October 15, 2019
File No. 25211372.21

Mr. Michael Schmoller
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Soil Vapor Extraction Pilot Test Results
Pilgrim Cleaners, 7475 Mineral Point Road, Madison, WI
BRRTS #02-13-551995

Dear Mr. Schmoller:

A soil vapor extraction (SVE) pilot test was performed at the Pilgrim Cleaners site located at 7475 Mineral Point Road, Madison, Wisconsin, on August 13, 2019. The purpose of the test was to gather design information and to determine the potential effectiveness of SVE treatment of soil contaminated by dry cleaning solvent.

Based on the pilot test results, SCS Engineers (SCS) proposes installation and operation of a full-scale SVE system as defined in the approved November 25, 2015 Proposal for Source Remediation and NR 722 Remedial Action Alternatives Analysis (remedial action plan). Additional information regarding the SVE pilot test is provided below.

PILOT TEST SETUP

The test was performed consistent with the approved remedial action plan, but was reduced to a 1-day test due to access and security limitations for temporary operation of the pilot test SVE blower. As previously discussed and approved by the Wisconsin Department of Natural Resources (WDNR), due to drilling contractor limited availability, all three SVE wells were installed prior to the pilot test rather than remobilizing to install the third well for the full-scale system.

SVE Well Construction

Three 2-inch-diameter polyvinyl chloride (PVC) SVE wells were installed on August 5, 2019 (SVE-1 through SVE-3). The wells were installed by On-site Environmental Services, LLC of Sun Prairie, Wisconsin, using a direct push drilling rig equipped with hollow-stem augers. Boring logs and well construction forms for the wells are included in **Appendix A**, and well locations are shown on **Figure 1**.

The SVE wells were constructed to a depth of 20 feet below ground surface using 10-foot-long PVC well screens. Weathered sandstone bedrock was observed in the bottom of well SVE-3. The wells were set in flush-mount steel protective casings with locking well plugs.

Vacuum Observation Points

For the pilot test, SVE wells SVE-2 and SVE-3, and groundwater monitoring wells MW-1 and MW-2 were temporarily fitted with PVC slip caps equipped with a brass barb fitting for vacuum measurements.

In addition, three sub-slab vapor mitigation system (VMS) vacuum observation points (VOP-1 through VOP-3) were accessed for vacuum monitoring during the pilot test. The VMS vacuum observation points were installed as part of the VMS and are constructed to monitor vacuum in the shallow building sub-slab material.

SVE Blower and Instrumentation

A Rotron positive displacement blower and manifold were fitted to well SVE-1. The 2-inch-diameter PVC manifold piping included an in-line flow meter and ports for photoionization detector (PID), vibrating wire flow meter, and vacuum measurements. Photographs of the SVE well installation and pilot test setup are included in **Appendix B**.

SVE PILOT TEST

Vacuum measurements were taken from the SVE wells, monitoring wells MW-1 and MW-2, and VMS vacuum observation points VOP-1 through VOP-3 prior to starting up the blower at SVE-1. The measurements were made using a digital manometer. During the pilot test, vacuum at the blower was measured using a magnehelic gage. The pilot test measurements were recorded on field sheets included in **Appendix C**.

The blower at SVE-1 was started up at 9:35 a.m. on August 13, 2019. Vacuum, PID, and flowrate measurements at the blower and monitoring points were made immediately after blower startup and at approximate 1-hour intervals during the pilot test.

Samples of the blower exhaust were obtained using laboratory-supplied 1-liter Summa canisters equipped with 5-minute flow controllers. The samples were collected at approximately 15 minutes, 1 hour, 3 hours, and 6 hours after startup. The Summa canisters were submitted to Pace Analytical Services, LLC of Minneapolis, Minnesota, for analysis of volatile organic compounds (VOCs) via method TO-15. At 4:10 p.m. on August 13, 2019, the SVE blower was turned off after 6 hours and 35 minutes of operation.

RESULTS

Vacuum and Flow Rate

During the SVE pilot test, the vacuum at the blower varied from approximately -36 to -34 inches of water, while the in-line flowmeter upstream of the blower read a constant 20 cubic feet per minute (cfm) for the entire test. This reading represents the lowest range of the in-line flowmeter scale.

The velocity measured in the blower exhaust line using the vibrating wire meter ranged between 670 and 430 feet per minute, with a calculated flow rate for the 2-inch-diameter exhaust line of approximately 15.3 to 9.8 cfm.

The discrepancy in flow rates between vibrating wire and in-line flow meter may be due the accuracy of the in-line meter at the low end of its measurement range. It is assumed that the vibrating wire flow meter readings are more representative of actual flow rates, and therefore vibrating wire measurements were used in the mass removal calculations presented below.

Vacuum readings at well SVE-2 ranged from 1.4 to 1.5 inches of water, and readings at well SVE-3 ranged from 0.6 to 0.7 inches of water. Well SVE-2 is approximately 20 feet from the blower well (SVE-1), and well SVE-3 is approximately 38 feet from the blower well. Based on pilot test vacuum measurements the SVE-1 radius of influence is approximately 0.6 inch of water vacuum at a distance of approximately 38 feet. The estimated radius of influence assuming all three SVE wells were in operation is shown on **Figure 1**.

No vacuum response was observed at VMS vacuum observation points VOP-1 through VOP-3. As noted above, these points are shallow and open only to the building sub-slab material. It appears that the building foundation and/or shallow fine-grained soils may block SVE-1 vacuum from reaching the shallow sub-slab material under the building. However, based on the SVE well construction and pilot test SVE well vacuums, it is assumed that the SVE vacuum would extend to deeper coarser sediments underneath the building.

No change in vacuum was observed at the MW-1 and MW-2 observation points during the pilot test. This was expected as the wells are located more than 38 feet from SVE-1 and are screened in bedrock at elevations approximately 45 feet deeper than the bottom of the SVE well screens. Also, there is a steep slope with drop in elevation between SVE-1 and the MW-1 and MW-2 wells which may limit vacuum influence to the east of SVE-1.

PID Reading and Blower Exhaust Sample Results

Laboratory results for blower exhaust samples are included in **Appendix D**. Tetrachloroethylene (PCE, i.e., dry cleaning solvent) and dichlorodifluoromethane were the only VOCs detected in the blower exhaust samples. The dichlorodifluoromethane concentrations were flagged by the laboratory as estimated concentrations at or above the laboratory limit of detection and below the limit of quantitation and the laboratory indicated that the detections were likely related to laboratory contamination.

A summary of blower exhaust concentrations is provided below:

Sample ID/Time	PCE (ug/m^3)	PID (PPM)
15-min	163,000	30.5
1-hour	190,000	29.1
3-hour	146,000	25.5
6-hour	136,000	23.5

Estimated Mass Removal

Based on the SVE pilot test results, the SVE-1 PCE discharge rate is approximately 0.01092 pounds per hour (lb/hr) or 95.6 pounds per year (lb/yr). Discharge calculations are included in **Appendix E**.

Assuming similar rates for wells SVE-2 and SVE-3 the full-scale system PCE discharge rate would be approximately 0.03276 lb/hr or 286.98 lb/yr, which does not exceed the Wisconsin Administrative

Code, Chapter NR 445 allowable discharge permit threshold for PCE of 9.11 lb/hr or 301 lb/yr. Therefore, an air discharge permit would likely not be required for a full-scale system pulling from the three existing SVE wells at similar flow rates. This assumes that the airflow rate and discharge rate of PCE remains constant. Previous experience with SVE systems shows that the concentration of contaminants in the discharge air of an SVE system decreases as the system operates, contaminants are removed, and the concentration in the soil decreases.

INVESTIGATION-DERIVED WASTE

Three 55-gallon drums of soil cuttings were generated during SVE well construction and are temporarily stored behind the dry cleaner unit. A waste profile sample was collected from the soil cuttings and analyzed for VOCs via toxicity characteristic leaching procedure (TCLP). A laboratory report for the waste profile sample is included in **Appendix D**. VOCs were not detected in the sample. SCS is in the process of coordinating disposal of the drums.

SUMMARY AND RECOMMENDATIONS

A release of dry cleaning solvent at the Pilgrim Cleaners site has contaminated soil, groundwater, and sub-slab vapor at concentrations in excess of regulatory standards. An SVE pilot test was performed to acquire design details and determine the feasibility of SVE cleanup.

The SVE pilot test results show that a full-scale SVE system is feasible and may remove up to approximately 287 lb/yr of PCE from the soil. Extraction of PCE from the underlying soil should reduce the contaminant mass and migration from soil to groundwater. It would also likely reduce the potential for vapor intrusion into the overlying shopping mall.

Based on the pilot test findings and likely reduction in contaminant mass, SCS recommends installation and operation of a full-scale SVE system as defined in the remedial action plan.

Please contact Robert Langdon at 608-216-7329 if you have any questions concerning this letter.

Sincerely,

Robert Langdon
Senior Project Manager
SCS Engineers

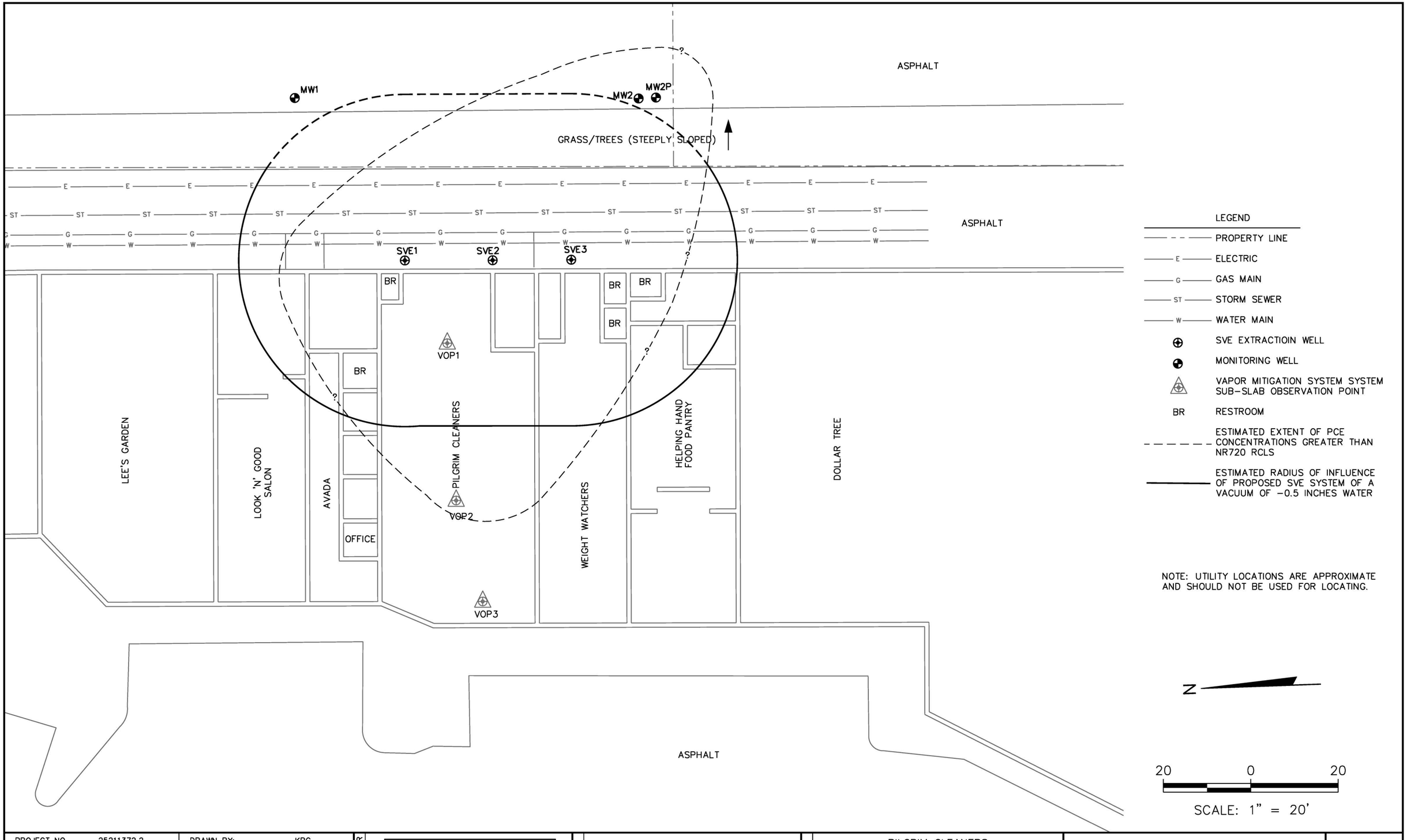
Keith Gilkey, PE
Senior Design Engineer
SCS Engineers

