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ARCONIC-DAVENPORT WORKS SITE VAPOR INTRUSION INVESTIGATION REPORT

Arconic-Davenports Work Site
4879 State Street
Riverdale, Iowa

Prepared for

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ACRONYMS AND ABBREVIATIONS

1,1-DCA	1,1-dichloroethane
1,1,1-TCA	1,1,1-trichloroethane
COCs	chemicals of concern
cis-1,2-DCE	*cis*-1,2-dichloroethene
CSM	conceptual site model
CVOC	chlorinated volatile organic compound
EHS	Environmental Health and Safety
MIBK	4-methyl-2-pentanone
µg/m^3	microgram per cubic meter
mg/L	milligram per liter
ng	nanograms
OSHA	Occupational Safety and Health Administration
PID	photoionization detector
SDS	Safety Data Sheet
PCE	tetrachloroethene
TCE	trichloroethene
t-DCE	*trans*-1,2-dichloroethene
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VI	vapor intrusion
VOCs	volatile organic compounds

1. INTRODUCTION

Geosyntec Consultants Inc. (Geosyntec) has prepared this Vapor Intrusion (VI) Investigation Report on behalf of Arconic Inc. (Arconic) for the Arconic-Davenport Works Site (Facility) located at 4879 State Street, Riverdale, Iowa. A Phase I VI Work Plan was submitted to the United States Environmental Protection Agency (USEPA) on 29 August 2018 and a passive subslab vapor sampling investigation was conducted in October and November 2018 (Geosyntec, 2018). A summary of the initial investigation results and a work plan addendum proposing additional activities to fill data gaps and further refine the conceptual site model (CSM) was submitted to USEPA on 4 February 2019 (Geosyntec, 2019). Additional passive subslab vapor samples were collected in April 2019.

This report summarizes the results of the VI investigation activities conducted under the work plan and the addendum. The results serve as the basis for the recommendations provided herein.

2. VI INVESTIGATION RESULTS

This section presents the results of the VI investigation activities performed under the Phase I VI Work Plan (Geosyntec, 2018) and Addendum (Geosyntec, 2019). As described in the work plans, site-specific chemicals of concern (COCs) for the VI investigations were tetrachloroethene (PCE), trichloroethene (TCE) and their degradation products *cis*-1,2-dichloroethene (cis-1,2-DCE), and *trans*-1,2-dichloroethene (trans-1,2-DCE), as well as 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), vinyl chloride (VC), methylene chloride, and 4-methyl-2-pentanone (also known as methyl isoubutyl ketone [MIBK]).

2.1 Initial Phase I Investigation (October/November 2018)

The initial Phase I VI Investigation included drilling numerous small holes through the slab near the 86" Line, the 84" Lines, the 60" Line, and the Store Room to screen for total volatile organic compounds (VOCs) with a photoionization detector (PID). The screening-level data were used to determine where to deploy passive samplers. Passive subslab vapor samples for analysis of chlorinated VOC (CVOC) mass were collected in 39 locations in areas with elevated PID readings. In addition, pressure differentials were measured between the subslab and indoor environments, (i.e. cross slab pressure differentials) in several locations. The PID field screening data collected in the field in October 2018 indicated that the investigation needed to extend beyond the initial dig permit area and so a second mobilization occurred a few weeks later in November 2018. The results of this investigation were previously presented in the work plan addendum (Geosyntec, 2019) and are summarized below.

2.1.1 Pressure Differential Monitoring

The cross slab pressure differentials inside the building varied in that some were slightly positive, some were neutral, and some were slightly negative (see Table 1). Because these data were collected in October, when the weather was relatively mild, additional measurements were proposed to assess the potential driving force during the "worst case" (i.e. winter) conditions as discussed in Section 2.2.1.

2.1.2 PID Survey and Passive Subslab Vapor Sampling

PID and subslab vapor results from the 2018 investigation for the 84" and 86" Lines, 60" Line, and Store Room are indicated with purple dots on **Figures 1, 2 and 3**, respectively. The passive subslab vapor samplers detected PCE, TCE, and cis-1,2-DCE at masses ranging from 11 to 65,945; 6 to 59,627; and 6 to 100,281 nanograms (ng), respectively. VC was occasionally detected, but at

lower masses than the other CVOCs. The presence of TCE, cis-1,2-DCE and VC in the subslab vapor indicates the underlying groundwater as the source (these compounds are generated during the degradation of PCE in groundwater). The greatest CVOC mass in subslab vapor occurred near the northwestern portion of the 86" Line, consistent with trends in groundwater data collected in previous years. The subslab vapor results did not fully delineate the extent of CVOC mass to the northwest and northeast of the 86" Line or around the 60" Line. Additional passive subslab vapor sampling was proposed to address this data gap. The Store Room had very little VOC mass and therefore no further testing was recommended in this area.

2.2 Additional Phase I Investigation (March/April 2019)

Additional cross slab pressure differential monitoring and passive subslab vapor sampling were proposed in the work plan addendum to address the data gaps noted above.

