	0.20		33	0.81	4	7/15/15 21:58	TPH
1,2-Dichloroethane	ND	0.20		ND	0.81	4	7/15/15 21:58	TPH
1,1-Dichloroethylene	0.54	0.20		2.1	0.79	4	7/15/15 21:58	TPH
cis-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	7/15/15 21:58	TPH
trans-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	7/15/15 21:58	TPH
1,2-Dichloropropane	ND	0.20		ND	0.92	4	7/15/15 21:58	TPH
cis-1,3-Dichloropropene	ND	0.20		ND	0.91	4	7/15/15 21:58	TPH
trans-1,3-Dichloropropene	ND	0.20		ND	0.91	4	7/15/15 21:58	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.20		ND	1.4	4	7/15/15 21:58	TPH
1,4-Dioxane	ND	2.0		ND	7.2	4	7/15/15 21:58	TPH
Ethanol	8.0	8.0	L-05	15	15	4	7/15/15 21:58	TPH
Ethyl Acetate	ND	0.20		ND	0.72	4	7/15/15 21:58	TPH
Ethylbenzene	1.6	0.20		6.8	0.87	4	7/15/15 21:58	TPH
4-Ethyltoluene	1.5	0.20		7.3	0.98	4	7/15/15 21:58	TPH
Heptane	0.76	0.20		3.1	0.82	4	7/15/15 21:58	TPH
Hexachlorobutadiene	ND	0.20		ND	2.1	4	7/15/15 21:58	TPH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Farmingdale, NY
Date Received: 7/13/2015
Field Sample #: SVE-Effluent
Sample ID: 15G0548-01
Sample Matrix: Air
Sampled: 7/7/2015 13:46

Sample Description/Location:
Sub Description/Location:
Canister ID: 1076
Canister Size: 6 liter
Flow Controller ID: 4058
Sample Type: 15 min

Work Order: 15G0548
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv Results	RL	Flag/Qual	ug/m3 Results	RL	Dilution	Date/Time Analyzed	Analyst
Hexane	ND	8.0		ND	28	4	7/15/15 21:58	TPH
2-Hexanone (MBK)	1.7	0.20		6.9	0.82	4	7/15/15 21:58	TPH
Isopropanol	ND	8.0		ND	20	4	7/15/15 21:58	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.20		ND	0.72	4	7/15/15 21:58	TPH
Methylene Chloride	ND	2.0		ND	6.9	4	7/15/15 21:58	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.20		ND	0.82	4	7/15/15 21:58	TPH
Naphthalene	2.3	0.20		12	1.0	4	7/15/15 21:58	TPH
Propene	ND	8.0		ND	14	4	7/15/15 21:58	TPH
Styrene	ND	0.20		ND	0.85	4	7/15/15 21:58	TPH
1,1,2,2-Tetrachloroethane	ND	0.20		ND	1.4	4	7/15/15 21:58	TPH
Tetrachloroethylene	4.5	0.20		30	1.4	4	7/15/15 21:58	TPH
Tetrahydrofuran	0.40	0.20		1.2	0.59	4	7/15/15 21:58	TPH
Toluene	6.5	0.20		25	0.75	4	7/15/15 21:58	TPH
1,2,4-Trichlorobenzene	ND	0.20		ND	1.5	4	7/15/15 21:58	TPH
1,1,1-Trichloroethane	600	2.0		3300	11	40	7/15/15 22:37	TPH
1,1,2-Trichloroethane	ND	0.20		ND	1.1	4	7/15/15 21:58	TPH
Trichloroethylene	0.68	0.20		3.7	1.1	4	7/15/15 21:58	TPH
Trichlorofluoromethane (Freon 11)	ND	0.80		ND	4.5	4	7/15/15 21:58	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.80		ND	6.1	4	7/15/15 21:58	TPH
1,2,4-Trimethylbenzene	6.6	0.20		32	0.98	4	7/15/15 21:58	TPH
1,3,5-Trimethylbenzene	1.3	0.20		6.4	0.98	4	7/15/15 21:58	TPH
Vinyl Acetate	ND	4.0		ND	14	4	7/15/15 21:58	TPH
Vinyl Chloride	ND	0.20		ND	0.51	4	7/15/15 21:58	TPH
m&p-Xylene	8.1	0.40		35	1.7	4	7/15/15 21:58	TPH
o-Xylene	2.9	0.20		13	0.87	4	7/15/15 21:58	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	7/15/15 22:37
4-Bromofluorobenzene (1)	102	70-130	7/15/15 21:58

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ANALYTICAL RESULTS

Project Location: Farmingdale, NY
Date Received: 7/13/2015
Field Sample #: IVS/AS & SVE-Effluent
Sample ID: 15G0548-02
Sample Matrix: Air
Sampled: 7/9/2015 11:51

Sample Description/Location:
Sub Description/Location:
Canister ID: 1172
Canister Size: 6 liter
Flow Controller ID: 4059
Sample Type: 15 min

Work Order: 15G0548
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -3
Receipt Vacuum(in Hg): -2.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Acetone	30	8.0	L-05, V-06	72	19	4	7/15/15 23:16	TPH
Benzene	0.32	0.20		1.0	0.64	4	7/15/15 23:16	TPH
Benzyl chloride	ND	0.20		ND	1.0	4	7/15/15 23:16	TPH
Bromodichloromethane	ND	0.20		ND	1.3	4	7/15/15 23:16	TPH
Bromoform	ND	0.20		ND	2.1	4	7/15/15 23:16	TPH
Bromomethane	ND	0.20		ND	0.78	4	7/15/15 23:16	TPH
1,3-Butadiene	ND	0.20		ND	0.44	4	7/15/15 23:16	TPH
2-Butanone (MEK)	ND	8.0		ND	24	4	7/15/15 23:16	TPH
Carbon Disulfide	ND	2.0		ND	6.2	4	7/15/15 23:16	TPH
Carbon Tetrachloride	ND	0.20		ND	1.3	4	7/15/15 23:16	TPH
Chlorobenzene	0.68	0.20		3.1	0.92	4	7/15/15 23:16	TPH
Chloroethane	ND	0.20		ND	0.53	4	7/15/15 23:16	TPH
Chloroform	0.28	0.20		1.4	0.98	4	7/15/15 23:16	TPH
Chloromethane	ND	0.40		ND	0.83	4	7/15/15 23:16	TPH
Cyclohexane	ND	0.20		ND	0.69	4	7/15/15 23:16	TPH
Dibromochloromethane	ND	0.20		ND	1.7	4	7/15/15 23:16	TPH
1,2-Dibromoethane (EDB)	ND	0.20		ND	1.5	4	7/15/15 23:16	TPH
1,2-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 23:16	TPH
1,3-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 23:16	TPH
1,4-Dichlorobenzene	ND	0.20		ND	1.2	4	7/15/15 23:16	TPH
Dichlorodifluoromethane (Freon 12)	0.58	0.20		2.8	0.99	4	7/15/15 23:16	TPH
1,1-Dichloroethane	7.5	0.20		30	0.81	4	7/15/15 23:16	TPH
1,2-Dichloroethane	ND	0.20		ND	0.81	4	7/15/15 23:16	TPH
1,1-Dichloroethylene	0.96	0.20		3.8	0.79	4	7/15/15 23:16	TPH
cis-1,2-Dichloroethylene	0.41	0.20		1.6	0.79	4	7/15/15 23:16	TPH
trans-1,2-Dichloroethylene	1.5	0.20		5.8	0.79	4	7/15/15 23:16	TPH
1,2-Dichloropropane	ND	0.20		ND	0.92	4	7/15/15 23:16	TPH
cis-1,3-Dichloropropene	ND	0.20		ND	0.91	4	7/15/15 23:16	TPH
trans-1,3-Dichloropropene	ND	0.20		ND	0.91	4	7/15/15 23:16	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.20		ND	1.4	4	7/15/15 23:16	TPH
1,4-Dioxane	ND	2.0		ND	7.2	4	7/15/15 23:16	TPH
Ethanol	ND	8.0		ND	15	4	7/15/15 23:16	TPH
Ethyl Acetate	ND	0.20		ND	0.72	4	7/15/15 23:16	TPH
Ethylbenzene	0.75	0.20		3.3	0.87	4	7/15/15 23:16	TPH
4-Ethyltoluene	0.70	0.20		3.4	0.98	4	7/15/15 23:16	TPH
Heptane	0.40	0.20		1.7	0.82	4	7/15/15 23:16	TPH
Hexachlorobutadiene	ND	0.20		ND	2.1	4	7/15/15 23:16	TPH