KG/lmh/RL/MH

Encl. Figure 1 – SVE Pilot Test Layout and Estimated Radius of Influence
Appendix A – Boring Logs and Well Construction Forms
Appendix B – Pilot Test Photographs
Appendix C – Field Sheets
Appendix D – Blower Exhaust and Waste Profile Analytical Results
Appendix E – Discharge Calculation

Figure 1

SVE Pilot Test Layout and Estimated Radius of Influence



PROJECT NO.	25211372.2	DRAWN BY:	KRG
DRAWN:	10/16/13	CHECKED BY:	RBL
REVISED:	06/23/14	APPROVED BY:	

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INLAND COMMERCIAL PROPERTY MANAGEMENT, INC.
2901 BUTTERFIELD ROAD
OAK BROOK, IL 60523

SITE: PILGRIM CLEANERS
7475 MINERAL POINT ROAD
MADISON, WISCONSIN

SVE PILOT TEST LAYOUT AND ESTIMATED RADIUS OF INFLUENCE

FIGURE 1

Appendix A

Boring Logs and Well Construction Forms

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☑ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Pilgrim Cleaners SCS # 25211372-21		SVE1

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
On-Site Environmental Services, Inc. - Tony Kapugi	8-5-19	8-5-19	geoprobe and HSA (4"/4")

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
		SVE1			~~6.0~~ 8.0

Boring Location	Lat.	Local Grid Location (If applicable)
State Plane NW 1/4 of NE 1/4 of Section 26, T. 07 N, R. 08E	Long.	N., E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1	33"			Asphalt, ~6" thick Poorly graded sand & gravel, tan, f-c, (base course)	SP			0.8		m		Geoprobed to 20', overdrilled borings w/ HSA to install well
				lean clay, dark brown, (fill)	CL							
S2				silty gravel, f-c, tan (buried concretes)	GM			1.3		m		
				silty sand, fine, tan/brown	SM							
			5									
S3	51"			silt, w/ clay, brown, w/ bricks, (fill).	ML			1.1		m		
S4				- dark brown/black zone, ~3" thick				1.5				
				- w/ no clay						m		
			10									
S5	45"			- w/ coarse gravel, light tan				1.1		m		
S6				silty sand, fine, light tan, w/ coarse gravel, (fill).	SM			1.4		m		
			15									
S7	26"							1.4		m		
				poorly graded sand & gravel, f-c, light tan	SP							
S8				EOB @ 20', install SVE well				0.9		m		

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature | Firm SCS ENGINEERS Jackie Rennebohm

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☑ Remediation/Redev.
- ☐ Waste Management
- ☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Pilgrim Cleaners SCS # 25211372.21		SVE2

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
On-Site Environmental Services, Inc. - Tony Kapugi	8/5/19	8/5/19	geoprobe and HSA (4¼)

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
		SVE2			6.0 8.0

Boring Location	Lat.	Local Grid Location (If applicable)
State Plane NW 1/4 of NE 1/4 of Section 26, T. 07 N, R. 08E	Long.	N., E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1	31"			asphalt, ~6" thick Poorly graded sand & gravel, f-c, tan, (base course).	SP			0.6		m		geoprobed to 20', overdrilled w/ HSA to install well
S2				Lean clay, DK brown, trace cinder/asphalt, (fill)	CL			1.4		m		
S3			5	~~Se~~ Silty Sand, brown, fine, w/ clay (fill)	SM			1.1		m+		
S4	30"			Poorly graded sand & gravel, f-c, brown, w/ clay, trace bricks, (fill)	SP			1.5		m ~~W~~		
S5			10	Silt, reddish brown, stiff, trace roots	ML			0.7		W		▽ ~ 10'
S6	37"			Poorly graded sand & gravel, f-c, tan/white	SP			1.0		W		
S7			15	W/ trace silt and less gravel				1.4		W		
S8				End of boring @ 20', install SVE well				0.9		W		

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm SCS ENGINEERS Jackie Rennebohm

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☑ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Pilgrim Cleaners SCS # 25211372.21		SVE 3

Boring Drilled By (Firm name and name of crew chief)	Drilling Started	Drilling Completed	Drilling Method
On-Site Environmental Services, Inc. - Tony Kapusi	8.5.19	8.5.19	geoprobe and HSA (4¼)

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Static Water Level	Surface Elevation	Borehole Diam.
		SVE 3			6.0 8.0

Boring Location State Plane	Lat. / Long.	Local Grid Location (If applicable)
NW 1/4 of NE 1/4 of Section 26, T. 07 N, R. 08E		N., E.

County	DNR County Code	Civil Town/City/or Village
Dane	13	Madison

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
				Asphalt, ~6" thick								Overdrilled geoprobe boring w/ HSA to ins all well geoprobed to 20'.
S1	35"			poorly graded sand & gravel, f-c, tan, (base course)	SP			0.4		m		
				lean clay, dark brown, (fill)	CL							
S2				silty sand, w/ gravel, fine, tan, (fill)	SM			0.8				
			5	poorly graded sand, fine, tan	SP					m		
S3	33"			silt, w/ clay and gravel, fine gravel, trace bricks (fill)	ML			1.1		m		
S4				- gravel layer, 22" thick				1.0				
			10	poorly graded sand, f-m, brown, (fill).	SP					m		
S5	22"			- more clay, trace cinders/ asphalt				0.9				
				silt, tan, w/ clay, trace coarse gravel, (fill).	ML					W		▽ 13'
S6								0.16				
			15	- trace cinders/ asphalt, soft						W		
S7	34"			- coarse gravel layer, ~2"				1.0				
				poorly graded sand, f-c, tan, some white, slight	SP							
S8				structures observed (weathered sandstone bedrock). End of boring @ 20', set SVE well				0.4		W		

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature | Firm: SCS ENGINEERS Jackie Rennebohm

SCS # 25211372.21

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Managemen ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Pilgrim Cleaners	Local Grid Location of Well: ☐ N. ☐ S. ft. ☐ E. ☐ W.	Well Name: SVE1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 08/05/2019 (m m d d y y y y)
Type of Well: Well Code 57 / SV	Section Location of Waste/Source: NW 1/4 of NE 1/4 of Sec. 26, T. 07 N, R. 08 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapinski, On-Site Environmental Services, Inc.
Distance from Waste/Source ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ft. MSL
B. Well casing, top elevation ft. MSL
C. Land surface elevation ft. MSL
D. Surface seal, bottom ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☒ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe —

17. Source of water (attach analysis, if required):
—

E. Bentonite seal, top ft. MSL or 1.6 ft.
F. Fine sand, top ft. MSL or 8.0 ft.
G. Filter pack, top ft. MSL or 9.0 ft.
H. Screen joint, top ft. MSL or 10.0 ft.
I. Well bottom ft. MSL or 20.0 ft.
J. Filter pack, bottom ft. MSL or 20.0 ft.
K. Borehole, bottom ft. MSL or 20.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.36 in.
N. I.D. well casing 2.01 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 10 in.
b. Length: 4 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐
4. Material between well casing and protective pipe: Filter Sand — Bentonite ☐ 30 / Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☒
b. Volume added ____ ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. RedFlint Sand & Gravel #7 ☒
b. Volume added ____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25211372.21

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Managemen ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Pilgrim Cleaners	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: SVE 2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ___ ft. N, ___ ft. E. S/C/N	Date Well Installed: 08/05/2019 (m m d d y y y y)
Type of Well: Well Code 57 / SV	Section Location of Waste/Source: NW 1/4 of NE 1/4 of Sec. 26, T. 07 N, R. 08 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Tony Kaplan, On-Site Environmental Services, Inc.
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ___ ft. MSL
B. Well casing, top elevation ___ ft. MSL
C. Land surface elevation ___ ft. MSL
D. Surface seal, bottom ___ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

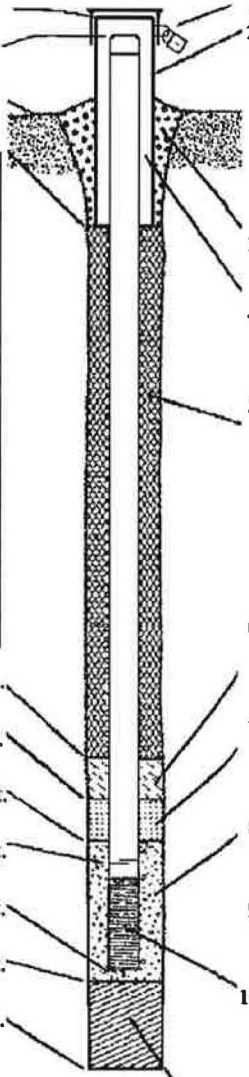
15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe: —

17. Source of water (attach analysis, if required): —

E. Bentonite seal, top ___ ft. MSL or 1.0 ft.
F. Fine sand, top ___ ft. MSL or 8.0 ft.
G. Filter pack, top ___ ft. MSL or 9.0 ft.
H. Screen joint, top ___ ft. MSL or 10.0 ft.
I. Well bottom ___ ft. MSL or 20.0 ft.
J. Filter pack, bottom ___ ft. MSL or 20.0 ft.
K. Borehole, bottom ___ ft. MSL or 20.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 10 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐
4. Material between well casing and protective pipe: Filter Sand — Bentonite ☐ 30 / Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☒
b. Volume added ___ ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint Sand & Gravel # ☒
b. Volume added ___ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