2.2.1 Pressure Differential Monitoring

Arconic's consultants collected cross slab pressure differential data from the locations that exhibited the greatest CVOC masses in the initial Phase I activities. One meter was placed in the vicinity of the 60" Line, near pre-existing subslab sampling location 60 (SS-108), and three meters were placed in the vicinity of the 86" and 84" Lines near pre-existing subslab sampling locations 10, 57, and 31 (SS-97, SS-98 and SS-111, respectively). The meters were deployed shortly after the work plan addendum was authorized on 15 February and collected measurements through 20 March. The meters were deployed again from 27 March through 9 April, concurrent with the passive subslab vapor sampling.

A summary of the February/March 2019 and March/April 2019 pressure differential monitoring periods are shown in **Table 1**. As shown, the results for the two monitoring periods are consistent with one another; however, these results are slightly different than those collected during milder weather conditions in October 2018. Monitoring locations SS-97 and SS-98 exhibited near neutral and slightly positive pressure differentials, respectively. Based on these "worst case" scenario measurements, it is not likely for there to be a driving force for VI in the areas near the 86" Line and south of the 84" Line. However, monitoring locations SS-108 and SS-111, near the 60" Line and north of the 84" Line, respectively, exhibited slightly negative cross slab pressure differentials. The average magnitudes, which ranged from -1.2 to -2.0, were greater than the those measured in the building in October. This negative pressure differential indicates a greater, but still small potential driving force for VI in these areas.

2.2.2 Passive Subslab Vapor Sampling

From 27 March through 9 April 2019, Arconic's consultants collected an additional 24 passive subslab vapor samples northeast and northwest of the 86" Line (**Figure 1**) and in the general area of the 60" Line (**Figure 2**). Prior to sampling, subslab vapor was extracted from each proposed sampling point and screened using either a PID or GASTEC's short-term Gas Detector Tube System (detector tube) affixed to a gas sampling pump. GASTEC detector tubes were intended to guide the placement of the Beacon passive samplers in place of a PID, whose results in the initial Phase I activities did not correlate well with the measured CVOC masses. Unfortunately, the detector tubes were not sensitive enough to approximate concentrations of total CVOCs at the advertised levels. Unable to confidently identify select locations with elevated CVOC field concentrations using the detector tubes, passive samplers were deployed in all proposed sampling locations.

Results for the additional 24 passive subslab vapor samples, as well as those from fall 2018, are presented in **Table 2**. The passive subslab vapor samplers detected PCE, TCE, and cis-1,2-DCE at masses ranging from 17 to 63,280; 16 to 101,798; and 62 to 253,687 ng, respectively. VC was only detected in 18 locations at masses ranging up to only 2,003 ng. The 2019 PCE and TCE results for the 84" and 86" Lines and 60" Line are indicated with green dots on **Figures 1 and 2**, respectively. On average, the masses of PCE and TCE detected in the April 2019 sampling locations were generally similar to those detected in previous events. The greatest masses for PCE and TCE were encountered southwest of the 84" Line (sampling location 50) and northwest of the 86" Line (sampling location 93). Relatively high masses were also observed north of the 60" Line (sampling location 104).

2.3 Chemical Product Inventory (August/October 2019)

As with any industrial plant, various chemical products are used at the Arconic Davenport Works in accordance with Occupational Safety and Health Administration (OSHA) regulations as part of the manufacturing process and maintenance activities. Accordingly, the work plan also called for an indoor source evaluation to be conducted as part of the commercial building survey. In June 2019, USEPA was informed that the Facility's Environmental Health and Safety (EHS) department noted that commercial products containing chemicals of concern identified in the VI work plan were in use at the plant as part of normal operations. EHS periodically conducts chemical inventories across the plant as part of their industrial hygiene program and the next inventory was planned for August 2019. USEPA agreed that the inventory would be useful as the

indoor source evaluation. The inventory was a 2-step process consisting of a Safety Data Sheet (SDS) review followed by a plant walk-through inspection. The SDS review was done in August 2019 but the walk-through could not be completed until October 2019 due plant operational issues.

In total, 54 distinct products were identified that contain a site-specific COC (**Table 3**). Based on the detailed chemical product inventory, all COCs detected in subslab vapor samples, except for 1,1-DCA; cis-1,2-DCE; and VC, are ingredients in chemical products that are used at the plant.

Given that manufacturers of chemical products do not always clearly identify every ingredient in their products, there is no way to be certain that every indoor source of VOCs can be identified through the building survey and chemical inventory. In conducting a VI assessment at a different facility, Arconic learned that a chemical product can contain a CVOC even though it is not specifically identified on the product label or SDS. In this case, CRC Contact Cleaner 2000® Precision Cleaner was confirmed to contain 23,000 milligram per liter (mg/L) (2.3E+10 microgram per cubic meter [µg/m^3]) of a chlorinated solvent, however the SDS for this product obtained directly from the CRC website does not state this or identify the solvent. The SDS identifies one of the product's components as COzol® 401 but does not list the actual ingredients of the component. Rather, it states the ingredients are a "proprietary blend." As such, it is possible that the chemical products used at Arconic Davenport may contain 1,1-DCA or VC even though they are not specifically identified on the product label or SDS.