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ANALYTICAL RESULTS

Project Location: Farmingdale, NY
Date Received: 7/13/2015
Field Sample #: IVS/AS & SVE-Effluent
Sample ID: 15G0548-02
Sample Matrix: Air
Sampled: 7/9/2015 11:51

Sample Description/Location:
Sub Description/Location:
Canister ID: 1172
Canister Size: 6 liter
Flow Controller ID: 4059
Sample Type: 15 min

Work Order: 15G0548
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -3
Receipt Vacuum(in Hg): -2.9
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv Results	RL	Flag/Qual	ug/m3 Results	RL	Dilution	Date/Time Analyzed	Analyst
Hexane	ND	8.0		ND	28	4	7/15/15 23:16	TPH
2-Hexanone (MBK)	1.4	0.20		5.5	0.82	4	7/15/15 23:16	TPH
Isopropanol	ND	8.0		ND	20	4	7/15/15 23:16	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.20		ND	0.72	4	7/15/15 23:16	TPH
Methylene Chloride	ND	2.0		ND	6.9	4	7/15/15 23:16	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.20		ND	0.82	4	7/15/15 23:16	TPH
Naphthalene	1.2	0.20		6.1	1.0	4	7/15/15 23:16	TPH
Propene	ND	8.0		ND	14	4	7/15/15 23:16	TPH
Styrene	ND	0.20		ND	0.85	4	7/15/15 23:16	TPH
1,1,2,2-Tetrachloroethane	ND	0.20		ND	1.4	4	7/15/15 23:16	TPH
Tetrachloroethylene	6.1	0.20		41	1.4	4	7/15/15 23:16	TPH
Tetrahydrofuran	ND	0.20		ND	0.59	4	7/15/15 23:16	TPH
Toluene	2.8	0.20		11	0.75	4	7/15/15 23:16	TPH
1,2,4-Trichlorobenzene	ND	0.20		ND	1.5	4	7/15/15 23:16	TPH
1,1,1-Trichloroethane	690	2.0		3800	11	40	7/15/15 23:54	TPH
1,1,2-Trichloroethane	ND	0.20		ND	1.1	4	7/15/15 23:16	TPH
Trichloroethylene	0.93	0.20		5.0	1.1	4	7/15/15 23:16	TPH
Trichlorofluoromethane (Freon 11)	ND	0.80		ND	4.5	4	7/15/15 23:16	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.80		ND	6.1	4	7/15/15 23:16	TPH
1,2,4-Trimethylbenzene	3.5	0.20		17	0.98	4	7/15/15 23:16	TPH
1,3,5-Trimethylbenzene	0.71	0.20		3.5	0.98	4	7/15/15 23:16	TPH
Vinyl Acetate	ND	4.0		ND	14	4	7/15/15 23:16	TPH
Vinyl Chloride	ND	0.20		ND	0.51	4	7/15/15 23:16	TPH
m&p-Xylene	3.8	0.40		16	1.7	4	7/15/15 23:16	TPH
o-Xylene	1.5	0.20		6.5	0.87	4	7/15/15 23:16	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	99.5	70-130	7/15/15 23:54
4-Bromofluorobenzene (1)	100	70-130	7/15/15 23:16

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Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15G0548-01 [SVE-Effluent]	B126394	1.5	1	N/A	1000	400	150	07/15/15
15G0548-01RE1 [SVE-Effluent]	B126394	1.5	1	N/A	1000	400	15	07/15/15
15G0548-02 [IVS/AS & SVE-Effluent]	B126394	1.5	1	N/A	1000	400	150	07/15/15
15G0548-02RE1 [IVS/AS & SVE-Effluent]	B126394	1.5	1	N/A	1000	400	15	07/15/15

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B126394 - TO-15 Prep											
Blank (B126394-BLK1)					Prepared & Analyzed: 07/15/15						
Acetone	ND	1.0									
Benzene	ND	0.025									
Benzyl chloride	ND	0.025									
Bromodichloromethane	ND	0.025									
Bromoform	ND	0.025									
Bromomethane	ND	0.025									
1,3-Butadiene	ND	0.025									
2-Butanone (MEK)	ND	1.0									
Carbon Disulfide	ND	0.25									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.050									
Cyclohexane	ND	0.025									
Dibromochloromethane	ND	0.025									
1,2-Dibromoethane (EDB)	ND	0.025									
1,2-Dichlorobenzene	ND	0.025									
1,3-Dichlorobenzene	ND	0.025									
1,4-Dichlorobenzene	ND	0.025									
Dichlorodifluoromethane (Freon 12)	ND	0.025									
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
trans-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
1,4-Dioxane	ND	0.25									
Ethanol	ND	1.0									
Ethyl Acetate	ND	0.025									
Ethylbenzene	ND	0.025									
4-Ethyltoluene	ND	0.025									
Heptane	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Hexane	ND	1.0									
2-Hexanone (MBK)	ND	0.025									
Isopropanol	ND	1.0									
Methyl tert-Butyl Ether (MTBE)	ND	0.025									
Methylene Chloride	ND	0.25									
4-Methyl-2-pentanone (MIBK)	ND	0.025									
Naphthalene	ND	0.025									
Propene	ND	1.0									
Styrene	ND	0.025									