SCS # 25211372.21

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Managemen ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Pilgrim Cleaners	Local Grid Location of Well: ___ ft. ☐N. ☐S. ___ ft. ☐E. ☐W.	Well Name: SVE3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ___ ft. N, ___ ft. E. S/C/N	Date Well Installed: 6/05/2019 (m m d d y y y y)
Type of Well: Well Code 57 / SV	Section Location of Waste/Source: NW 1/4 of NE 1/4 of Sec. 26, T. 07 N, R. 08 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Tony Kapugi, On-Site Environmental Services, Inc.
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ___ ft. MSL
B. Well casing, top elevation ___ ft. MSL
C. Land surface elevation ___ ft. MSL
D. Surface seal, bottom ___ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☒ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ ___

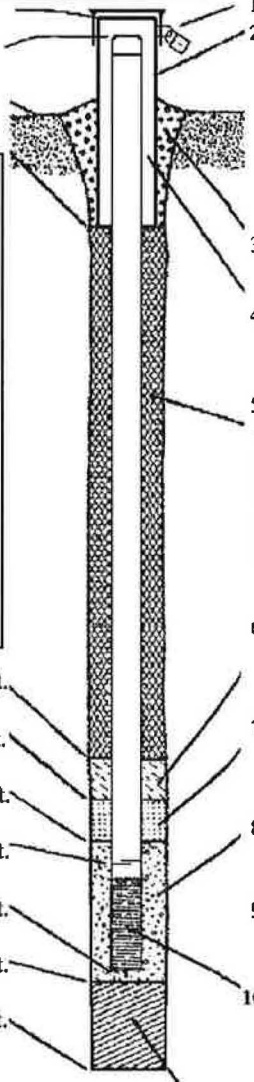
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe: —

17. Source of water (attach analysis, if required):
—

E. Bentonite seal, top ___ ft. MSL or 1.0 ft.
F. Fine sand, top ___ ft. MSL or 8.0 ft.
G. Filter pack, top ___ ft. MSL or 9.0 ft.
H. Screen joint, top ___ ft. MSL or 10.0 ft.
I. Well bottom ___ ft. MSL or 20.0 ft.
J. Filter pack, bottom ___ ft. MSL or 20.0 ft.
K. Borehole, bottom ___ ft. MSL or 20.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 10 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04; Other ☐ ___
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐ ___
4. Material between well casing and protective pipe: Filter Sand
Bentonite ☐ 30; Other ☒ ___
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☒
b. Volume added ___ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Bed Flint Sand & Gravel H ☒
b. Volume added ___ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ ___
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ ___
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ ___

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Appendix B

Pilot Test Photographs

SVE Pilot Test - Pilgrim Cleaners
7475 Mineral Point Road, Madison, WI
SCS Engineers Project #25211372.21

Photo 1: Installation of SVE wells. August 5, 2019.

SVE Pilot Test - Pilgrim Cleaners
7475 Mineral Point Road, Madison, WI
SCS Engineers Project #25211372.21

Photo 2: SVE well construction. August 5, 2019.

Photo 3: Completed SVE well. August 5, 2019.

SVE Pilot Test - Pilgrim Cleaners
7475 Mineral Point Road, Madison, WI
SCS Engineers Project #25211372.21

Photo 4: SVE well with slip cap and barb fitting for vacuum measurements. August 13, 2019.

SVE Pilot Test - Pilgrim Cleaners
7475 Mineral Point Road, Madison, WI
SCS Engineers Project #25211372.21

Photo 5: SVE pilot test blower, flowmeter, and discharge piping. August 13, 2019.

Photo 6: SVE blower and summa canister for sampling exhaust air. August 13, 2019.

SVE Pilot Test - Pilgrim Cleaners
7475 Mineral Point Road, Madison, WI
SCS Engineers Project #25211372.21

Photo 7: SVE pilot test blower setup showing SVE well SVE1, SVE blower, piping. August 13, 2019.

Appendix C

Field Sheets

SVE Pilot Test
Pilgram Cleaners
7475 Mineral Point Road, Madison

Date: 8/13/19 Weather: Cloudy 80s

Personnel: KG RL AW

Time of start of SVE test: 9:35 AM

Time of end of SVE test: 16:10

Blower Information:

Time:	9:38	10:00	10:35	11:35	12:35	13:35 ~~1:35~~	14:55	15:35
(cfm) ~~Flowrate~~ Velocity	670	620	600		590	430	520	590
(in. wc.) Vacuum:	-36	-35	-34.5	-34.0	-34.0	-34.0	-35.0	-34.0
PID:	33.7	30.5	29.1	26.7	25.5	24.5	23.1	23.5
Q (cfm)	15.3	14.2	13.7		13.5	9.8	11.9	13.5

Time:								
Flowrate:								
Vacuum:								
PID:								

Time:								
Flowrate:								
Vacuum:								
PID:								

(inches of w.c.)

Vacuum Monitoring Points			1-hr	2-hr	3-hr	4-hr	5.5-hr ~~5-hr~~	6-hr
Time:	~~8:50~~ 8:52	10:05	10:35	11:35	12:35	13:35	14:55	15:35
VOP1	-.159	-.162	-.159	-.160	-.161	-.164	-.167	-.162
VOP2	-.035	-.036	-.035	-.035	-.036	-.033	-.034	-.034
VOP3	-.018	-.018	-.017	-.017	-.019	-.016	-.016	-.016
SVE2	-.024	-1.414	-1.496	-1.473	-1.392	-1.445	-1.527	-1.501
SVE3	-.029	-0.620	-0.693	-0.666	-0.573	-.613	-.713	-.653
MW1	-.052	-0.030	-.081	-.024	-.051	-.016	-.035	-.032
MW2	-.069	-0.031	-.089	-.024	-.043	-.016	-.035	-.022

SVE1 -.002 (blower attached to this well)

NOTES: Measurements are in inches of water.

Samples Taken:

Location:	Blower exhaust	Blower Exhaust	Blower Exhaust	Blower Exhaust
Sample ID:	SUE1 - 15 min	~~SUE0~~ SUE1 - 1 HR	SUE1 - 3 HR	SUE1 - 6 HR
Time:	9:50 - 9:55	10:35 - 10:40	12:35 - 12:40	3:35 - 3:40
Method:	Summa Canister	Summa Canister	Summa Canister	Summa Canister

Notes:

Flow meter reads 20 CFM ~~coming~~ into blower.
Attach blower to SUE1
Before Start of SVE Pilot test
MW1 D+W 59.95 TD = 63.74
MW2 D+W 55.23 TD = 69.9

Hard rain between ~~2:30 - 2:50~~ 14:25 → 14:50

Flow Measured on ~~2~~ 2" SCH 40 PVC Discharge Pipe

Measured for water in SUE1, SUE2 + SUE3 before start of test. No water in any of these wells.

Appendix D

Blower Exhaust and Waste Profile Analytical Results

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-167795-1
Client Project/Site: Pilgrim Cleaners - 25211372.21

For:
SCS Engineers
2830 Dairy Dr
Madison, Wisconsin 53718

Attn: Mr. Robert Langdon

Authorized for release by:
8/12/2019 4:58:40 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

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Case Narrative

Client: SCS Engineers
Project/Site: Pilgrim Cleaners - 25211372.21

Job ID: 500-167795-1

Job ID: 500-167795-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-167795-1

Comments
No additional comments.

Receipt
The sample was received on 8/6/2019 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: SCS Engineers
Job ID: 500-167795-1
Project/Site: Pilgrim Cleaners - 25211372.21

Client Sample ID: SVE1 (8')
Lab Sample ID: 500-167795-1

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: SCS Engineers
Project/Site: Pilgrim Cleaners - 25211372.21

Job ID: 500-167795-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: SCS Engineers
Project/Site: Pilgrim Cleaners - 25211372.21

Job ID: 500-167795-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167795-1	SVE1 (8')	Solid	08/05/19 10:41	08/06/19 09:30	

Client: SCS Engineers
Job ID: 500-167795-1
Project/Site: Pilgrim Cleaners - 25211372.21

Client Sample ID: SVE1 (8')
Lab Sample ID: 500-167795-1
Date Collected: 08/05/19 10:41
Matrix: Solid
Date Received: 08/06/19 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Chloroform	<0.020		0.040	0.020	mg/L			08/09/19 16:04	20
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			08/09/19 16:04	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Trichloroethene	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			08/09/19 16:04	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*		*08/09/19 16:04*	*20*
Dibromofluoromethane	*94*		*75 - 120*		*08/09/19 16:04*	*20*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*		*08/09/19 16:04*	*20*
Toluene-d8 (Surr)	*94*		*75 - 120*		*08/09/19 16:04*	*20*

Definitions/Glossary

Client: SCS Engineers
Job ID: 500-167795-1
Project/Site: Pilgrim Cleaners - 25211372.21

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: SCS Engineers
Job ID: 500-167795-1
Project/Site: Pilgrim Cleaners - 25211372.21

GC/MS VOA

Leach Batch: 498804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167795-1	SVE1 (8')	TCLP	Solid	1311	
LB 500-498804/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 498903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167795-1	SVE1 (8')	TCLP	Solid	8260B	498804
LB 500-498804/1-A	Method Blank	TCLP	Solid	8260B	498804
MB 500-498903/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-498903/4	Lab Control Sample	Total/NA	Solid	8260B	

Surrogate Summary

Client: SCS Engineers
Project/Site: Pilgrim Cleaners - 25211372.21

Job ID: 500-167795-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
LCS 500-498903/4	Lab Control Sample	100	97	93	99
MB 500-498903/6	Method Blank	109	93	95	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-167795-1	SVE1 (8')	104	94	95	94
LB 500-498804/1-A	Method Blank	106	92	93	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-498903/6
Matrix: Solid
Analysis Batch: 498903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Carbon tetrachloride	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Chlorobenzene	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Chloroform	<0.0010		0.0020	0.0010	mg/L			08/09/19 11:05	1
1,2-Dichloroethane	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
1,1-Dichloroethene	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Methyl Ethyl Ketone	<0.0025		0.0050	0.0025	mg/L			08/09/19 11:05	1
Tetrachloroethene	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Trichloroethene	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1
Vinyl chloride	<0.00050		0.0010	0.00050	mg/L			08/09/19 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*72 - 124*		*08/09/19 11:05*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*08/09/19 11:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*		*08/09/19 11:05*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*08/09/19 11:05*	*1*

Lab Sample ID: LCS 500-498903/4
Matrix: Solid
Analysis Batch: 498903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0468		mg/L		94	70 - 120
Carbon tetrachloride	0.0500	0.0451		mg/L		90	59 - 133
Chlorobenzene	0.0500	0.0455		mg/L		91	70 - 120
Chloroform	0.0500	0.0447		mg/L		89	70 - 120
1,2-Dichloroethane	0.0500	0.0430		mg/L		86	68 - 127
1,1-Dichloroethene	0.0500	0.0472		mg/L		94	67 - 122
Methyl Ethyl Ketone	0.0500	0.0492		mg/L		98	46 - 144
Tetrachloroethene	0.0500	0.0489		mg/L		98	70 - 128
Trichloroethene	0.0500	0.0457		mg/L		91	70 - 125
Vinyl chloride	0.0500	0.0497		mg/L		99	64 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane	*97*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*