3. DISCUSSION AND RECOMMENDATIONS

Nearly all of the COCs detected in subslab vapor samples were identified as components of chemical products actively used at the Facility. While cis-1,2-DCE; 1,1-DCA; and VC were not identified in products, it is possible that they are components of chemical products used at the Site even though they are not specifically listed on the product label or SDS. The chemical products used by Arconic comply with OSHA regulations, are integral to the plant's continued operations, and will continue to be used. As a result, detections of COCs in indoor air samples could not be conclusively differentiated between potential VI and background sources. As discussed in USEPA's 2015 VI guidance, background sources of vapor-forming chemicals in indoor air are important to risk managers because generally USEPA does not clean up to concentrations below natural or anthropogenic background levels. As noted in the approved work plan, this was the basis for excluding chemicals like petroleum hydrocarbons from the VI assessment.

With regards to cis-1,2-DCE; 1,1-DCA; and VC, the data presented in this report do not suggest there are adverse impacts to plant workers. As previously mentioned, cis-1,2-DCE does not have a USEPA vapor intrusion screening level, and the limited occurrence of 1,1-DCA and VC were in areas lacking a driving pressure gradient. Of 63 discrete subslab vapor sampling locations, 1,1-DCA was detected at an elevated mass at just two locations (SS-23 and SS-57), while VC was detected at an elevated mass in only one sample (SS-10). The VI pathway would be a potential concern in these areas if pressure differential was negative; however, only neutral or slightly positive cross slab pressure differential readings were observed at these locations even during the heating season (i.e., worst-case).

Based on the findings of the VI assessment including the pressure differential measurements, subslab gas sampling, and chemical inventory, further VI assessment is not recommended at this time.

4. REFERENCES

Geosyntec, 2019. Phase I Vapor Intrusion Investigation Work Plan Addendum. Arconic-Davenport Works Site. February 2019.

Geosyntec, 2018. Phase I Vapor Intrusion Investigation Work Plan. Arconic-Davenport Works Site. August 2018.

TABLES

Table 1
Cross Slab Pressure Differential Monitoring Results - February-March and March-April 2019
Arconic-Davenport Works Site
Riverdale, Iowa

Location ID	Area of Plant	Date	Average Differential Pressure (Pa)	Interpretation	
SS-97	Near 86" Line	Feb-March 19	0.041	Neutral	Less driving force for VI
		March-April 19	0.092	Neutral	
SS-98	S of 84" Line #2	Feb-March 19	0.74	Neutral/slight pressure gradient from IA to SS	
		March-April 19	0.31	Neutral/slight pressure gradient from IA to SS	
SS-108	Near 60" Line	Feb-March 19	-2.0	Pressure gradient from SS to IA	Greater driving force for VI
		March-April 19	-1.3	Pressure gradient from SS to IA	
SS-111	N of 84" Line #1	Feb-March 19	-1.9	Pressure gradient from SS to IA	
		March-April 19	-1.2	Pressure gradient from SS to IA	

Notes:
Pa Pascal
SS Subslab
IA Indoor Air
VI Vapor Intrusion

Table 2
Passive Subslab Vapor Sampling Results
Arconic-Davenport Works Site
Riverdale, Iowa

Sample ID	Collection Date	Mass								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	Methylene Chloride	1,1-DCA	1,1,1-TCA	MIBK
SS-3	10/25/2018	388	6 J	10 U	10 U	10 U	25 U	25 U	25 U	861
SS-4	10/25/2018	1,328	35	205	22	23	25 U	25 U	25 U	875
SS-6	10/25/2018	2,387	20	10 U	10 U	10 U	25 U	25 U	25 U	258
SS-8	4/11/2019	162	10 U	26	28	10 U	25 U	25 U	25 U	826
SS-10	10/25/2018	65,945	59,627	100,281	8,468	46,084	25 U	76	25 U	285
SS-12	10/25/2018	7,668	534	1,597	12	147	25 U	25 U	25 U	104
SS-15	10/25/2018	83	10 U	31	10 U	15	25 U	25 U	25 U	224
SS-16	10/25/2018	12,748	20,390	25,314	653	257	25 U	159	35	215
SS-18	10/25/2018	294	17	10 U	10 U	10 U	25 U	25 U	25 U	304
SS-20	10/25/2018	289	23	10 U	10 U	10 U	25 U	25 U	25 U	337
SS-22	10/25/2018	926	840	3,090	216	402	25 U	36	25 U	324
SS-23	10/25/2018	45,468	41,121	18,369	693	357	25 U	1,010	52	375
SS-24	10/25/2018	9,191	5,396	2,786	128	11	25 U	31	25	287
SS-25	4/11/2019	10,863	2,294	7,071	675	30	25 U	52	25 U	391
SS-27	4/11/2019	2,371	99	38	5 J	10 U	25 U	25 U	141	332
SS-29	4/11/2019	17,950	1,600	125	115	11	25 U	25 U	25 U	950
SS-30	4/11/2019	`	3,707	2,361	233	71	25 U	25 U	25 U	845
SS-31	10/25/2018	39,601	27,570	31,246	2,570	30	25 U	42	35	147
SS-32	4/11/2019	19,529	1,329	413	39	7 J	25 U	25 U	25 U	861
SS-34	4/11/2019	2,398	26	64	6 J	10 U	25 U	25 U	25 U	667
SS-35	10/25/2018	2,170	40	38	10 U	10 U	25 U	25 U	25 U	339
SS-36	10/25/2018	60	10 U	10 U	10 U	10 U	25 U	25 U	25 U	302
SS-37	10/25/2018	175	7 J	9 J	10 U	10 U	25 U	25 U	25 U	275
SS-40	10/25/2018	793	18	8 J	10 U	10 U	25 U	25 U	25 U	268
SS-41	4/11/2019	4,194	613	291	19	7 J	25 U	25 U	25 U	638
SS-43	4/11/2019	19,850	437	193	15	5 J	25 U	25 U	25 U	431
SS-44	10/25/2018	949	39	156	8 J	10 U	25 U	25 U	25 U	1,056
SS-47	4/11/2019	27,199	17,128	9,742	415	63	25 U	25 U	25 U	852
SS-49	10/25/2018	6,258	3,450	12,034	1,285	17	25 U	25 U	44	326
SS-50	4/11/2019	63,280	101,798	253,687	85,656	2,003	25 U	25 U	25 U	211
SS-51	10/25/2018	211	7 J	14	10 U	10 U	25 U	25 U	25 U	126
SS-52	10/25/2018	7,851	269	11	10 U	10 U	25 U	25 U	25 U	124