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B126394 - TO-15 Prep												
Blank (B126394-BLK1)					Prepared & Analyzed: 07/15/15							
1,1,2,2-Tetrachloroethane	ND	0.025										
Tetrachloroethylene	ND	0.025										
Tetrahydrofuran	ND	0.025										
Toluene	ND	0.025										
1,2,4-Trichlorobenzene	ND	0.025										
1,1,1-Trichloroethane	ND	0.025										
1,1,2-Trichloroethane	ND	0.025										
Trichloroethylene	ND	0.025										
Trichlorofluoromethane (Freon 11)	ND	0.10										
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10										
1,2,4-Trimethylbenzene	ND	0.025										
1,3,5-Trimethylbenzene	ND	0.025										
Vinyl Acetate	ND	0.50										
Vinyl Chloride	ND	0.025										
m&p-Xylene	ND	0.050										
o-Xylene	ND	0.025										
Surrogate: 4-Bromofluorobenzene (1)	*7.84*				*8.00*		*97.9*		*70-130*			
LCS (B126394-BS1)					Prepared & Analyzed: 07/15/15							
Acetone	6.88				5.00		**138**	*	70-130			L-05, V-06
Benzene	5.14				5.00		103		70-130			
Benzyl chloride	6.02				5.00		120		70-130			
Bromodichloromethane	5.65				5.00		113		70-130			
Bromoform	5.72				5.00		114		70-130			
Bromomethane	5.38				5.00		108		70-130			
1,3-Butadiene	5.48				5.00		110		70-130			
2-Butanone (MEK)	5.01				5.00		100		70-130			
Carbon Disulfide	6.00				5.00		120		70-130			
Carbon Tetrachloride	5.46				5.00		109		70-130			
Chlorobenzene	5.49				5.00		110		70-130			
Chloroethane	6.61				5.00		**132**	*	70-130			L-01
Chloroform	5.89				5.00		118		70-130			
Chloromethane	5.28				5.00		106		70-130			
Cyclohexane	5.32				5.00		106		70-130			
Dibromochloromethane	5.53				5.00		111		70-130			
1,2-Dibromoethane (EDB)	5.67				5.00		113		70-130			
1,2-Dichlorobenzene	6.20				5.00		124		70-130			
1,3-Dichlorobenzene	6.07				5.00		121		70-130			
1,4-Dichlorobenzene	5.93				5.00		119		70-130			
Dichlorodifluoromethane (Freon 12)	6.03				5.00		121		70-130			
1,1-Dichloroethane	5.77				5.00		115		70-130			
1,2-Dichloroethane	5.46				5.00		109		70-130			
1,1-Dichloroethylene	5.88				5.00		118		70-130			
cis-1,2-Dichloroethylene	5.76				5.00		115		70-130			
trans-1,2-Dichloroethylene	5.64				5.00		113		70-130			
1,2-Dichloropropane	5.53				5.00		111		70-130			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B126394 - TO-15 Prep												
LCS (B126394-BS1)					Prepared & Analyzed: 07/15/15							
cis-1,3-Dichloropropene	5.90				5.00		118		70-130			
trans-1,3-Dichloropropene	5.45				5.00		109		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.93				5.00		98.5		70-130			
1,4-Dioxane	5.99				5.00		120		70-130			
Ethanol	7.72				5.00		**154**	*	70-130			L-05
Ethyl Acetate	5.20				5.00		104		70-130			
Ethylbenzene	5.57				5.00		111		70-130			
4-Ethyltoluene	5.68				5.00		114		70-130			
Heptane	5.27				5.00		105		70-130			
Hexachlorobutadiene	6.47				5.00		129		70-130			
Hexane	5.28				5.00		106		70-130			
2-Hexanone (MBK)	4.90				5.00		98.1		70-130			
Isopropanol	7.89				5.00		**158**	*	70-130			L-01, V-06
Methyl tert-Butyl Ether (MTBE)	5.46				5.00		109		70-130			
Methylene Chloride	5.45				5.00		109		70-130			
4-Methyl-2-pentanone (MIBK)	5.02				5.00		100		70-130			
Naphthalene	5.77				5.00		115		70-130			
Propene	5.68				5.00		114		70-130			
Styrene	5.75				5.00		115		70-130			
1,1,2,2-Tetrachloroethane	6.22				5.00		124		70-130			
Tetrachloroethylene	5.32				5.00		106		70-130			
Tetrahydrofuran	5.37				5.00		107		70-130			
Toluene	5.52				5.00		110		70-130			
1,2,4-Trichlorobenzene	6.68				5.00		**134**	*	70-130			L-01
1,1,1-Trichloroethane	5.18				5.00		104		70-130			
1,1,2-Trichloroethane	5.78				5.00		116		70-130			
Trichloroethylene	5.55				5.00		111		70-130			
Trichlorofluoromethane (Freon 11)	5.72				5.00		114		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6.35				5.00		127		70-130			
1,2,4-Trimethylbenzene	6.08				5.00		122		70-130			
1,3,5-Trimethylbenzene	5.94				5.00		119		70-130			
Vinyl Acetate	5.55				5.00		111		70-130			
Vinyl Chloride	5.28				5.00		106		70-130			
m&p-Xylene	12.1				10.0		121		70-130			
o-Xylene	5.61				5.00		112		70-130			
Surrogate: 4-Bromofluorobenzene (1)	*8.28*				*8.00*		*103*		*70-130*			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-05	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

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INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S008988-CCV1)			Lab File ID: B071502.D			Analyzed: 07/15/15 17:18			
Bromochloromethane (1)	236637	8.253	241397	8.28	98	60 - 140	-0.0270	+/-0.50	
1,4-Difluorobenzene (1)	460989	10.139	438709	10.172	105	60 - 140	-0.0330	+/-0.50	
Chlorobenzene-d5 (1)	424791	14.904	404360	14.947	105	60 - 140	-0.0430	+/-0.50	
LCS (B126394-BS1)			Lab File ID: B071503.D			Analyzed: 07/15/15 17:56			
Bromochloromethane (1)	234596	8.254	236637	8.253	99	60 - 140	0.0010	+/-0.50	
1,4-Difluorobenzene (1)	458269	10.141	460989	10.139	99	60 - 140	0.0020	+/-0.50	
Chlorobenzene-d5 (1)	419002	14.906	424791	14.904	99	60 - 140	0.0020	+/-0.50	
Blank (B126394-BLK1)			Lab File ID: B071507.D			Analyzed: 07/15/15 20:38			
Bromochloromethane (1)	226940	8.254	236637	8.253	96	60 - 140	0.0010	+/-0.50	
1,4-Difluorobenzene (1)	430637	10.14	460989	10.139	93	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	388734	14.905	424791	14.904	92	60 - 140	0.0010	+/-0.50	
SVE-Effluent (15G0548-01)			Lab File ID: B071509.D			Analyzed: 07/15/15 21:58			
Bromochloromethane (1)	215308	8.252	236637	8.253	91	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	396569	10.139	460989	10.139	86	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	372445	14.904	424791	14.904	88	60 - 140	0.0000	+/-0.50	
SVE-Effluent (15G0548-01RE1)			Lab File ID: B071510.D			Analyzed: 07/15/15 22:37			
Bromochloromethane (1)	218084	8.253	236637	8.253	92	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	447862	10.14	460989	10.139	97	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	400321	14.905	424791	14.904	94	60 - 140	0.0010	+/-0.50	
IVS/AS & SVE-Effluent (15G0548-02)			Lab File ID: B071511.D			Analyzed: 07/15/15 23:16			
Bromochloromethane (1)	222781	8.252	236637	8.253	94	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	449663	10.139	460989	10.139	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	411305	14.904	424791	14.904	97	60 - 140	0.0000	+/-0.50	
IVS/AS & SVE-Effluent (15G0548-02RE1)			Lab File ID: B071512.D			Analyzed: 07/15/15 23:54			
Bromochloromethane (1)	229453	8.257	236637	8.253	97	60 - 140	0.0040	+/-0.50	
1,4-Difluorobenzene (1)	477568	10.138	460989	10.139	104	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	427607	14.903	424791	14.904	101	60 - 140	-0.0010	+/-0.50	

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CONTINUING CALIBRATION CHECK