Lab Sample ID: LB 500-498804/1-A
Matrix: Solid
Analysis Batch: 498903

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Carbon tetrachloride	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Chlorobenzene	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Chloroform	<0.020		0.040	0.020	mg/L			08/09/19 11:30	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 500-498804/1-A
Matrix: Solid
Analysis Batch: 498903

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
1,1-Dichloroethene	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Methyl Ethyl Ketone	<0.050		0.10	0.050	mg/L			08/09/19 11:30	20
Tetrachloroethene	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Trichloroethene	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20
Vinyl chloride	<0.010		0.020	0.010	mg/L			08/09/19 11:30	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*72 - 124*		*08/09/19 11:30*	*20*
Dibromofluoromethane	*92*		*75 - 120*		*08/09/19 11:30*	*20*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*08/09/19 11:30*	*20*
Toluene-d8 (Surr)	*95*		*75 - 120*		*08/09/19 11:30*	*20*

Lab Chronicle

Client: SCS Engineers
Project/Site: Pilgrim Cleaners - 25211372.21

Job ID: 500-167795-1

Client Sample ID: SVE1 (8')

Date Collected: 08/05/19 10:41
Date Received: 08/06/19 09:30

Lab Sample ID: 500-167795-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			498804	08/08/19 13:37	GCA	TAL CHI
TCLP	Analysis	8260B		20	498903	08/09/19 16:04	JDD	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 500-167795-1
Project/Site: Pilgrim Cleaners - 25211372.21

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTA

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.53

500-167795 COC

Chain of Custody Record

Lab Job #: 500-167795

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 4.6

Report To (optional)		Bill To (optional)	
Contact:	Rob Langdon	Contact:	
Company:	SCS Engineers	Company:	
Address:	2830 Dairy Drive	Address:	
Address:	Madison, WI 53718	Address:	
Phone:	608-224-2830	Phone:	
Fax:		Fax:	
E-Mail:	rlangdon@scsengineers.com	PO#/Reference#	

Client	Client Project #	Preservative	9									
SCS Engineers	25211372.21											
Project Name		Parameter										
Pilgrim Cleaners												
Project Location/State	Lab Project #											
Madison, WI												
Sampler	Lab PM											
Jackie Rennebohm	Sandie Frederick											

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	TCLP VOCs							Comments
1		SVE1 (8')	8/5	1041	1	S	X							

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	SCS	8/5/19	1520		TA-Oak	8/6/19	0930
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier

Shipped Fed Ex

Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-167795-1

Login Number: 167795
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

August 26, 2019

Rob Langdon
SCS Engineers
2830 Dairy Dr.
Madison, WI 53718

RE: Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Dear Rob Langdon:
Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carolynne Trout

Carolynne Trout for
Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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CERTIFICATIONS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10487785001	**SVE-1-15 mins**	Air	08/13/19 09:55	08/16/19 11:25
10487785002	**SVE-1-1 hours**	Air	08/13/19 10:40	08/16/19 11:25
10487785003	**SVE-1-3 hours**	Air	08/13/19 12:40	08/16/19 11:25
10487785004	**SVE-1-6 hours**	Air	08/13/19 15:40	08/16/19 11:25

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SAMPLE ANALYTE COUNT

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10487785001	**SVE-1-15 mins**	TO-15	CH1	62	PASI-M
10487785002	**SVE-1-1 hours**	TO-15	CH1	62	PASI-M
10487785003	**SVE-1-3 hours**	TO-15	CH1	62	PASI-M
10487785004	**SVE-1-6 hours**	TO-15	CH1	62	PASI-M

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ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-15 mins **Lab ID: 10487785001** Collected: 08/13/19 09:55 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**<1500**	ug/m3	2990	1500	1242		08/22/19 01:12	67-64-1	
Benzene	**<190**	ug/m3	404	190	1242		08/22/19 01:12	71-43-2	
Benzyl chloride	**<1490**	ug/m3	3270	1490	1242		08/22/19 01:12	100-44-7	
Bromodichloromethane	**<455**	ug/m3	1690	455	1242		08/22/19 01:12	75-27-4	
Bromoform	**<1760**	ug/m3	6520	1760	1242		08/22/19 01:12	75-25-2	
Bromomethane	**<282**	ug/m3	980	282	1242		08/22/19 01:12	74-83-9	
1,3-Butadiene	**<159**	ug/m3	559	159	1242		08/22/19 01:12	106-99-0	
2-Butanone (MEK)	**<458**	ug/m3	3730	458	1242		08/22/19 01:12	78-93-3	
Carbon disulfide	**<272**	ug/m3	786	272	1242		08/22/19 01:12	75-15-0	
Carbon tetrachloride	**<533**	ug/m3	1590	533	1242		08/22/19 01:12	56-23-5	
Chlorobenzene	**<342**	ug/m3	1160	342	1242		08/22/19 01:12	108-90-7	
Chloroethane	**<323**	ug/m3	666	323	1242		08/22/19 01:12	75-00-3	
Chloroform	**<243**	ug/m3	616	243	1242		08/22/19 01:12	67-66-3	
Chloromethane	**<194**	ug/m3	522	194	1242		08/22/19 01:12	74-87-3	
Cyclohexane	**<438**	ug/m3	2170	438	1242		08/22/19 01:12	110-82-7	
Dibromochloromethane	**<893**	ug/m3	2150	893	1242		08/22/19 01:12	124-48-1	
1,2-Dibromoethane (EDB)	**<455**	ug/m3	970	455	1242		08/22/19 01:12	106-93-4	
1,2-Dichlorobenzene	**<619**	ug/m3	1520	619	1242		08/22/19 01:12	95-50-1	
1,3-Dichlorobenzene	**<722**	ug/m3	1520	722	1242		08/22/19 01:12	541-73-1	
1,4-Dichlorobenzene	**<1240**	ug/m3	3800	1240	1242		08/22/19 01:12	106-46-7	
Dichlorodifluoromethane	**507J**	ug/m3	1250	364	1242		08/22/19 01:12	75-71-8	
1,1-Dichloroethane	**<279**	ug/m3	1020	279	1242		08/22/19 01:12	75-34-3	
1,2-Dichloroethane	**<186**	ug/m3	510	186	1242		08/22/19 01:12	107-06-2	
1,1-Dichloroethene	**<340**	ug/m3	1000	340	1242		08/22/19 01:12	75-35-4	
cis-1,2-Dichloroethene	**<272**	ug/m3	1000	272	1242		08/22/19 01:12	156-59-2	
trans-1,2-Dichloroethene	**<354**	ug/m3	1000	354	1242		08/22/19 01:12	156-60-5	
1,2-Dichloropropane	**<286**	ug/m3	1170	286	1242		08/22/19 01:12	78-87-5	
cis-1,3-Dichloropropene	**<378**	ug/m3	1150	378	1242		08/22/19 01:12	10061-01-5	
trans-1,3-Dichloropropene	**<546**	ug/m3	1150	546	1242		08/22/19 01:12	10061-02-6	
Dichlorotetrafluoroethane	**<543**	ug/m3	1760	543	1242		08/22/19 01:12	76-14-2	
Ethanol	**<1010**	ug/m3	2380	1010	1242		08/22/19 01:12	64-17-5	
Ethyl acetate	**<236**	ug/m3	910	236	1242		08/22/19 01:12	141-78-6	
Ethylbenzene	**<379**	ug/m3	1100	379	1242		08/22/19 01:12	100-41-4	
4-Ethyltoluene	**<708**	ug/m3	3100	708	1242		08/22/19 01:12	622-96-8	
n-Heptane	**<472**	ug/m3	1030	472	1242		08/22/19 01:12	142-82-5	
Hexachloro-1,3-butadiene	**<2450**	ug/m3	6730	2450	1242		08/22/19 01:12	87-68-3	
n-Hexane	**<386**	ug/m3	889	386	1242		08/22/19 01:12	110-54-3	
2-Hexanone	**<925**	ug/m3	5170	925	1242		08/22/19 01:12	591-78-6	
Methylene Chloride	**<1170**	ug/m3	11000	1170	1242		08/22/19 01:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<643**	ug/m3	5170	643	1242		08/22/19 01:12	108-10-1	
Methyl-tert-butyl ether	**<823**	ug/m3	4550	823	1242		08/22/19 01:12	1634-04-4	
Naphthalene	**<1640**	ug/m3	3300	1640	1242		08/22/19 01:12	91-20-3	
2-Propanol	**<866**	ug/m3	3100	866	1242		08/22/19 01:12	67-63-0	
Propylene	**<178**	ug/m3	435	178	1242		08/22/19 01:12	115-07-1	
Styrene	**<427**	ug/m3	1080	427	1242		08/22/19 01:12	100-42-5	
1,1,2,2-Tetrachloroethane	**<363**	ug/m3	867	363	1242		08/22/19 01:12	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-15 mins **Lab ID: 10487785001** Collected: 08/13/19 09:55 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**163000**	ug/m3	856	390	1242		08/22/19 01:12	127-18-4	
Tetrahydrofuran	**<324**	ug/m3	745	324	1242		08/22/19 01:12	109-99-9	
Toluene	**<436**	ug/m3	951	436	1242		08/22/19 01:12	108-88-3	
1,2,4-Trichlorobenzene	**<4620**	ug/m3	9360	4620	1242		08/22/19 01:12	120-82-1	
1,1,1-Trichloroethane	**<384**	ug/m3	1380	384	1242		08/22/19 01:12	71-55-6	
1,1,2-Trichloroethane	**<310**	ug/m3	689	310	1242		08/22/19 01:12	79-00-5	
Trichloroethene	**<319**	ug/m3	678	319	1242		08/22/19 01:12	79-01-6	
Trichlorofluoromethane	**<455**	ug/m3	1420	455	1242		08/22/19 01:12	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<700**	ug/m3	1940	700	1242		08/22/19 01:12	76-13-1	
1,2,4-Trimethylbenzene	**<561**	ug/m3	1240	561	1242		08/22/19 01:12	95-63-6	
1,3,5-Trimethylbenzene	**<496**	ug/m3	1240	496	1242		08/22/19 01:12	108-67-8	
Vinyl acetate	**<335**	ug/m3	889	335	1242		08/22/19 01:12	108-05-4	
Vinyl chloride	**<156**	ug/m3	323	156	1242		08/22/19 01:12	75-01-4	
Xylene (Total)	**<868**	ug/m3	3290	868	1242		08/22/19 01:12	1330-20-7	
m&p-Xylene	**<868**	ug/m3	2200	868	1242		08/22/19 01:12	179601-23-1	
o-Xylene	**<427**	ug/m3	1100	427	1242		08/22/19 01:12	95-47-6	