Table 2
Passive Subslab Vapor Sampling Results
Arconic-Davenport Works Site
Riverdale, Iowa

Sample ID	Collection Date	Mass								
		PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	Methylene Chloride	1,1-DCA	1,1,1-TCA	MIBK
SS-54	10/25/2018	2,296	16	10 U	10 U	10 U	25 U	25 U	25 U	207
SS-55	10/25/2018	49	10 U	6 J	10 U	10 U	25 U	25 U	25 U	304
SS-56	10/25/2018	864	57	10 U	10 U	10 U	25 U	25 U	25 U	1,164
SS-57	10/25/2018	42,127	37,737	31,988	1,162	60	25 U	2,211	193	209
SS-58	10/25/2018	5,829	155	33	10 U	10 U	25 U	25 U	25 U	41
SS-60	10/25/2018	19,421	321	15	10 U	11	25 U	25 U	25 U	25
SS-62	10/25/2018	19,186	635	19	10 U	10 U	25 U	25 U	25 U	186
SS-64	10/25/2018	10,903	108	15	10 U	20	25 U	25 U	101	200
SS-65	10/25/2018	20,231	1,718	296	10 U	12	25 U	25 U	151	226
SS-68	10/25/2018	11	10 U	10 U	10 U	10 U	25 U	25 U	25 U	239
SS-80	11/14/2018	28	10 U	10 U	10 U	10 U	25 U	25 U	25 U	173
SS-81	11/14/2018	59	10 U	10 U	10 U	10 U	25 U	25 U	25 U	104
SS-82	11/14/2018	78	10 U	10 U	10 U	10 U	25 U	25 U	25 U	90
SS-83	11/14/2018	471	10 U	10 U	10 U	10 U	25 U	25 U	25 U	157
SS-84	11/14/2018	87	10 U	10 U	10 U	10 U	25 U	25 U	25 U	120
SS-86	11/14/2018	833	10 U	10 U	10 U	10 U	25 U	25 U	25 U	169
SS-87	11/14/2018	73	10 U	10 U	10 U	10 U	25 U	25 U	25 U	188
SS-88	11/14/2018	114	10 U	10 U	10 U	10 U	25 U	25 U	25 U	54
SS-92	4/11/2019	6,730	386	3,783	239	9 J	25 U	25 U	25 U	651
SS-93	4/11/2019	25,290	17,919	4,645	520	51	25 U	25 U	30	763
SS-94	4/11/2019	21,284	28,439	33,937	2,891	2,002	25 U	50	25 U	1,705
SS-96	4/11/2019	13,612	1,773	5,250	274	484	25 U	25 U	25 U	654
SS-99	4/11/2019	629	18	103	39	10 U	25 U	25 U	25 U	280
SS-101	4/11/2019	17	10 U	62	66	10 U	25 U	25 U	25 U	247
SS-102	4/11/2019	7,519	84	225	103	7 J	25 U	25 U	25 U	1,217
SS-103	4/11/2019	356	16	146	6 J	10	25 U	25 U	25 U	658
SS-104	4/11/2019	23,869	446	56	6 J	5 J	25 U	25 U	25 U	579
SS-106	4/11/2019	1,232	61	660	14	6 J	25 U	25 U	25 U	192
SS-114	4/11/2019	11,514	376	224	21	6 J	25 U	25 U	26	542
SS-115	4/11/2019	4,037	120	656	73	9 J	25 U	25 U	25 U	485
SS-116	4/11/2019	11,739	1,260	311	29	10 J	25 U	25 U	25 U	1,667

Notes:

All masses are shown in nanograms (ng).

J Indicates that the mass is an estimated value.

U Indicates that the constituent was not detected.