EPA TO-15

S008988-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	6.78	0.8283546	1.122922		35.6	30 *
Benzene	A	5.00	5.20	0.9413509	0.9791644		4.0	30
Benzyl chloride	A	5.00	5.54	0.9366321	1.037743		10.8	30
Bromodichloromethane	A	5.00	5.68	0.6896837	0.7834356		13.6	30
Bromoform	A	5.00	5.58	0.6450373	0.7200755		11.6	30
Bromomethane	A	5.00	4.59	0.6831357	0.6266949		-8.3	30
1,3-Butadiene	A	5.00	5.14	0.3631511	0.3732907		2.8	30
2-Butanone (MEK)	A	5.00	5.02	1.545372	1.553089		0.5	30
Carbon Disulfide	A	5.00	6.00	1.787941	2.145707		20.0	30
Carbon Tetrachloride	A	5.00	5.48	0.5349463	0.5863637		9.6	30
Chlorobenzene	A	5.00	5.45	0.7669336	0.8360968		9.0	30
Chloroethane	A	5.00	5.31	0.2783443	0.2955548		6.2	30
Chloroform	A	5.00	5.89	1.212155	1.426881		17.7	30
Chloromethane	A	5.00	5.14	0.5419496	0.5570726		2.8	30
Cyclohexane	A	5.00	5.45	0.3674421	0.400728		9.1	30
Dibromochloromethane	A	5.00	5.51	0.7473385	0.8231474		10.1	30
1,2-Dibromoethane (EDB)	A	5.00	5.60	0.6600501	0.7397445		12.1	30
1,2-Dichlorobenzene	A	5.00	5.59	0.6481301	0.7241735		11.7	30
1,3-Dichlorobenzene	A	5.00	5.60	0.7015668	0.7854027		11.9	30
1,4-Dichlorobenzene	A	5.00	5.48	0.7092826	0.7775871		9.6	30
Dichlorodifluoromethane (Freon 12)	A	5.00	6.03	1.429498	1.723632		20.6	30
1,1-Dichloroethane	A	5.00	5.76	1.092829	1.260171		15.3	30
1,2-Dichloroethane	A	5.00	5.46	0.7865236	0.8596661		9.3	30
1,1-Dichloroethylene	A	5.00	5.72	0.9569238	1.094956		14.4	30
cis-1,2-Dichloroethylene	A	5.00	5.71	0.8321314	0.9498295		14.1	30
trans-1,2-Dichloroethylene	A	5.00	5.63	0.8759026	0.9870375		12.7	30
1,2-Dichloropropane	A	5.00	5.57	0.360087	0.4009362		11.3	30
cis-1,3-Dichloropropene	A	5.00	5.95	0.523818	0.623647		19.1	30
trans-1,3-Dichloropropene	A	5.00	5.52	0.4919749	0.5436243		10.5	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1	A	5.00	4.88	1.685769	1.645687		-2.4	30
1,4-Dioxane	A	5.00	5.83	0.193588	0.225647		16.6	30
Ethanol	A	5.00	6.30	0.1804198	0.2273592		26.0	30
Ethyl Acetate	A	5.00	5.40	0.2296375	0.2480626		8.0	30
Ethylbenzene	A	5.00	5.58	1.243091	1.386135		11.5	30
4-Ethyltoluene	A	5.00	5.55	1.17607	1.306389		11.1	30
Heptane	A	5.00	5.47	0.2781826	0.3043717		9.4	30
Hexachlorobutadiene	A	5.00	5.22	0.3871347	0.4044643		4.5	30
Hexane	A	5.00	5.31	0.7062516	0.7497458		6.2	30

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CONTINUING CALIBRATION CHECK

EPA TO-15

S008988-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT		
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
2-Hexanone (MBK)	A	5.00	4.84	0.9700782	0.9379709		-3.3	30	
Isopropanol	A	5.00	7.94	0.8060302	1.278346		58.6	30	*
Methyl tert-Butyl Ether (MTBE)	A	5.00	5.54	1.499911	1.660515		10.7	30	
Methylene Chloride	A	5.00	5.37	0.8355231	0.8978883		7.5	30	
4-Methyl-2-pentanone (MIBK)	A	5.00	5.08	0.9094714	0.923878		1.6	30	
Naphthalene	A	5.00	4.21	1.246215	1.049005		-15.8	30	
Propene	A	5.00	5.69	0.4569349	0.5199728		13.8	30	
Styrene	A	5.00	5.77	0.6679813	0.7707809		15.4	30	
1,1,2,2-Tetrachloroethane	A	5.00	5.94	0.9452754	1.123651		18.9	30	
Tetrachloroethylene	A	5.00	5.30	0.4528223	0.480029		6.0	30	
Tetrahydrofuran	A	5.00	5.41	0.7343196	0.7941548		8.1	30	
Toluene	A	5.00	5.52	0.957834	1.058		10.5	30	
1,2,4-Trichlorobenzene	A	5.00	4.98	0.4479159	0.4457797		-0.5	30	
1,1,1-Trichloroethane	A	5.00	5.34	0.5392166	0.5758229		6.8	30	
1,1,2-Trichloroethane	A	5.00	5.79	0.3726131	0.431173		15.7	30	
Trichloroethylene	A	5.00	5.68	0.3742704	0.4248188		13.5	30	
Trichlorofluoromethane (Freon 11)	A	5.00	5.64	1.248934	1.409315		12.8	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	A	5.00	6.22	1.044253	1.298529		24.4	30	
1,2,4-Trimethylbenzene	A	5.00	5.75	0.9274325	1.066463		15.0	30	
1,3,5-Trimethylbenzene	A	5.00	5.62	0.9520193	1.069243		12.3	30	
Vinyl Acetate	A	5.00	5.52	1.884799	2.079174		10.3	30	
Vinyl Chloride	A	5.00	5.16	0.5783172	0.5964511		3.1	30	
m&p-Xylene	A	10.0	12.1	0.9562107	1.155377		20.8	30	
o-Xylene	A	5.00	5.53	0.9589857	1.061439		10.7	30	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	09/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

ISC-0548
Rev 04.05.12

Company Name: D & B
Address: 330 Crossways Park Dr Woodbury NY 11797
Attention:
Project Location: Farmingdale (Circuit Row)
Sampled By: JMC

Telephone: 516-364-9890
Project #: 3150-11
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #:
Email:
Format: ○ PDF ○ EXCEL ○ GIS ○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA TO-15	# of Containers	** Preservation	***Container Code	Dissolved Metals (Field Filtered / Lab to Filter)
01	SVE-Effluent	7/7/15 1330	7/7/15 1346		X	a	S	X	3	5	4	
02	IVS/AS & SVE-Effluent				X	a	S	X	3	3	3	

ANALYSIS REQUESTED
Initial / Final / Leak

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL= sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
	7/9/15 1300
Received by: (signature)	Date/Time:
	7/13/15 1030
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

Table of Contents

FedEx ® Tracking

790182087447

Ship date :
Fri 7/10/2015

WOODBURY, NY US

Delivered

Signed for by: KMCGEE

Actual delivery :
Mon 7/13/2015 10:50 am

East Longmeadow, MA US

Returns

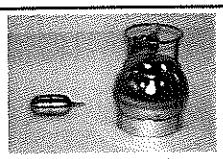
Travel History

Date/Time	Activity	Location
7/13/2015 - Monday		
10:50 am	Delivered	East Longmeadow, MA
7/11/2015 - Saturday		
6:51 am	On FedEx vehicle for delivery	CHICOPEE, MA
6:48 am	At local FedEx facility	CHICOPEE, MA
4:55 am	Departed FedEx location	WILLINGTON, CT
2:50 am	Arrived at FedEx location	WILLINGTON, CT
7/10/2015 - Friday		
9:56 pm	Left FedEx origin facility	BETHPAGE, NY
6:56 pm	Arrived at FedEx location	BETHPAGE, NY
10:47 am	Picked up	BETHPAGE, NY

Shipment Facts

Tracking number	790182087447	**Service**	FedEx Ground
Weight	16 lbs / 7.26 kgs	**Dimensions**	22x14x9 in.
Total pieces	1	**Return reason**	
Packaging	Package	**Special handling section**	Package Returns Program

© FedEx 1995-2015



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con-test® ANALYTICAL LABORATORY

AIR Only Receipt Checklist

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

CLIENT NAME: D&B **RECEIVED BY:** RLF **DATE:** 7/13/15

1) Was the chain(s) of custody relinquished and signed? (Yes) No

2) Does the chain agree with the samples? (Yes) No

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

4) Are there any samples "On Hold"? Yes (No) Stored where:

5) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)

Who was notified _____ Date _____ Time _____

6) Location where samples are stored: air lab

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

7) Number of cans Individually Certified or Batch Certified? 0

Containers received at Con-Test

		# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)		2	6L
Tedlar Bags			
TO-17 Tubes			
Regulators		2	15 min
Restrictors			
Hg/Hopcalite Tube (NIOSH 6009)			
(TO-4A/ TO-10A/TO-13) PUFs			
PCB Florisil Tubes (NIOSH 5503)			
Air cassette			
PM 2.5/PM 10			
TO-11A Cartridges			
Other			

Unused Summas/PUF Media:

Unused Regulators:

1) Was all media (used & unused) checked into the WASP?