Sample: SVE-1-1 hours **Lab ID: 10487785002** Collected: 08/13/19 10:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**<1590**	ug/m3	3180	1590	1318		08/22/19 01:40	67-64-1	
Benzene	**<202**	ug/m3	428	202	1318		08/22/19 01:40	71-43-2	
Benzyl chloride	**<1580**	ug/m3	3470	1580	1318		08/22/19 01:40	100-44-7	
Bromodichloromethane	**<482**	ug/m3	1790	482	1318		08/22/19 01:40	75-27-4	
Bromoform	**<1870**	ug/m3	6920	1870	1318		08/22/19 01:40	75-25-2	
Bromomethane	**<299**	ug/m3	1040	299	1318		08/22/19 01:40	74-83-9	
1,3-Butadiene	**<169**	ug/m3	593	169	1318		08/22/19 01:40	106-99-0	
2-Butanone (MEK)	**<486**	ug/m3	3950	486	1318		08/22/19 01:40	78-93-3	
Carbon disulfide	**<289**	ug/m3	834	289	1318		08/22/19 01:40	75-15-0	
Carbon tetrachloride	**<565**	ug/m3	1690	565	1318		08/22/19 01:40	56-23-5	
Chlorobenzene	**<362**	ug/m3	1230	362	1318		08/22/19 01:40	108-90-7	
Chloroethane	**<343**	ug/m3	706	343	1318		08/22/19 01:40	75-00-3	
Chloroform	**<258**	ug/m3	654	258	1318		08/22/19 01:40	67-66-3	
Chloromethane	**<206**	ug/m3	554	206	1318		08/22/19 01:40	74-87-3	
Cyclohexane	**<465**	ug/m3	2310	465	1318		08/22/19 01:40	110-82-7	
Dibromochloromethane	**<948**	ug/m3	2280	948	1318		08/22/19 01:40	124-48-1	
1,2-Dibromoethane (EDB)	**<482**	ug/m3	1030	482	1318		08/22/19 01:40	106-93-4	
1,2-Dichlorobenzene	**<656**	ug/m3	1610	656	1318		08/22/19 01:40	95-50-1	
1,3-Dichlorobenzene	**<766**	ug/m3	1610	766	1318		08/22/19 01:40	541-73-1	
1,4-Dichlorobenzene	**<1320**	ug/m3	4030	1320	1318		08/22/19 01:40	106-46-7	
Dichlorodifluoromethane	**554J**	ug/m3	1330	386	1318		08/22/19 01:40	75-71-8	
1,1-Dichloroethane	**<297**	ug/m3	1080	297	1318		08/22/19 01:40	75-34-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-1 hours **Lab ID: 10487785002** Collected: 08/13/19 10:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,2-Dichloroethane	**<198**	ug/m3	542	198	1318		08/22/19 01:40	107-06-2	
1,1-Dichloroethene	**<361**	ug/m3	1060	361	1318		08/22/19 01:40	75-35-4	
cis-1,2-Dichloroethene	**<289**	ug/m3	1060	289	1318		08/22/19 01:40	156-59-2	
trans-1,2-Dichloroethene	**<376**	ug/m3	1060	376	1318		08/22/19 01:40	156-60-5	
1,2-Dichloropropane	**<303**	ug/m3	1240	303	1318		08/22/19 01:40	78-87-5	
cis-1,3-Dichloropropene	**<401**	ug/m3	1220	401	1318		08/22/19 01:40	10061-01-5	
trans-1,3-Dichloropropene	**<580**	ug/m3	1220	580	1318		08/22/19 01:40	10061-02-6	
Dichlorotetrafluoroethane	**<576**	ug/m3	1870	576	1318		08/22/19 01:40	76-14-2	
Ethanol	**<1070**	ug/m3	2530	1070	1318		08/22/19 01:40	64-17-5	
Ethyl acetate	**<250**	ug/m3	966	250	1318		08/22/19 01:40	141-78-6	
Ethylbenzene	**<402**	ug/m3	1160	402	1318		08/22/19 01:40	100-41-4	
4-Ethyltoluene	**<751**	ug/m3	3300	751	1318		08/22/19 01:40	622-96-8	
n-Heptane	**<501**	ug/m3	1100	501	1318		08/22/19 01:40	142-82-5	
Hexachloro-1,3-butadiene	**<2600**	ug/m3	7140	2600	1318		08/22/19 01:40	87-68-3	
n-Hexane	**<410**	ug/m3	944	410	1318		08/22/19 01:40	110-54-3	
2-Hexanone	**<982**	ug/m3	5480	982	1318		08/22/19 01:40	591-78-6	
Methylene Chloride	**<1240**	ug/m3	11600	1240	1318		08/22/19 01:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<683**	ug/m3	5480	683	1318		08/22/19 01:40	108-10-1	
Methyl-tert-butyl ether	**<874**	ug/m3	4820	874	1318		08/22/19 01:40	1634-04-4	
Naphthalene	**<1740**	ug/m3	3510	1740	1318		08/22/19 01:40	91-20-3	
2-Propanol	**<919**	ug/m3	3300	919	1318		08/22/19 01:40	67-63-0	
Propylene	**<188**	ug/m3	461	188	1318		08/22/19 01:40	115-07-1	
Styrene	**<453**	ug/m3	1140	453	1318		08/22/19 01:40	100-42-5	
1,1,2,2-Tetrachloroethane	**<385**	ug/m3	920	385	1318		08/22/19 01:40	79-34-5	
Tetrachloroethene	**190000**	ug/m3	908	414	1318		08/22/19 01:40	127-18-4	
Tetrahydrofuran	**<344**	ug/m3	791	344	1318		08/22/19 01:40	109-99-9	
Toluene	**<463**	ug/m3	1010	463	1318		08/22/19 01:40	108-88-3	
1,2,4-Trichlorobenzene	**<4900**	ug/m3	9940	4900	1318		08/22/19 01:40	120-82-1	
1,1,1-Trichloroethane	**<407**	ug/m3	1460	407	1318		08/22/19 01:40	71-55-6	
1,1,2-Trichloroethane	**<330**	ug/m3	731	330	1318		08/22/19 01:40	79-00-5	
Trichloroethene	**<339**	ug/m3	720	339	1318		08/22/19 01:40	79-01-6	
Trichlorofluoromethane	**<482**	ug/m3	1500	482	1318		08/22/19 01:40	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<743**	ug/m3	2060	743	1318		08/22/19 01:40	76-13-1	
1,2,4-Trimethylbenzene	**<596**	ug/m3	1320	596	1318		08/22/19 01:40	95-63-6	
1,3,5-Trimethylbenzene	**<526**	ug/m3	1320	526	1318		08/22/19 01:40	108-67-8	
Vinyl acetate	**<356**	ug/m3	944	356	1318		08/22/19 01:40	108-05-4	
Vinyl chloride	**<166**	ug/m3	343	166	1318		08/22/19 01:40	75-01-4	
Xylene (Total)	**<921**	ug/m3	3490	921	1318		08/22/19 01:40	1330-20-7	
m&p-Xylene	**<921**	ug/m3	2330	921	1318		08/22/19 01:40	179601-23-1	
o-Xylene	**<453**	ug/m3	1160	453	1318		08/22/19 01:40	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-3 hours **Lab ID: 10487785003** Collected: 08/13/19 12:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**<1560**	ug/m3	3120	1560	1293		08/22/19 00:43	67-64-1	
Benzene	**<198**	ug/m3	420	198	1293		08/22/19 00:43	71-43-2	
Benzyl chloride	**<1550**	ug/m3	3400	1550	1293		08/22/19 00:43	100-44-7	
Bromodichloromethane	**<473**	ug/m3	1760	473	1293		08/22/19 00:43	75-27-4	
Bromoform	**<1840**	ug/m3	6790	1840	1293		08/22/19 00:43	75-25-2	
Bromomethane	**<294**	ug/m3	1020	294	1293		08/22/19 00:43	74-83-9	
1,3-Butadiene	**<166**	ug/m3	582	166	1293		08/22/19 00:43	106-99-0	
2-Butanone (MEK)	**<477**	ug/m3	3880	477	1293		08/22/19 00:43	78-93-3	
Carbon disulfide	**<283**	ug/m3	818	283	1293		08/22/19 00:43	75-15-0	
Carbon tetrachloride	**<555**	ug/m3	1660	555	1293		08/22/19 00:43	56-23-5	
Chlorobenzene	**<356**	ug/m3	1210	356	1293		08/22/19 00:43	108-90-7	
Chloroethane	**<336**	ug/m3	693	336	1293		08/22/19 00:43	75-00-3	
Chloroform	**<253**	ug/m3	641	253	1293		08/22/19 00:43	67-66-3	
Chloromethane	**<202**	ug/m3	543	202	1293		08/22/19 00:43	74-87-3	
Cyclohexane	**<456**	ug/m3	2260	456	1293		08/22/19 00:43	110-82-7	
Dibromochloromethane	**<930**	ug/m3	2240	930	1293		08/22/19 00:43	124-48-1	
1,2-Dibromoethane (EDB)	**<473**	ug/m3	1010	473	1293		08/22/19 00:43	106-93-4	
1,2-Dichlorobenzene	**<644**	ug/m3	1580	644	1293		08/22/19 00:43	95-50-1	
1,3-Dichlorobenzene	**<751**	ug/m3	1580	751	1293		08/22/19 00:43	541-73-1	
1,4-Dichlorobenzene	**<1290**	ug/m3	3960	1290	1293		08/22/19 00:43	106-46-7	
Dichlorodifluoromethane	**541J**	ug/m3	1310	379	1293		08/22/19 00:43	75-71-8	
1,1-Dichloroethane	**<291**	ug/m3	1060	291	1293		08/22/19 00:43	75-34-3	
1,2-Dichloroethane	**<194**	ug/m3	531	194	1293		08/22/19 00:43	107-06-2	
1,1-Dichloroethene	**<354**	ug/m3	1040	354	1293		08/22/19 00:43	75-35-4	
cis-1,2-Dichloroethene	**<283**	ug/m3	1040	283	1293		08/22/19 00:43	156-59-2	
trans-1,2-Dichloroethene	**<369**	ug/m3	1040	369	1293		08/22/19 00:43	156-60-5	
1,2-Dichloropropane	**<297**	ug/m3	1210	297	1293		08/22/19 00:43	78-87-5	
cis-1,3-Dichloropropene	**<393**	ug/m3	1190	393	1293		08/22/19 00:43	10061-01-5	
trans-1,3-Dichloropropene	**<569**	ug/m3	1190	569	1293		08/22/19 00:43	10061-02-6	
Dichlorotetrafluoroethane	**<565**	ug/m3	1840	565	1293		08/22/19 00:43	76-14-2	
Ethanol	**<1050**	ug/m3	2480	1050	1293		08/22/19 00:43	64-17-5	
Ethyl acetate	**<246**	ug/m3	948	246	1293		08/22/19 00:43	141-78-6	
Ethylbenzene	**<394**	ug/m3	1140	394	1293		08/22/19 00:43	100-41-4	
4-Ethyltoluene	**<737**	ug/m3	3230	737	1293		08/22/19 00:43	622-96-8	
n-Heptane	**<491**	ug/m3	1080	491	1293		08/22/19 00:43	142-82-5	
Hexachloro-1,3-butadiene	**<2550**	ug/m3	7010	2550	1293		08/22/19 00:43	87-68-3	
n-Hexane	**<402**	ug/m3	926	402	1293		08/22/19 00:43	110-54-3	
2-Hexanone	**<963**	ug/m3	5380	963	1293		08/22/19 00:43	591-78-6	
Methylene Chloride	**<1220**	ug/m3	11400	1220	1293		08/22/19 00:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<670**	ug/m3	5380	670	1293		08/22/19 00:43	108-10-1	
Methyl-tert-butyl ether	**<857**	ug/m3	4730	857	1293		08/22/19 00:43	1634-04-4	
Naphthalene	**<1710**	ug/m3	3440	1710	1293		08/22/19 00:43	91-20-3	
2-Propanol	**<901**	ug/m3	3230	901	1293		08/22/19 00:43	67-63-0	
Propylene	**<185**	ug/m3	453	185	1293		08/22/19 00:43	115-07-1	
Styrene	**<445**	ug/m3	1120	445	1293		08/22/19 00:43	100-42-5	
1,1,2,2-Tetrachloroethane	**<378**	ug/m3	903	378	1293		08/22/19 00:43	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-3 hours **Lab ID: 10487785003** Collected: 08/13/19 12:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**146000**	ug/m3	891	406	1293		08/22/19 00:43	127-18-4	
Tetrahydrofuran	**<337**	ug/m3	776	337	1293		08/22/19 00:43	109-99-9	
Toluene	**<454**	ug/m3	990	454	1293		08/22/19 00:43	108-88-3	
1,2,4-Trichlorobenzene	**<4810**	ug/m3	9750	4810	1293		08/22/19 00:43	120-82-1	
1,1,1-Trichloroethane	**<400**	ug/m3	1440	400	1293		08/22/19 00:43	71-55-6	
1,1,2-Trichloroethane	**<323**	ug/m3	718	323	1293		08/22/19 00:43	79-00-5	
Trichloroethene	**<332**	ug/m3	706	332	1293		08/22/19 00:43	79-01-6	
Trichlorofluoromethane	**<473**	ug/m3	1470	473	1293		08/22/19 00:43	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<729**	ug/m3	2020	729	1293		08/22/19 00:43	76-13-1	
1,2,4-Trimethylbenzene	**<584**	ug/m3	1290	584	1293		08/22/19 00:43	95-63-6	
1,3,5-Trimethylbenzene	**<516**	ug/m3	1290	516	1293		08/22/19 00:43	108-67-8	
Vinyl acetate	**<349**	ug/m3	926	349	1293		08/22/19 00:43	108-05-4	
Vinyl chloride	**<163**	ug/m3	336	163	1293		08/22/19 00:43	75-01-4	
Xylene (Total)	**<904**	ug/m3	3430	904	1293		08/22/19 00:43	1330-20-7	
m&p-Xylene	**<904**	ug/m3	2290	904	1293		08/22/19 00:43	179601-23-1	
o-Xylene	**<445**	ug/m3	1140	445	1293		08/22/19 00:43	95-47-6	