PCE Tetrachloroethene TCE Trichloroethene DCE Dichloroethene

VC Vinyl Chloride DCA Dichloroethane TCA Trichloroethane

MIBK methyl isobutyl ketone

Table 3

Detailed Chemical Inventory

Arconic-Davenport Works Site

Riverdale, Iowa

Material Name	SiteHawk ID	Manufacturer	Ingredient	Ingredient CAS
2C form-A-Gasket #2 Sealant 11OZ	1677	ITW Permatex	4-methyl-2-pentanone	108-10-1
Industrial Enamel Ultradeep Base	25897	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Industrial Enamel VOC Pure White	235691	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Direct-to-Metal Alkyd Enamel Pure White	270587	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Industrial Enamel Deep Base	273975	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Reducer No. 15	276223	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Industrial Enamel VOC Ultradeep Base	296802	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Industrial Enamel VOC Safety Orange	312181	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
T-10 Machinery Gray 6U	341899	Valspar Corporation - Architectural Coatings Division	4-methyl-2-pentanone	108-10-1
Kem Bond® HS High Solids Alkyd Universal Metal Primer Gray	353600	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Krylon® Interior/Exterior Paint Khaki (Beige)	365571	Sherwin-Williams Company, Krylon Products Group	4-methyl-2-pentanone	108-10-1
Pro Industrial Urethane Alkyd Enamel Safety Yellow	378158	Sherwin-Williams Company, Diversified Brands	4-methyl-2-pentanone	108-10-1
Kem Bond® HS High Solids Alkyd Universal Metal Primer Off White	488066	THE SHERWIN-WILLIAMS COMPANY	4-methyl-2-pentanone	108-10-1
Barsol A-3200	506146	Barton Solvents, Inc.	4-methyl-2-pentanone	108-10-1
Aerosol Spray Paint	523408	Plasti-Kote Co., Inc.	4-methyl-2-pentanone	108-10-1
A/R SPR SAF YLO 6UC	683708	Valspar Corporation	4-methyl-2-pentanone	108-10-1
Mercury Mach-7® Industrial Enamel, Safety Yellow	684412	Sherwin-Williams Co	4-methyl-2-pentanone	108-10-1
Krylon® Interior/Exterior Paint Gloss Black	1055340	Sherwin-Williams Company, Krylon Products Group	4-methyl-2-pentanone	108-10-1
Super Enamel	1273435	Plasti-Kote Co., Inc.	4-methyl-2-pentanone	108-10-1
CP-Lube (Poxylube CP-200) -Air Drying Dry Film Lubricant	1469902	Sandstrom Products Company	4-methyl-2-pentanone	108-10-1
1C Form-A-Gasket #1 Sealant 11OZ	1528411	ITW Permatex	4-methyl-2-pentanone	108-10-1
Zinsser Seal Coat	1552050	Rust-Oleum Corporation	4-methyl-2-pentanone	108-10-1
3D Aviation Form-A-Gasket #3 Sealant 1PT	1588599	ITW Permatex	4-methyl-2-pentanone	108-10-1
3M™ Electrical Insulating Sealer 1602-R, Red	1718419	3M	4-methyl-2-pentanone	108-10-1
Aerosol Lacquer Sanding Sealer	1846955	Deft, Inc.	4-methyl-2-pentanone	108-10-1
Ethyl Alcohol Denatured	1848058	Fisher Scientific	4-methyl-2-pentanone	108-10-1
Wise Chem E-212-F Part B	1979579	Wise Chem LLC	4-methyl-2-pentanone	108-10-1
JLG Orange	2145635	Lawson Products, Inc.	4-methyl-2-pentanone	108-10-1
Pro Industrial Urethane Alkyd Enamel Safety Yellow	2213425	Sherwin-Williams Company	4-methyl-2-pentanone	108-10-1
Barsol A-1032	2401654	Barton Solvents, Inc.	4-methyl-2-pentanone	108-10-1
Ultra Seal-Hesive	358443	UZ Engineered Products	Tetrachloroethylene	127-18-4
Descaler 2	2145797	Amrep, Inc. (Cartersville)	Tetrachloroethylene	127-18-4
Contact Cleaner 2000® Precision Cleaner	35553	CRC Industries, Inc.	trans-1,2-Dichloroethylene	156-60-5
Belzona® 9411 (Release Agent)	1732379	Belzona Polymerics Limited	trans-1,2-Dichloroethylene	156-60-5
Locquic(R) Primer T (Aerosol)	1866824	Henkel Loctite Corporation	1,1,1-Trichloroethane	71-55-6
Tri-Flow/Tri-Flow Aerosol	2112784	Thompson & Formby Inc.	1,1,1-Trichloroethane	71-55-6
Tap Magic Cutting Fluid	2121008	Sigma-Aldrich	1,1,1-Trichloroethane	71-55-6
Descaler 2	2145797	Amrep, Inc. (Cartersville)	1,1,1-Trichloroethane	71-55-6
Rapid Tap (1,1,1-Trichloroethane)	2146691	Realton Corporation (Dis by Herric Ind Supply Co.	1,1,1-Trichloroethane	71-55-6
MS-190 Flux Remover	16775	Miller Stephenson Chemicals Co., Inc.	Methylene chloride	75-09-2