2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: 1076 1172 | 4058 4059

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The coolers'/boxes' custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	NA	
4) Cooler Temperature is acceptable.	NA	
5) Cooler Temperature is recorded.	NA	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) Samples are received within Holding Time.	T	
10) Sample containers have legible labels.	T	
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T	
12) Sample collection date/times are provided.	T	
13) Appropriate sample/media containers are used.	T	
14) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
15) Trip blanks provided if applicable.	NA	

Who notified of False statements? **Date/Time:**

Log-In Technician Initials: **Date/Time:**

RLF 7/13/15 1050

Air Sampling Media Certificate of Analysis

Date Analyzed: 6/25/2015 **Batch #:** 15CC314

Certification Type: *Batch Certified* ☑ *Individual Certified* ☐

Media Type: *Summa Canister* ☑ *Flow Controllers* ☐

Media IDs: BC1076 BC1172

Note:Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.20	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1.3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.20	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.20	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.02	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.20	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes:

Analyst Initials/Date: TPH 7/16/15

APPENDIX C

WELL CONSTRUCTION LOGS

D&B ENGINEERS AND ARCHITECTS, P.C.

Well Construction Log

Site Circuitron Corporation Job Number 3150-11 Well No. AS-1S

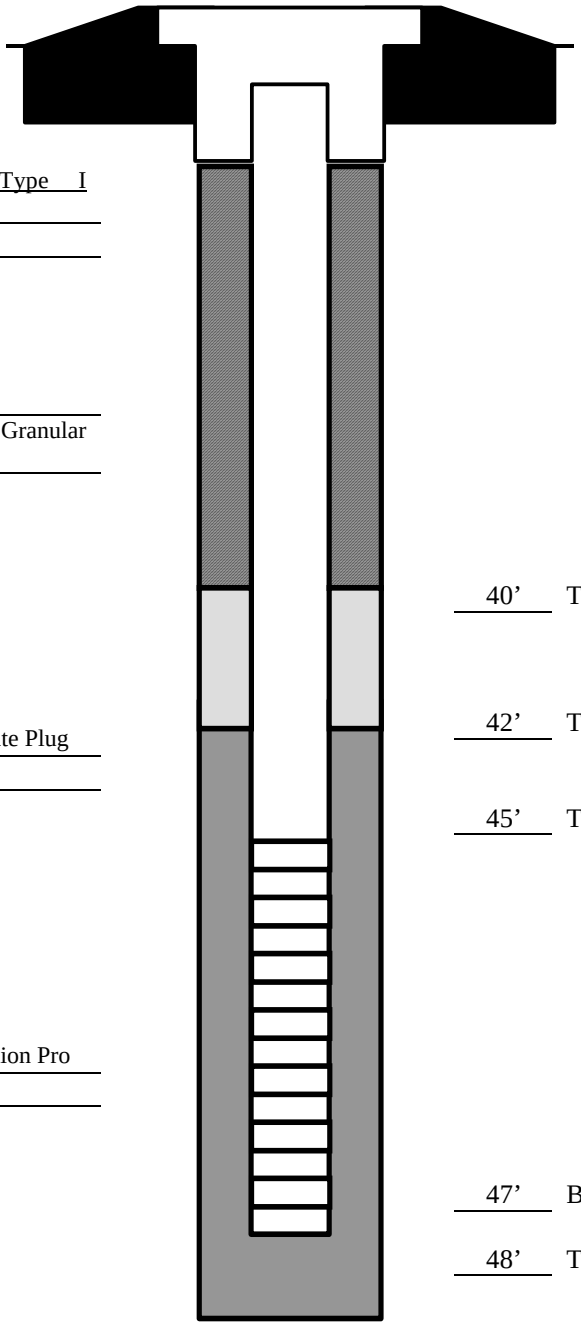
Total Depth 48’ Surface Elevation -- Top Riser Elevation --

Water Levels (Depth, Date, Time) 27.80’ (6/2/15) Date Installed 6/2/2015

Riser Dia. 2” Material PVC Length 46’

Screen Dia. 2” Material PVC Length 2’ Slot Size 0.020”

SCHEMATIC



Ground Surface

N/A Riser Elevation

3’ Bottom Surface Seal

Surface Seal Type Portland Type I Cement

Grout Type Portland Type I Cement / Cetco Granular Grout

40’ Top Seal

42’ Top Sand Pack

Seal Type PDS Bentonite Plug Chips (1/4”)

45’ Top Screen

Sand Pack Type FilPro Filtration Pro

Size #2

47’ Bottom Screen

48’ Total Depth of Boring

APPENDIX D

TABULATED ANALYTICAL RESULTS

TABLE 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NYSDEC SITE NO. 152082, CIRCUITRON CORPORATION SITE
SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

Sample ID	CCSB-01 (26'-28')	CCSB-02 (26'-28')	CCSB-03 (23'-25')	CCSB-04 (23'-25')	CCSB-05 (23'-25')	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs)	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs)
Sampling Date	6/2/2015	6/2/2015	6/2/2015	6/3/2015	6/3/2015		
Start Depth (in feet below grade)	26	26	23	23	23		
End Depth (in feet below grade)	28	28	25	25	25		
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U	U	U	U	U	--	--
1,1,1-Trichloroethane	**140000**	30	U	62	U	680	500,000
1,1,2,2-Tetrachloroethane	U	U	U	U	U	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	U	U	U	U	U	--	--
1,1,2-Trichloroethane	U	U	U	U	U	--	--
1,1-Dichloroethane	U	U	U	U	U	270	240,000
1,1-Dichloroethene	68	U	U	U	U	330	500,000
1,1-Dichloropropene	U	U	U	U	U	--	--
1,2,3-Trichlorobenzene	U	U	U	U	U	--	--
1,2,3-Trichloropropane	U	U	U	U	U	--	--
1,2,4,5-Tetramethylbenzene	U	U	U	U	U	--	--
1,2,4-Trichlorobenzene	U	U	U	U	U	--	--
1,2,4-Trimethylbenzene	U	U	U	U	U	3,600	190,000
1,2-Dibromo-3-chloropropane	U	U	U	U	U	--	--
1,2-Dibromoethane	U	U	U	U	U	--	--
1,2-Dichlorobenzene	U	U	U	U	U	1,100	500,000
1,2-Dichloroethane	U	U	U	U	U	20	30,000
1,2-Dichloropropane	U	U	U	U	U	--	--
1,3,5-Trimethylbenzene	U	U	U	U	U	8,400	190,000
1,3-Dichlorobenzene	U	U	U	U	U	2,400	280,000
1,3-dichloropropane	U	U	U	U	U	--	--
1,4-Dichlorobenzene	U	U	U	U	U	1,800	130,000
1,4-Dioxane	U	U	U	U	U	100	130,000
2,2-Dichloropropane	U	U	U	U	U	--	--
2-Butanone	U	U	U	U	U	120	500,000
2-Chloroethyl vinyl ether	U	U	U	U	U	--	--
2-Chlorotoluene	U	U	U	U	U	--	--
2-Hexanone	U	U	U	U	U	--	--
2-Propanol	U	U	U	U	U	--	--
4-Chlorotoluene	U	U	U	U	U	--	--
4-Isopropyltoluene	U	U	U	U	U	--	--
4-Methyl-2-pentanone	U	U	U	U	U	--	--
Acetone	U	U	U	U	U	50	500,000
Acrolein	U	U	U	U	U	--	--
Acrylonitrile	U	U	U	U	U	--	--
Benzene	U	U	U	U	U	60	44,000
Bromobenzene	U	U	U	U	U	--	--
Bromochloromethane	U	U	U	U	U	--	--
Bromodichloromethane	U	U	U	U	U	--	--
Bromoform	U	U	U	U	U	--	--
Bromomethane	U	U	U	U	U	--	--
Carbon disulfide	U	U	U	U	U	--	--
Carbon tetrachloride	U	U	U	U	U	760	22,000
Chlorobenzene	U	U	U	U	U	1,100	500,000
Chlorodifluoromethane	U	U	U	U	U	--	--
Chloroethane	U	U	U	U	U	--	--
Chloroform	U	U	U	U	U	370	350,000
Chloromethane	U	U	U	U	U	--	--
cis-1,2-Dichloroethene	U	U	U	U	U	250	500,000
cis-1,3-Dichloropropene	U	U	U	U	U	--	--
Cyclohexane	U	U	U	U	U	--	--