Sample: SVE-1-6 hours **Lab ID: 10487785004** Collected: 08/13/19 15:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**<1320**	ug/m3	2640	1320	1094		08/22/19 00:14	67-64-1	
Benzene	**<167**	ug/m3	356	167	1094		08/22/19 00:14	71-43-2	
Benzyl chloride	**<1310**	ug/m3	2880	1310	1094		08/22/19 00:14	100-44-7	
Bromodichloromethane	**<400**	ug/m3	1490	400	1094		08/22/19 00:14	75-27-4	
Bromoform	**<1550**	ug/m3	5740	1550	1094		08/22/19 00:14	75-25-2	
Bromomethane	**<248**	ug/m3	863	248	1094		08/22/19 00:14	74-83-9	
1,3-Butadiene	**<140**	ug/m3	492	140	1094		08/22/19 00:14	106-99-0	
2-Butanone (MEK)	**<404**	ug/m3	3280	404	1094		08/22/19 00:14	78-93-3	
Carbon disulfide	**<240**	ug/m3	693	240	1094		08/22/19 00:14	75-15-0	
Carbon tetrachloride	**<469**	ug/m3	1400	469	1094		08/22/19 00:14	56-23-5	
Chlorobenzene	**<301**	ug/m3	1020	301	1094		08/22/19 00:14	108-90-7	
Chloroethane	**<284**	ug/m3	586	284	1094		08/22/19 00:14	75-00-3	
Chloroform	**<214**	ug/m3	543	214	1094		08/22/19 00:14	67-66-3	
Chloromethane	**<171**	ug/m3	459	171	1094		08/22/19 00:14	74-87-3	
Cyclohexane	**<386**	ug/m3	1910	386	1094		08/22/19 00:14	110-82-7	
Dibromochloromethane	**<787**	ug/m3	1890	787	1094		08/22/19 00:14	124-48-1	
1,2-Dibromoethane (EDB)	**<400**	ug/m3	854	400	1094		08/22/19 00:14	106-93-4	
1,2-Dichlorobenzene	**<545**	ug/m3	1330	545	1094		08/22/19 00:14	95-50-1	
1,3-Dichlorobenzene	**<636**	ug/m3	1330	636	1094		08/22/19 00:14	541-73-1	
1,4-Dichlorobenzene	**<1090**	ug/m3	3350	1090	1094		08/22/19 00:14	106-46-7	
Dichlorodifluoromethane	**521J**	ug/m3	1100	321	1094		08/22/19 00:14	75-71-8	
1,1-Dichloroethane	**<246**	ug/m3	900	246	1094		08/22/19 00:14	75-34-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Sample: SVE-1-6 hours **Lab ID: 10487785004** Collected: 08/13/19 15:40 Received: 08/16/19 11:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,2-Dichloroethane	**<164**	ug/m3	450	164	1094		08/22/19 00:14	107-06-2	
1,1-Dichloroethene	**<300**	ug/m3	882	300	1094		08/22/19 00:14	75-35-4	
cis-1,2-Dichloroethene	**<240**	ug/m3	882	240	1094		08/22/19 00:14	156-59-2	
trans-1,2-Dichloroethene	**<312**	ug/m3	882	312	1094		08/22/19 00:14	156-60-5	
1,2-Dichloropropane	**<252**	ug/m3	1030	252	1094		08/22/19 00:14	78-87-5	
cis-1,3-Dichloropropene	**<333**	ug/m3	1010	333	1094		08/22/19 00:14	10061-01-5	
trans-1,3-Dichloropropene	**<481**	ug/m3	1010	481	1094		08/22/19 00:14	10061-02-6	
Dichlorotetrafluoroethane	**<478**	ug/m3	1550	478	1094		08/22/19 00:14	76-14-2	
Ethanol	**<888**	ug/m3	2100	888	1094		08/22/19 00:14	64-17-5	
Ethyl acetate	**<208**	ug/m3	802	208	1094		08/22/19 00:14	141-78-6	
Ethylbenzene	**<334**	ug/m3	966	334	1094		08/22/19 00:14	100-41-4	
4-Ethyltoluene	**<624**	ug/m3	2740	624	1094		08/22/19 00:14	622-96-8	
n-Heptane	**<416**	ug/m3	911	416	1094		08/22/19 00:14	142-82-5	
Hexachloro-1,3-butadiene	**<2160**	ug/m3	5930	2160	1094		08/22/19 00:14	87-68-3	
n-Hexane	**<340**	ug/m3	783	340	1094		08/22/19 00:14	110-54-3	
2-Hexanone	**<815**	ug/m3	4550	815	1094		08/22/19 00:14	591-78-6	
Methylene Chloride	**<1030**	ug/m3	9660	1030	1094		08/22/19 00:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<567**	ug/m3	4550	567	1094		08/22/19 00:14	108-10-1	
Methyl-tert-butyl ether	**<725**	ug/m3	4000	725	1094		08/22/19 00:14	1634-04-4	
Naphthalene	**<1440**	ug/m3	2910	1440	1094		08/22/19 00:14	91-20-3	
2-Propanol	**<763**	ug/m3	2740	763	1094		08/22/19 00:14	67-63-0	
Propylene	**<156**	ug/m3	383	156	1094		08/22/19 00:14	115-07-1	
Styrene	**<376**	ug/m3	947	376	1094		08/22/19 00:14	100-42-5	
1,1,2,2-Tetrachloroethane	**<319**	ug/m3	764	319	1094		08/22/19 00:14	79-34-5	
Tetrachloroethene	**136000**	ug/m3	754	344	1094		08/22/19 00:14	127-18-4	
Tetrahydrofuran	**<286**	ug/m3	656	286	1094		08/22/19 00:14	109-99-9	
Toluene	**<384**	ug/m3	838	384	1094		08/22/19 00:14	108-88-3	
1,2,4-Trichlorobenzene	**<4070**	ug/m3	8250	4070	1094		08/22/19 00:14	120-82-1	
1,1,1-Trichloroethane	**<338**	ug/m3	1210	338	1094		08/22/19 00:14	71-55-6	
1,1,2-Trichloroethane	**<274**	ug/m3	607	274	1094		08/22/19 00:14	79-00-5	
Trichloroethene	**<281**	ug/m3	597	281	1094		08/22/19 00:14	79-01-6	
Trichlorofluoromethane	**<400**	ug/m3	1250	400	1094		08/22/19 00:14	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<617**	ug/m3	1710	617	1094		08/22/19 00:14	76-13-1	
1,2,4-Trimethylbenzene	**<494**	ug/m3	1090	494	1094		08/22/19 00:14	95-63-6	
1,3,5-Trimethylbenzene	**<437**	ug/m3	1090	437	1094		08/22/19 00:14	108-67-8	
Vinyl acetate	**<295**	ug/m3	783	295	1094		08/22/19 00:14	108-05-4	
Vinyl chloride	**<138**	ug/m3	284	138	1094		08/22/19 00:14	75-01-4	
Xylene (Total)	**<765**	ug/m3	2900	765	1094		08/22/19 00:14	1330-20-7	
m&p-Xylene	**<765**	ug/m3	1940	765	1094		08/22/19 00:14	179601-23-1	
o-Xylene	**<376**	ug/m3	966	376	1094		08/22/19 00:14	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

QC Batch: 627618 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10487785001, 10487785002, 10487785003, 10487785004