Table 3

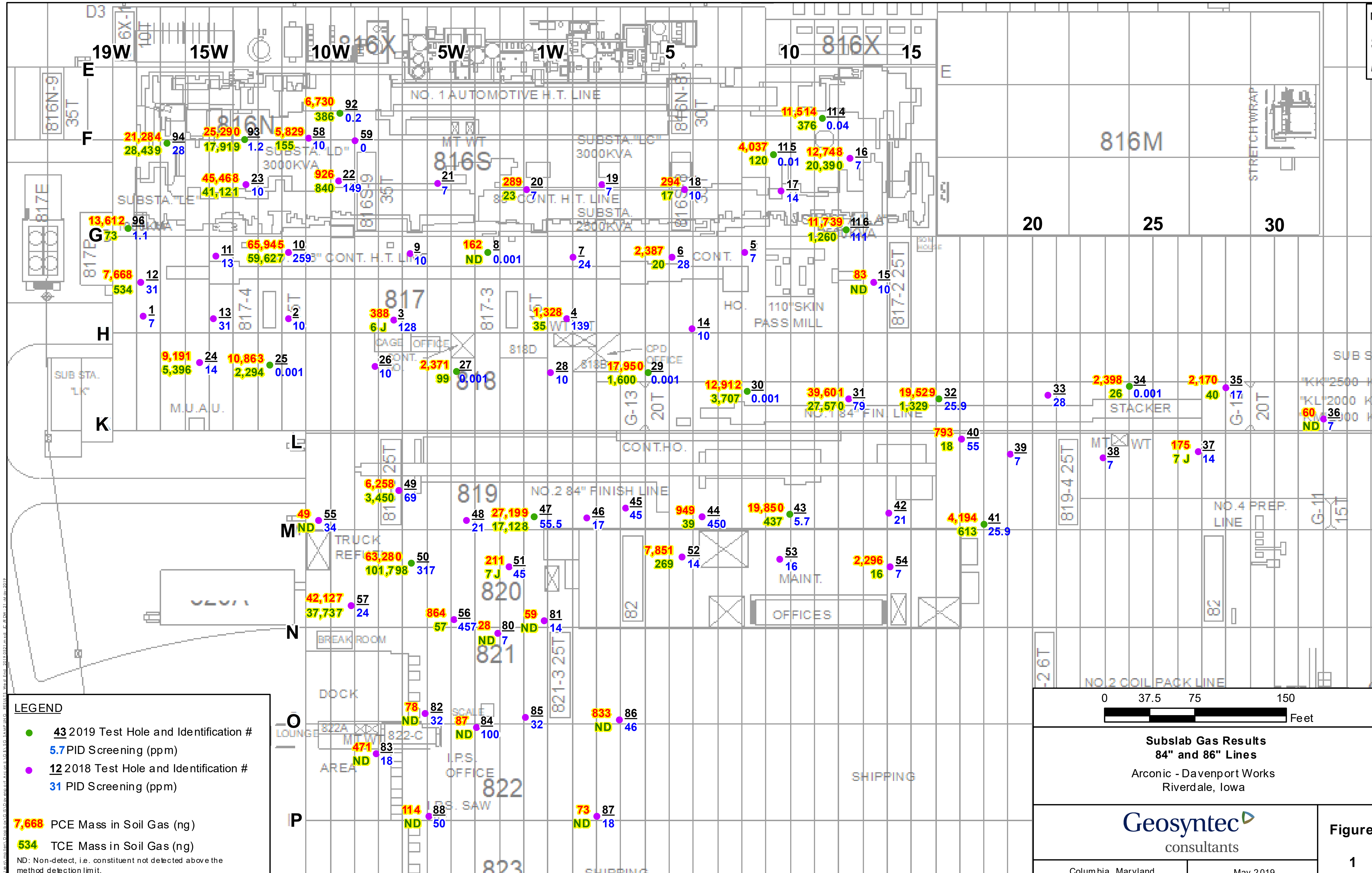
Detailed Chemical Inventory

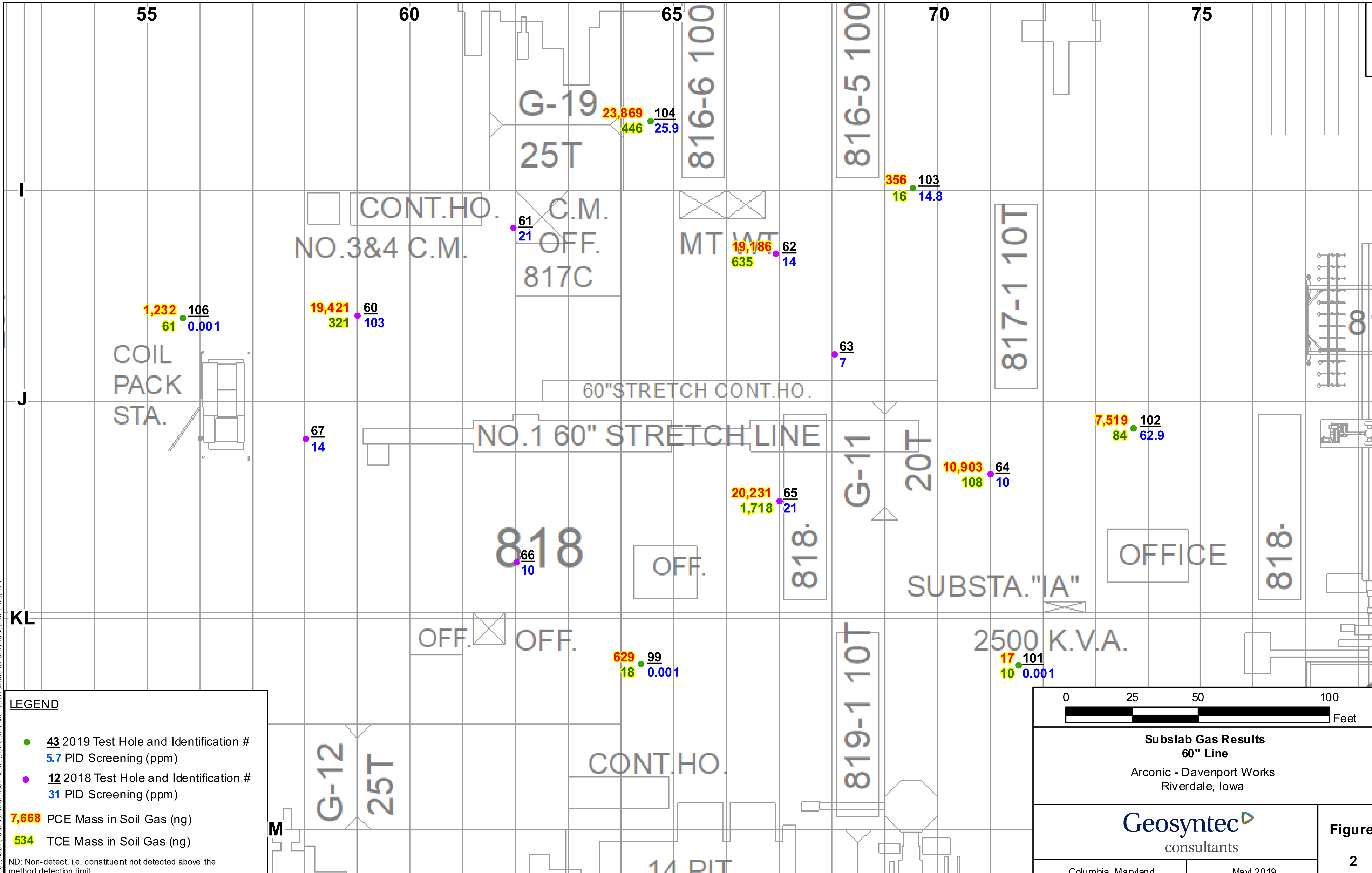
Arconic-Davenport Works Site

Riverdale, Iowa

Material Name	SiteHawk ID	Manufacturer	Ingredient	Ingredient CAS
Torq "CB"	508895	Kimball-Midwest	Methylene chloride	75-09-2
UT-R20 Hardener	627057	Rema Tip Top/North America, Inc.	Methylene chloride	75-09-2
Non-Flammable Rubber Cement	1515559	Plews/Edelmann	Methylene chloride	75-09-2
001-620 Anchor Solvent Based Anti-Spatter (Aerosol)	1745286	KCI, Inc.	Methylene chloride	75-09-2
Methylene Chloride	1912482	Fisher Scientific	Methylene chloride	75-09-2
Spray Adhesive	2112380	Bowman Distribution	Methylene chloride	75-09-2
XL-500-X2	2145659	Normac Adhesive Products Inc.	Methylene chloride	75-09-2
Descaler 2	2145797	Amrep, Inc. (Cartersville)	Methylene chloride	75-09-2
SC-2000 Cement	385646	Rema Tip Top/North America, Inc.	Trichloroethylene	79-01-6
Plastic Cement	512457	Rema Tip Top/North America, Inc.	Trichloroethylene	79-01-6
Non-Flammable Rubber Cement	1515559	Plews/Edelmann	Trichloroethylene	79-01-6