See next page for Footnotes/Qualifiers

TABLE 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NYSDEC SITE NO. 152082, CIRCUITRON CORPORATION SITE
SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

Sample ID	CCSB-01 (26'-28')	CCSB-02 (26'-28')	CCSB-03 (23'-25')	CCSB-04 (23'-25')	CCSB-05 (23'-25')	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs)	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs)
Sampling Date	6/2/2015	6/2/2015	6/2/2015	6/3/2015	6/3/2015		
Start Depth (in feet below grade)	26	26	23	23	23		
End Depth (in feet below grade)	28	28	25	25	25		
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
COMPOUNDS CONTINUED							
Dibromochloromethane	U	U	U	U	U	--	--
Dibromomethane	U	U	U	U	U	--	--
Dichlorodifluoromethane	U	U	U	U	U	--	--
Diisopropyl ether	U	U	U	U	U	--	--
Ethanol	U	U	U	U	U	--	--
Ethylbenzene	U	U	U	U	U	1,000	390,000
Freon-114	U	U	U	U	U	--	--
Hexachlorobutadiene	U	U	U	U	U	--	--
Isopropylbenzene	U	U	U	U	U	--	--
m,p-Xylene	U	U	U	U	U	260	500,000
Methyl Acetate	U	U	U	U	U	--	--
Methylene chloride	U	U	U	U	U	50	500,000
Methyl tert-butyl ether	U	U	U	U	U	930	500,000
Naphthalene	U	U	U	U	U	12,000	500,000
n-Butylbenzene	U	U	U	U	U	12,000	500,000
n-Propylbenzene	U	U	U	U	U	3,900	500,000
o-Xylene	U	U	U	U	U	260	500,000
p-Diethylbenzene	U	U	U	U	U	--	--
p-Ethyltoluene	U	U	U	U	U	--	--
sec-Butylbenzene	U	U	U	U	U	11,000	500,000
Styrene	U	U	U	U	U	--	--
t-Butyl alcohol	U	U	U	U	U	--	--
tert-Butylbenzene	U	U	U	U	U	5,900	500,000
Tetrachloroethene	5	U	U	U	U	1,300	150,000
Toluene	42	U	U	U	U	700	500,000
trans-1,2-Dichloroethene	U	U	U	U	U	190	500,000
trans-1,3-Dichloropropene	U	U	U	U	U	--	--
Trichloroethene	U	U	U	U	U	470	200,000
Trichlorofluoromethane	U	U	U	U	U	--	--
Vinyl acetate	U	U	U	U	U	--	--
Vinyl chloride	U	U	U	U	U	20	13,000
Total Volatile Organic Compounds	140,115	30	0	62	0	--	--

Footnotes/Qualifiers:
ug/Kg: Micrograms per kilogram
U: Analyzed for but not detected
J: Estimated value
--: No standard

TABLE 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NYSDEC SITE NO. 152082, CIRCUITRON CORPORATION SITE
EFFLUENT AIR DATA
VOLATILE ORGANIC COMPOUNDS

Sample ID	SVE-Effluent	SVE-Effluent	IVS/AS & SVE-Effluent	IVS/AS & SVE-Effluent
Sampling Date	7/7/2015	7/7/2015	7/9/2015	7/9/2015
Units	ppbv	ug/m3	ppbv	ug/m3
VOLATILE COMPOUNDS				
1,1,1-Trichloroethane	600	3300	690	3800
1,1,2,2-Tetrachloroethane	U	U	U	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U
1,1-Dichloroethane	8.1	33	7.5	30
1,1-Dichloroethylene	0.54	2.1	0.96	3.8
1,2,4-Trichlorobenzene	U	U	U	U
1,2,4-Trimethylbenzene	6.6	32	3.5	17
1,2-Dibromoethane (EDB)	U	U	U	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U
1,2-Dichloroethane	U	U	U	U
1,2-Dichloropropane	U	U	U	U
1,3,5-Trimethylbenzene	1.3	6.4	0.71	3.5
1,3-Butadiene	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U
1,4-Dioxane	U	U	U	U
2-Butanone (MEK)	11	31	U	U
2-Hexanone (MBK)	1.7	6.9	1.4	5.5
4-Ethyltoluene	1.5	7.3	0.7	3.4
4-Methyl-2-pentanone (MIBK)	U	U	U	U
Acetone	160	380	30	72
Benzene	0.57	1.8	0.32	1
Benzyl chloride	U	U	U	U
Bromodichloromethane	U	U	U	U
Bromoform	U	U	U	U
Bromomethane	U	U	U	U
Carbon Disulfide	U	U	U	U
Carbon Tetrachloride	U	U	U	U
Chlorobenzene	U	U	0.68	3.1
Chloroethane	U	U	U	U
Chloroform	0.26	1.3	0.28	1.4
Chloromethane	U	U	U	U
cis-1,2-Dichloroethylene	U	U	0.41	1.6
cis-1,3-Dichloropropene	U	U	U	U
Cyclohexane	U	U	U	U
Dibromochloromethane	U	U	U	U
Dichlorodifluoromethane (Freon 12)	0.65	3.2	0.58	2.8
Ethanol	8	15	U	U
Ethyl Acetate	U	U	U	U
Ethylbenzene	1.6	6.8	0.75	3.3
Heptane	0.76	3.1	0.4	1.7
Hexachlorobutadiene	U	U	U	U
Hexane	U	U	U	U
Isopropanol	U	U	U	U
m&p-Xylene	8.1	35	3.8	16
Methyl tert-Butyl Ether (MTBE)	U	U	U	U
Methylene Chloride	U	U	U	U
Naphthalene	2.3	12	1.2	6.1
o-Xylene	2.9	13	1.5	6.5
Propene	U	U	U	U
Styrene	U	U	U	U
Tetrachloroethylene	4.5	30	6.1	41
Tetrahydrofuran	0.4	1.2	U	U
Toluene	6.5	25	2.8	11
trans-1,2-Dichloroethylene	U	U	1.5	5.8
trans-1,3-Dichloropropene	U	U	U	U
Trichloroethylene	0.68	3.7	0.93	5
Trichlorofluoromethane (Freon 11)	U	U	U	U
Vinyl Acetate	U	U	U	U
Vinyl Chloride	U	U	U	U

Footnotes/Qualifiers:

ppbv: Parts per billion by volume
ug/m3: Micrograms per cubic meter air
U: Analyzed for but not detected