METHOD BLANK: 3386737 Matrix: Air
Associated Lab Samples: 10487785001, 10487785002, 10487785003, 10487785004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	08/21/19 11:24	
1,1,2,2-Tetrachloroethane	ug/m3	<0.29	0.70	08/21/19 11:24	
1,1,2-Trichloroethane	ug/m3	<0.25	0.56	08/21/19 11:24	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.56	1.6	08/21/19 11:24	
1,1-Dichloroethane	ug/m3	<0.22	0.82	08/21/19 11:24	
1,1-Dichloroethene	ug/m3	<0.27	0.81	08/21/19 11:24	
1,2,4-Trichlorobenzene	ug/m3	<3.7	7.5	08/21/19 11:24	
1,2,4-Trimethylbenzene	ug/m3	<0.45	1.0	08/21/19 11:24	
1,2-Dibromoethane (EDB)	ug/m3	<0.37	0.78	08/21/19 11:24	
1,2-Dichlorobenzene	ug/m3	<0.50	1.2	08/21/19 11:24	
1,2-Dichloroethane	ug/m3	<0.15	0.41	08/21/19 11:24	
1,2-Dichloropropane	ug/m3	<0.23	0.94	08/21/19 11:24	
1,3,5-Trimethylbenzene	ug/m3	<0.40	1.0	08/21/19 11:24	
1,3-Butadiene	ug/m3	<0.13	0.45	08/21/19 11:24	
1,3-Dichlorobenzene	ug/m3	<0.58	1.2	08/21/19 11:24	
1,4-Dichlorobenzene	ug/m3	<1.0	3.1	08/21/19 11:24	
2-Butanone (MEK)	ug/m3	<0.37	3.0	08/21/19 11:24	
2-Hexanone	ug/m3	<0.74	4.2	08/21/19 11:24	
2-Propanol	ug/m3	<0.70	2.5	08/21/19 11:24	
4-Ethyltoluene	ug/m3	<0.57	2.5	08/21/19 11:24	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.52	4.2	08/21/19 11:24	
Acetone	ug/m3	<1.2	2.4	08/21/19 11:24	
Benzene	ug/m3	<0.15	0.32	08/21/19 11:24	
Benzyl chloride	ug/m3	<1.2	2.6	08/21/19 11:24	
Bromodichloromethane	ug/m3	<0.37	1.4	08/21/19 11:24	
Bromoform	ug/m3	<1.4	5.2	08/21/19 11:24	
Bromomethane	ug/m3	<0.23	0.79	08/21/19 11:24	
Carbon disulfide	ug/m3	<0.22	0.63	08/21/19 11:24	
Carbon tetrachloride	ug/m3	<0.43	1.3	08/21/19 11:24	
Chlorobenzene	ug/m3	<0.28	0.94	08/21/19 11:24	
Chloroethane	ug/m3	<0.26	0.54	08/21/19 11:24	
Chloroform	ug/m3	<0.20	0.50	08/21/19 11:24	
Chloromethane	ug/m3	<0.16	0.42	08/21/19 11:24	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	08/21/19 11:24	
cis-1,3-Dichloropropene	ug/m3	<0.30	0.92	08/21/19 11:24	
Cyclohexane	ug/m3	<0.35	1.8	08/21/19 11:24	
Dibromochloromethane	ug/m3	<0.72	1.7	08/21/19 11:24	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	08/21/19 11:24	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	08/21/19 11:24	
Ethanol	ug/m3	<0.81	1.9	08/21/19 11:24	
Ethyl acetate	ug/m3	<0.19	0.73	08/21/19 11:24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

METHOD BLANK: 3386737 Matrix: Air
Associated Lab Samples: 10487785001, 10487785002, 10487785003, 10487785004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/m3	<0.30	0.88	08/21/19 11:24	
Hexachloro-1,3-butadiene	ug/m3	<2.0	5.4	08/21/19 11:24	
m&p-Xylene	ug/m3	<0.70	1.8	08/21/19 11:24	
Methyl-tert-butyl ether	ug/m3	<0.66	3.7	08/21/19 11:24	
Methylene Chloride	ug/m3	<0.94	8.8	08/21/19 11:24	
n-Heptane	ug/m3	<0.38	0.83	08/21/19 11:24	
n-Hexane	ug/m3	<0.31	0.72	08/21/19 11:24	
Naphthalene	ug/m3	<1.3	2.7	08/21/19 11:24	
o-Xylene	ug/m3	<0.34	0.88	08/21/19 11:24	
Propylene	ug/m3	<0.14	0.35	08/21/19 11:24	
Styrene	ug/m3	<0.34	0.87	08/21/19 11:24	
Tetrachloroethene	ug/m3	<0.31	0.69	08/21/19 11:24	
Tetrahydrofuran	ug/m3	<0.26	0.60	08/21/19 11:24	
Toluene	ug/m3	<0.35	0.77	08/21/19 11:24	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	08/21/19 11:24	
trans-1,3-Dichloropropene	ug/m3	<0.44	0.92	08/21/19 11:24	
Trichloroethene	ug/m3	<0.26	0.55	08/21/19 11:24	
Trichlorofluoromethane	ug/m3	<0.37	1.1	08/21/19 11:24	
Vinyl acetate	ug/m3	<0.27	0.72	08/21/19 11:24	
Vinyl chloride	ug/m3	<0.13	0.26	08/21/19 11:24	
Xylene (Total)	ug/m3	<0.70	2.6	08/21/19 11:24	

LABORATORY CONTROL SAMPLE: 3386738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	62.0	112	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	78.5	112	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	66.5	120	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	81.1	104	70-130	
1,1-Dichloroethane	ug/m3	41.1	43.1	105	70-130	
1,1-Dichloroethene	ug/m3	40.3	42.8	106	70-130	
1,2,4-Trichlorobenzene	ug/m3	75.4	67.3	89	56-130	
1,2,4-Trimethylbenzene	ug/m3	50	58.9	118	70-134	
1,2-Dibromoethane (EDB)	ug/m3	78.1	86.0	110	70-130	
1,2-Dichlorobenzene	ug/m3	61.1	68.0	111	70-132	
1,2-Dichloroethane	ug/m3	41.1	46.3	113	70-130	
1,2-Dichloropropane	ug/m3	47	51.6	110	70-130	
1,3,5-Trimethylbenzene	ug/m3	50	58.5	117	70-132	
1,3-Butadiene	ug/m3	22.5	25.1	112	65-130	
1,3-Dichlorobenzene	ug/m3	61.1	67.3	110	70-137	
1,4-Dichlorobenzene	ug/m3	61.1	69.7	114	70-134	
2-Butanone (MEK)	ug/m3	30	27.4	91	70-130	
2-Hexanone	ug/m3	41.6	44.4	107	70-135	
2-Propanol	ug/m3	125	125	100	68-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

LABORATORY CONTROL SAMPLE: 3386738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	50	61.5	123	70-138	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	47.2	113	70-131	
Acetone	ug/m3	121	124	103	67-130	
Benzene	ug/m3	32.5	34.2	105	70-130	
Benzyl chloride	ug/m3	52.6	56.9	108	70-130	
Bromodichloromethane	ug/m3	68.1	78.5	115	70-130	
Bromoform	ug/m3	105	129	123	70-132	
Bromomethane	ug/m3	39.5	41.0	104	69-130	
Carbon disulfide	ug/m3	31.6	34.4	109	56-137	
Carbon tetrachloride	ug/m3	64	79.8	125	66-131	
Chlorobenzene	ug/m3	46.8	52.9	113	70-130	
Chloroethane	ug/m3	26.8	27.8	104	70-130	
Chloroform	ug/m3	49.6	52.7	106	70-130	
Chloromethane	ug/m3	21	20.2	96	66-130	
cis-1,2-Dichloroethene	ug/m3	40.3	44.2	110	70-130	
cis-1,3-Dichloropropene	ug/m3	46.1	55.0	119	70-133	
Cyclohexane	ug/m3	35	39.7	113	68-132	
Dibromochloromethane	ug/m3	86.6	104	120	70-130	
Dichlorodifluoromethane	ug/m3	50.3	52.4	104	70-130	
Dichlorotetrafluoroethane	ug/m3	71	71.8	101	70-130	
Ethanol	ug/m3	95.8	83.5	87	68-133	
Ethyl acetate	ug/m3	36.6	38.4	105	69-130	
Ethylbenzene	ug/m3	44.1	54.2	123	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	114	105	66-137	
m&p-Xylene	ug/m3	88.3	104	118	70-132	
Methyl-tert-butyl ether	ug/m3	36.6	39.5	108	70-130	
Methylene Chloride	ug/m3	177	221	125	65-130	
n-Heptane	ug/m3	41.7	45.5	109	65-130	
n-Hexane	ug/m3	35.8	32.5	91	66-130	
Naphthalene	ug/m3	53.3	48.4	91	56-130	
o-Xylene	ug/m3	44.1	51.0	116	70-130	
Propylene	ug/m3	17.5	18.5	106	67-130	
Styrene	ug/m3	43.3	53.3	123	69-136	
Tetrachloroethene	ug/m3	68.9	71.9	104	70-130	
Tetrahydrofuran	ug/m3	30	34.0	113	68-131	
Toluene	ug/m3	38.3	43.2	113	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	44.0	109	70-130	
trans-1,3-Dichloropropene	ug/m3	46.1	57.7	125	70-134	
Trichloroethene	ug/m3	54.6	63.5	116	70-130	
Trichlorofluoromethane	ug/m3	57.1	58.0	102	65-130	
Vinyl acetate	ug/m3	35.8	38.4	107	61-133	
Vinyl chloride	ug/m3	26	26.7	103	70-130	
Xylene (Total)	ug/m3	132	155	117	70-136	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25211372.21 Pilgrim Cleaners
Pace Project No.: 10487785

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10487785001	**SVE-1-15 mins**	TO-15	627618		
10487785002	**SVE-1-1 hours**	TO-15	627618		
10487785003	**SVE-1-3 hours**	TO-15	627618		
10487785004	**SVE-1-6 hours**	TO-15	627618		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO# : 10487785

10487785

39285

Page: 1 of 1

Section A Required Client Information:

Company: SCS
Address: 2830 Dairy Dr Madison, WI
Email To: rlangdon@scsengineers.com
Phone: Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Robert Langdon
Copy To:
Purchase Order No.:
Project Name: Pilgrim Cleaners
Project Number: 25211372.21

Section C Invoice Information:

Attention: Robert Langdon
Company Name: SCS
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 32630

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☒ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: WI

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV X PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SVE-1-15 Mins	1LC	30	9/13/19	955	9/13/19	955	28	6	2224	1170					X					001
2	SVE-1-1 hours	↓	↓	↓	1035	↓	1040	29	5	2067	1607					↓					002
3	SVE-1-3 hours				1235		1240	29	5	2009	1758										003
4	SVE-1-6 hours				1535		1540	29.5	0	2868	1242										004
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Robert Langdon	8/14/19	500pm	PACE	8/16/19	1125

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Langdon

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY): 8/14/19

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: SCS ENGINEERS

Project #: **WO# : 10487785**

PM: KNH **Due Date: 08/23/19**

CLIENT: SCS Engineer

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 1083 0279 4751

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 8/16/19 cMy

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used?	[X] Yes [ ] No	9.
-Pace Containers Used?	[X] Yes [ ] No	
Containers Intact?	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	[X] Yes [ ] No	13.