C320 White Cement (SC2000 White) (Non-Flammable)	1857770	Rema Tip Top - North America	Trichloroethylene	79-01-6
No. C320 Cement	2145733	Rema-Tech	Trichloroethylene	79-01-6
Non-Flammable Rubber Cement, Vulcanizing Solution	2146486	Ningbo Autowin Tools Co., Ltd.	Trichloroethylene	79-01-6

FIGURES


LEGEND
43 2019 Test Hole and Identification #
5.7 PID Screening (ppm)
12 2018 Test Hole and Identification #
31 PID Screening (ppm)
7,668 PCE Mass in Soil Gas (ng)
534 TCE Mass in Soil Gas (ng)
ND: Non-detect, i.e. constituent not detected above the method detection limit.
0 37.5 75 150
Feet
N
19W 15W 10W 5W 1W 5 10 15 20 25 30
E F G H K L M N O P
816N 816S 816X 816M 817 818 819 820 821 822 823
NO. 1 AUTOMOTIVE H.T. LINE
NO.2 84" FINISH LINE
NO.1 84" FIN. LINE
NO.2 COIL PACK LINE
NO.4 PREP. LINE
STACKER
MAINT.
OFFICES
SHIPPING
DOCK
BREAK ROOM
TRUCK
M.U.A.U.
110" SKIN PASS MILL
STRETCH WRAP
Subslab Gas Results
84" and 86" Lines
Arconic - Davenport Works
Riverdale, Iowa
Geosyntec consultants
Columbia, Maryland
May 2019
Figure
1