APPENDIX E

ROI GRAPHS

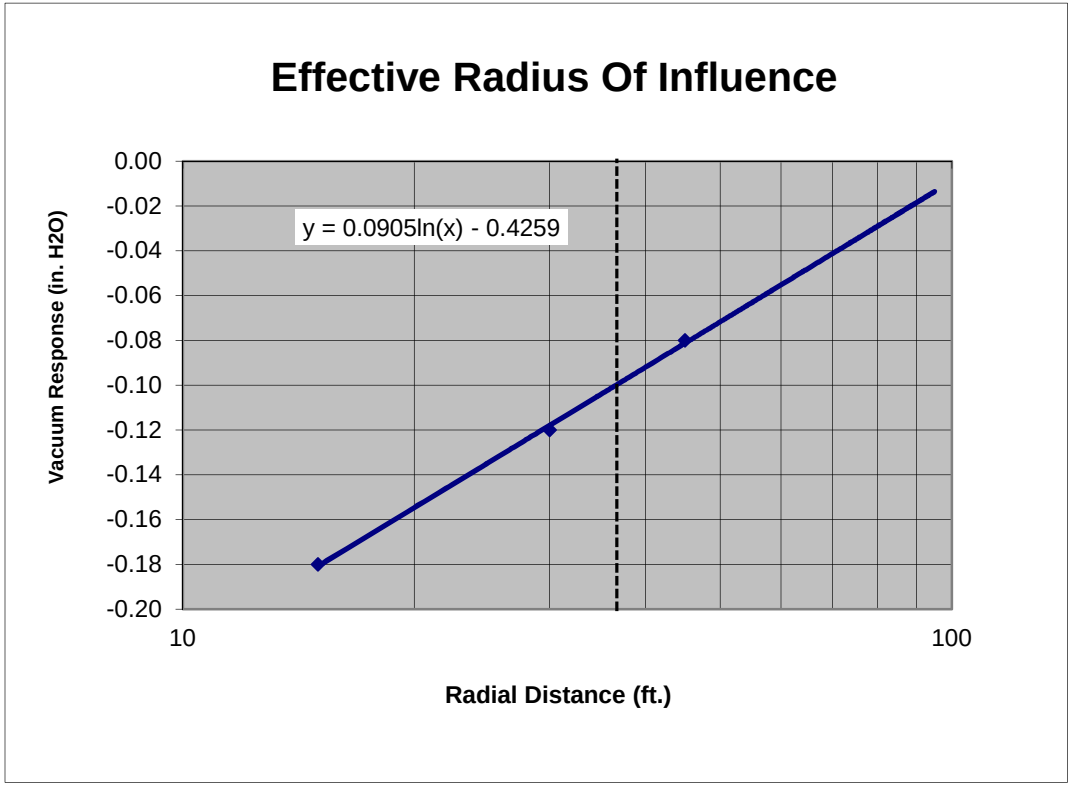
Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	12
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	45
Wellhead Vacuum ("H2O):	5
Vapor Discharge Flow (scfm):	100

SVE Design Data

Radial Distance (ft.)	Vacuum Response 100 scfm
15	-0.18
30	-0.12
45	-0.08

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
38	5	100



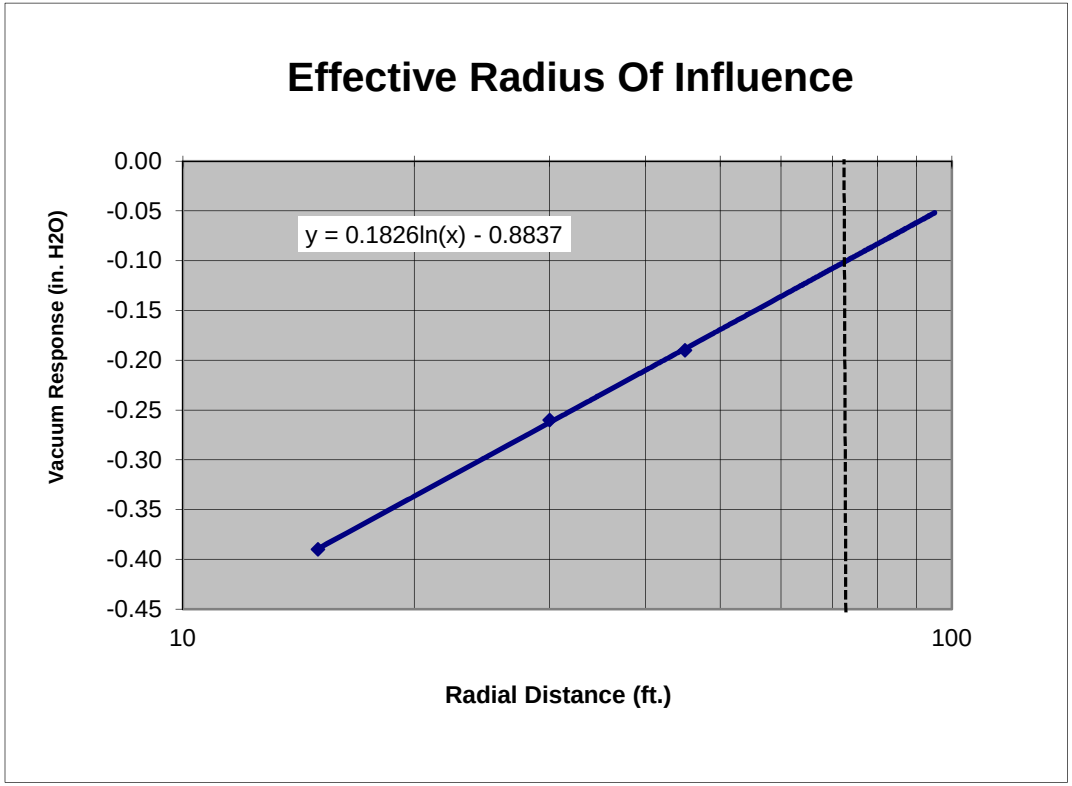
Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	12
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	60
Wellhead Vacuum ("H2O):	8
Vapor Discharge Flow (scfm):	250

SVE Design Data

Radial Distance (ft.)	Vacuum Response 250 scfm
15	-0.39
30	-0.26
45	-0.19

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
73	8	250



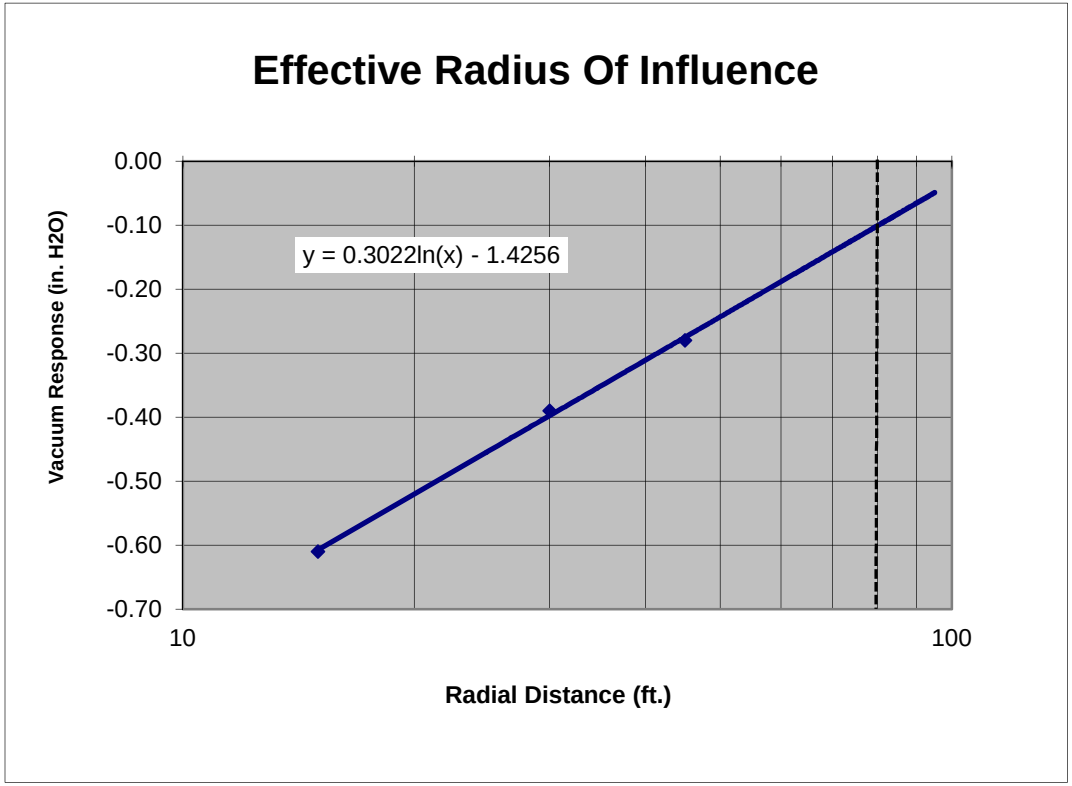
Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	12
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	60
Wellhead Vacuum ("H2O):	14
Vapor Discharge Flow (scfm):	500

SVE Design Data

Radial Distance (ft.)	Vacuum Response 500 scfm
15	-0.61
30	-0.39
45	-0.28

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
80	14	500



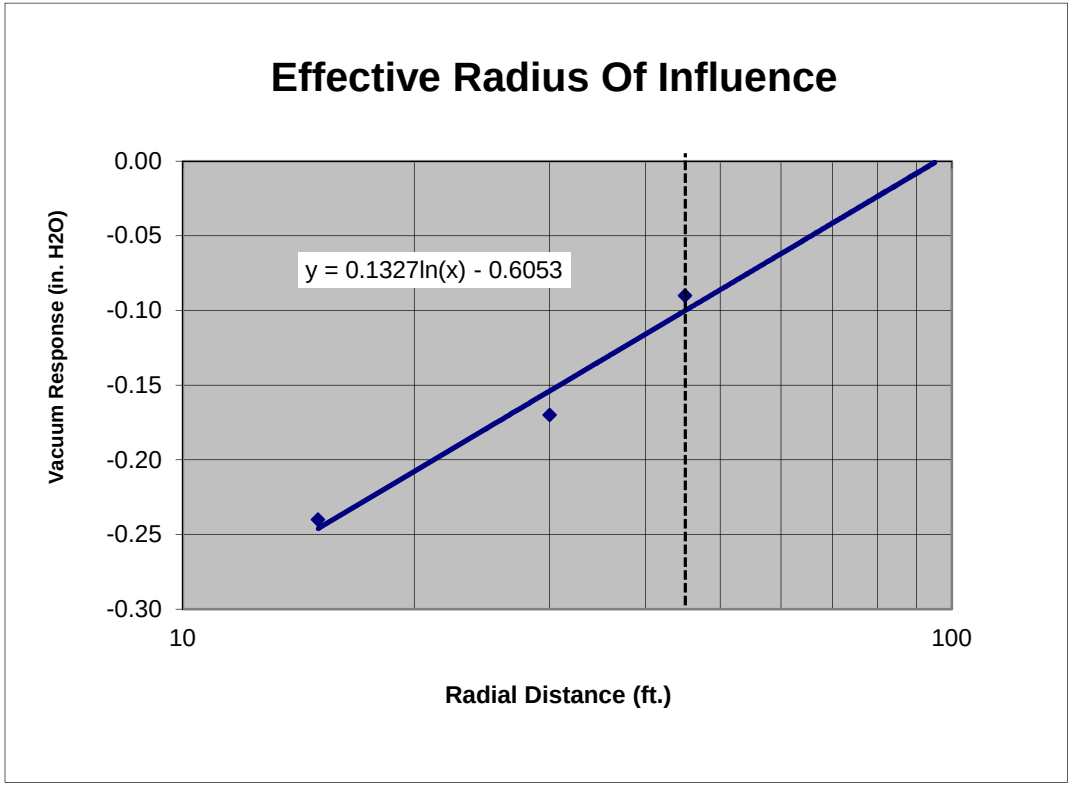
Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	22
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	45
Wellhead Vacuum ("H2O):	5
Vapor Discharge Flow (scfm):	100

SVE Design Data

Radial Distance (ft.)	Vacuum Response 100 scfm
15	-0.24
30	-0.17
45	-0.09

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
45	5	100



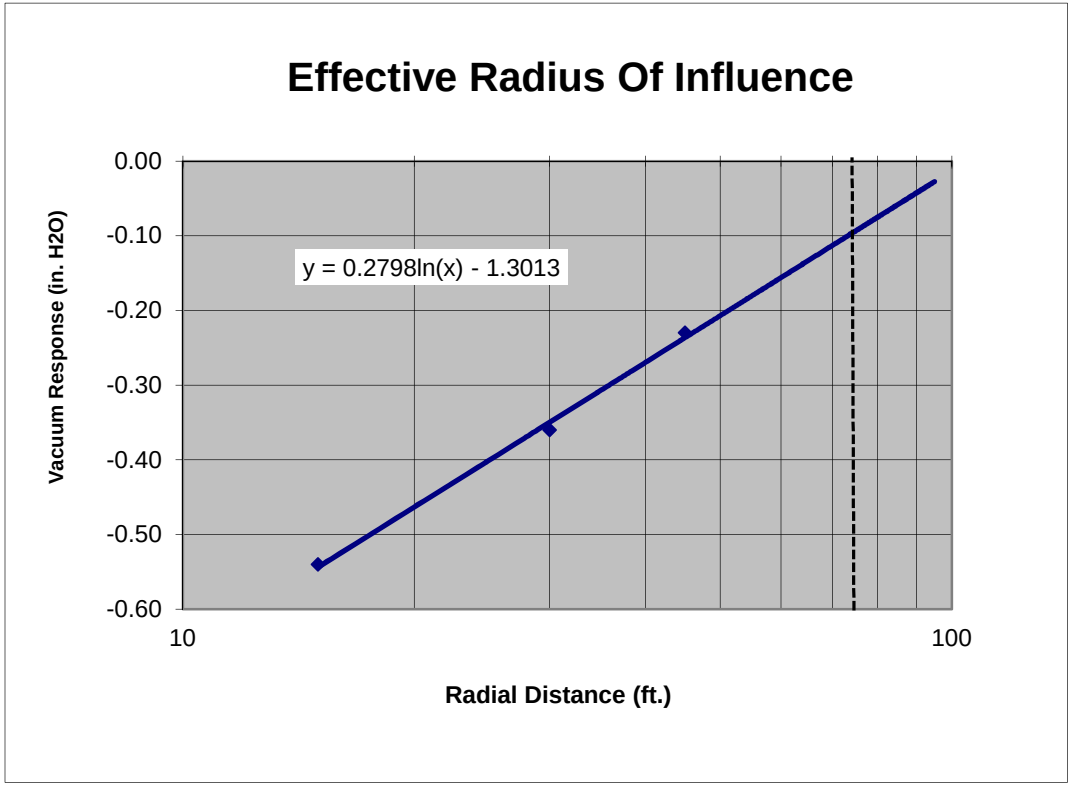
Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	22
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	60
Wellhead Vacuum ("H2O):	8
Vapor Discharge Flow (scfm):	250

SVE Design Data

Radial Distance (ft.)	Vacuum Response 250 scfm
15	-0.54
30	-0.36
45	-0.23

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
73	8	250



Summary of Soil Vapor Extraction System Evaluation Data
Circuitron Corporation Site
82 Milbar Boulevard
East Farmingdale, New York

Depth Interval (ft. bgs):	22
Test Date:	10/9/2015
Performed By:	D&B
Extraction Well:	PSTS Well
Test Duration (min.):	60
Wellhead Vacuum ("H2O):	14
Vapor Discharge Flow (scfm):	500

SVE Design Data

Radial Distance (ft.)	Vacuum Response 500 scfm
15	-0.85
30	-0.56
45	-0.36

Est. ROI (ft.)	Vacuum ("H2O)	Flow (scfm)
82	14	500