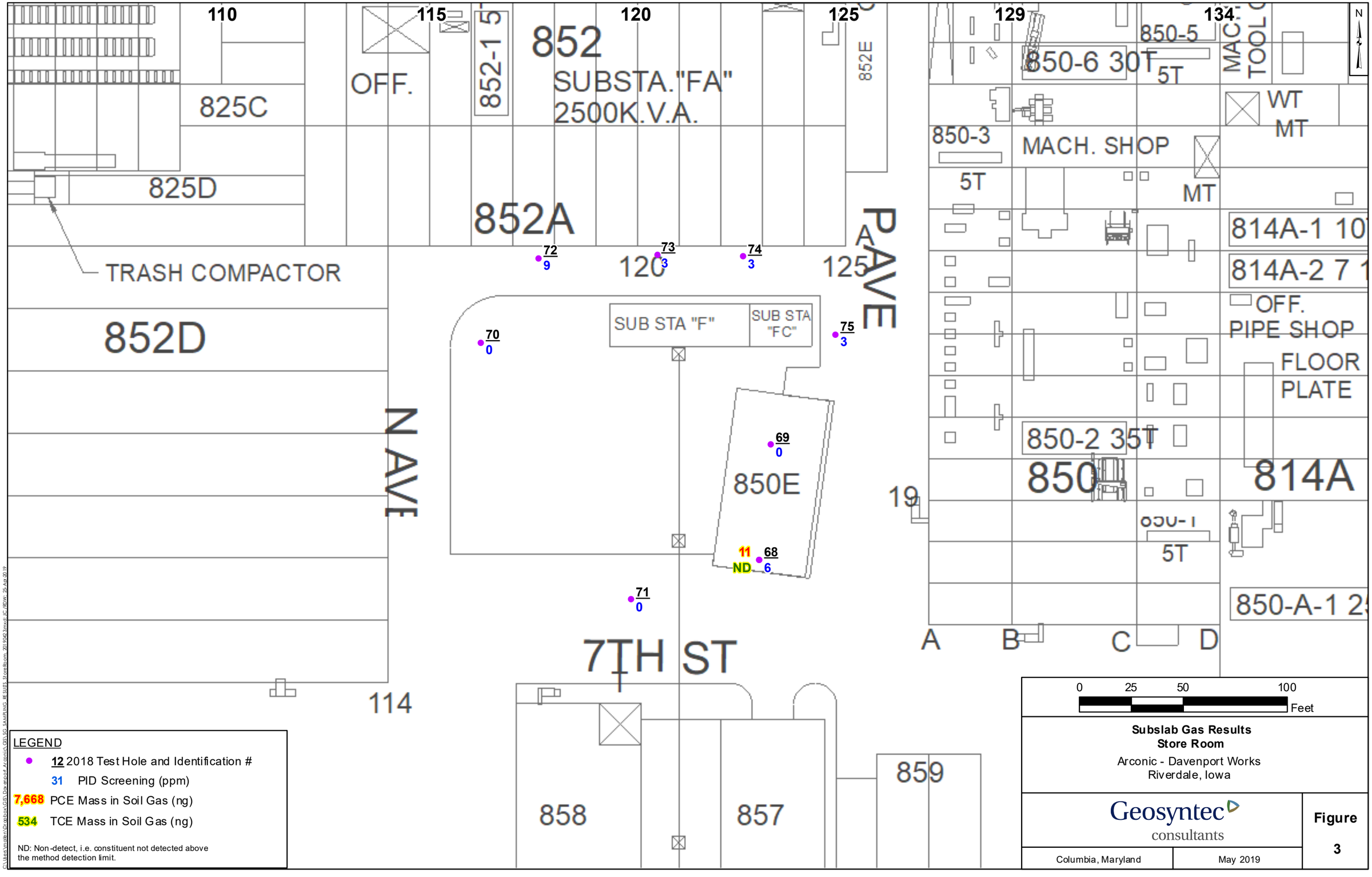
Subslab Gas Results
60" Line

Arconic - Davenport Works
Riverdale, Iowa

Geosyntec consultants

Columbia, Maryland | Mayl 2019

Figure
2



LEGEND

- **12** 2018 Test Hole and Identification #
- 31 PID Screening (ppm)
- 7,668 PCE Mass in Soil Gas (ng)
- 534 TCE Mass in Soil Gas (ng)

ND: Non-detect, i.e. constituent not detected above the method detection limit.

Subslab Gas Results
Store Room

Arconic - Davenport Works
Riverdale, Iowa

Geosyntec consultants

Columbia, Maryland | May 2019

Figure 3

C:\Users\mallen\Dropbox\GSX Dropsport Arconic\GSX SG SAMPLING RESULTS_StoreRoom_20190423.mxd 29-Apr-2019