Samples Received: Pressure Gauge # [ ] 10AIR34 [X] 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SVE-1-15MINS	2224	1170	-5.5	+10					
SVE-1-1HOURS	3067	1607	-4	+10					
SVE-1-3HOURS	2009	1758	-5	+10					
SVE-1-6HOURS	2868	1242	-0.5	+10					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hoffberg **Date:** 8/19/2019

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785001 ProjSampleNum: 10487785001 Date Collected: 08/13/19 9:55
Client Sample ID: SVE-1-15 mins Matrix: Air Date Received: 08/16/19 11:25

Air

TO-15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
1,1,1-Trichloroethane	<69.2	ppbv	249	69.2	08/22/19 1:12 CH1	71-55-6	
1,1,2,2-Tetrachloroethane	<52	ppbv	124	52	08/22/19 1:12 CH1	79-34-5	
1,1,2-Trichloroethane	<55.9	ppbv	124	55.9	08/22/19 1:12 CH1	79-00-5	
1,1,2-Trichlorotrifluoroethane	<89.9	ppbv	249	89.9	08/22/19 1:12 CH1	76-13-1	
1,1-Dichloroethane	<67.8	ppbv	248	67.8	08/22/19 1:12 CH1	75-34-3	
1,1-Dichloroethene	<84.4	ppbv	248	84.4	08/22/19 1:12 CH1	75-35-4	
1,2,4-Trichlorobenzene	<612	ppbv	1240	612	08/22/19 1:12 CH1	120-82-1	
1,2,4-Trimethylbenzene	<112	ppbv	248	112	08/22/19 1:12 CH1	95-63-6	
1,2-Dibromoethane (EDB)	<58.3	ppbv	124	58.3	08/22/19 1:12 CH1	106-93-4	
1,2-Dichlorobenzene	<101	ppbv	249	101	08/22/19 1:12 CH1	95-50-1	
1,2-Dichloroethane	<45.2	ppbv	124	45.2	08/22/19 1:12 CH1	107-06-2	
1,2-Dichloropropane	<60.9	ppbv	249	60.9	08/22/19 1:12 CH1	78-87-5	
1,3,5-Trimethylbenzene	<99.3	ppbv	248	99.3	08/22/19 1:12 CH1	108-67-8	
1,3-Butadiene	<70.7	ppbv	249	70.7	08/22/19 1:12 CH1	106-99-0	
1,3-Dichlorobenzene	<118	ppbv	249	118	08/22/19 1:12 CH1	541-73-1	
1,4-Dichlorobenzene	<203	ppbv	622	203	08/22/19 1:12 CH1	106-46-7	
2-Butanone (MEK)	<153	ppbv	1240	153	08/22/19 1:12 CH1	78-93-3	
2-Hexanone	<222	ppbv	1240	222	08/22/19 1:12 CH1	591-78-6	
2-Propanol	<347	ppbv	1240	347	08/22/19 1:12 CH1	67-63-0	
4-Ethyltoluene	<142	ppbv	620	142	08/22/19 1:12 CH1	622-96-8	
4-Methyl-2-pentanone (MIBK)	<154	ppbv	1240	154	08/22/19 1:12 CH1	108-10-1	
Acetone	<621	ppbv	1240	621	08/22/19 1:12 CH1	67-64-1	
Benzene	<58.5	ppbv	124	58.5	08/22/19 1:12 CH1	71-43-2	
Benzyl chloride	<283	ppbv	621	283	08/22/19 1:12 CH1	100-44-7	
Bromodichloromethane	<66.8	ppbv	248	66.8	08/22/19 1:12 CH1	75-27-4	
Bromoform	<168	ppbv	621	168	08/22/19 1:12 CH1	75-25-2	
Bromomethane	<71.4	ppbv	248	71.4	08/22/19 1:12 CH1	74-83-9	
Carbon disulfide	<85.9	ppbv	248	85.9	08/22/19 1:12 CH1	75-15-0	
Carbon tetrachloride	<83.3	ppbv	249	83.3	08/22/19 1:12 CH1	56-23-5	
Chlorobenzene	<73.1	ppbv	248	73.1	08/22/19 1:12 CH1	108-90-7	
Chloroethane	<120	ppbv	248	120	08/22/19 1:12 CH1	75-00-3	
Chloroform	<49	ppbv	124	49	08/22/19 1:12 CH1	67-66-3	
Chloromethane	<92.4	ppbv	249	92.4	08/22/19 1:12 CH1	74-87-3	
cis-1,2-Dichloroethene	<67.5	ppbv	248	67.5	08/22/19 1:12 CH1	156-59-2	
cis-1,3-Dichloropropene	<81.9	ppbv	249	81.9	08/22/19 1:12 CH1	10061-01-5	
Cyclohexane	<125	ppbv	620	125	08/22/19 1:12 CH1	110-82-7	
Dibromochloromethane	<103	ppbv	248	103	08/22/19 1:12 CH1	124-48-1	
Dichlorodifluoromethane	101J	ppbv	249	72.4	08/22/19 1:12 CH1	75-71-8	

SUPPLEMENTAL REPORT
Units Conversion Request

Date: 8/26/2019

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785001 ProjSampleNum: 10487785001 Date Collected: 08/13/19 9:55
Client Sample ID: SVE-1-15 mins Matrix: Air Date Received: 08/16/19 11:25

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
Dichlorotetrafluoroethane	<76.4	ppbv	248	76.4	08/22/19 1:12 CH1	76-14-2	
Ethanol	<527	ppbv	1240	527	08/22/19 1:12 CH1	64-17-5	
Ethyl acetate	<64.4	ppbv	248	64.4	08/22/19 1:12 CH1	141-78-6	
Ethylbenzene	<85.9	ppbv	249	85.9	08/22/19 1:12 CH1	100-41-4	
Hexachloro-1,3-butadiene	<226	ppbv	621	226	08/22/19 1:12 CH1	87-68-3	
m&p-Xylene	<197	ppbv	498	197	08/22/19 1:12 CH1	179601-23-	
Methylene Chloride	<331	ppbv	3120	331	08/22/19 1:12 CH1	75-09-2	
Methyl-tert-butyl ether	<225	ppbv	1240	225	08/22/19 1:12 CH1	1634-04-4	
Naphthalene	<308	ppbv	620	308	08/22/19 1:12 CH1	91-20-3	
n-Heptane	<113	ppbv	247	113	08/22/19 1:12 CH1	142-82-5	
n-Hexane	<108	ppbv	248	108	08/22/19 1:12 CH1	110-54-3	
o-Xylene	<96.7	ppbv	249	96.7	08/22/19 1:12 CH1	95-47-6	
Propylene	<102	ppbv	249	102	08/22/19 1:12 CH1	115-07-1	
Styrene	<98.6	ppbv	249	98.6	08/22/19 1:12 CH1	100-42-5	
Tetrachloroethene	23600	ppbv	124	56.6	08/22/19 1:12 CH1	127-18-4	
Tetrahydrofuran	<108	ppbv	249	108	08/22/19 1:12 CH1	109-99-9	
Toluene	<114	ppbv	248	114	08/22/19 1:12 CH1	108-88-3	
trans-1,2-Dichloroethene	<87.8	ppbv	248	87.8	08/22/19 1:12 CH1	156-60-5	
trans-1,3-Dichloropropene	<118	ppbv	249	118	08/22/19 1:12 CH1	10061-02-6	
Trichloroethene	<58.4	ppbv	124	58.4	08/22/19 1:12 CH1	79-01-6	
Trichlorofluoromethane	<79.7	ppbv	249	79.7	08/22/19 1:12 CH1	75-69-4	
Vinyl acetate	<93.6	ppbv	248	93.6	08/22/19 1:12 CH1	108-05-4	
Vinyl chloride	<60	ppbv	124	60	08/22/19 1:12 CH1	75-01-4	
Xylene (Total)	<197	ppbv	745	197	08/22/19 1:12 CH1	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785002 ProjSampleNum: 10487785002 Date Collected: 08/13/19 10:40
Client Sample ID: SVE-1-1 hours Matrix: Air Date Received: 08/16/19 11:25

Air

TO-15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
1,1,1-Trichloroethane	<73.4	ppbv	263	73.4	08/22/19 1:40 CH1	71-55-6	
1,1,2,2-Tetrachloroethane	<55.2	ppbv	132	55.2	08/22/19 1:40 CH1	79-34-5	
1,1,2-Trichloroethane	<59.5	ppbv	132	59.5	08/22/19 1:40 CH1	79-00-5	
1,1,2-Trichlorotrifluoroethane	<95.4	ppbv	264	95.4	08/22/19 1:40 CH1	76-13-1	
1,1-Dichloroethane	<72.2	ppbv	263	72.2	08/22/19 1:40 CH1	75-34-3	
1,1-Dichloroethene	<89.6	ppbv	263	89.6	08/22/19 1:40 CH1	75-35-4	
1,2,4-Trichlorobenzene	<650	ppbv	1320	650	08/22/19 1:40 CH1	120-82-1	
1,2,4-Trimethylbenzene	<119	ppbv	264	119	08/22/19 1:40 CH1	95-63-6	
1,2-Dibromoethane (EDB)	<61.7	ppbv	132	61.7	08/22/19 1:40 CH1	106-93-4	
1,2-Dichlorobenzene	<107	ppbv	263	107	08/22/19 1:40 CH1	95-50-1	
1,2-Dichloroethane	<48.1	ppbv	132	48.1	08/22/19 1:40 CH1	107-06-2	
1,2-Dichloropropane	<64.5	ppbv	264	64.5	08/22/19 1:40 CH1	78-87-5	
1,3,5-Trimethylbenzene	<105	ppbv	264	105	08/22/19 1:40 CH1	108-67-8	
1,3-Butadiene	<75.2	ppbv	264	75.2	08/22/19 1:40 CH1	106-99-0	
1,3-Dichlorobenzene	<125	ppbv	263	125	08/22/19 1:40 CH1	541-73-1	
1,4-Dichlorobenzene	<216	ppbv	659	216	08/22/19 1:40 CH1	106-46-7	
2-Butanone (MEK)	<162	ppbv	1320	162	08/22/19 1:40 CH1	78-93-3	
2-Hexanone	<236	ppbv	1320	236	08/22/19 1:40 CH1	591-78-6	
2-Propanol	<368	ppbv	1320	368	08/22/19 1:40 CH1	67-63-0	
4-Ethyltoluene	<150	ppbv	660	150	08/22/19 1:40 CH1	622-96-8	
4-Methyl-2-pentanone (MIBK)	<164	ppbv	1320	164	08/22/19 1:40 CH1	108-10-1	
Acetone	<658	ppbv	1320	658	08/22/19 1:40 CH1	67-64-1	
Benzene	<62.2	ppbv	132	62.2	08/22/19 1:40 CH1	71-43-2	
Benzyl chloride	<300	ppbv	659	300	08/22/19 1:40 CH1	100-44-7	
Bromodichloromethane	<70.8	ppbv	263	70.8	08/22/19 1:40 CH1	75-27-4	
Bromoform	<178	ppbv	659	178	08/22/19 1:40 CH1	75-25-2	
Bromomethane	<75.8	ppbv	263	75.8	08/22/19 1:40 CH1	74-83-9	
Carbon disulfide	<91.3	ppbv	263	91.3	08/22/19 1:40 CH1	75-15-0	
Carbon tetrachloride	<88.3	ppbv	264	88.3	08/22/19 1:40 CH1	56-23-5	
Chlorobenzene	<77.4	ppbv	263	77.4	08/22/19 1:40 CH1	108-90-7	
Chloroethane	<128	ppbv	263	128	08/22/19 1:40 CH1	75-00-3	
Chloroform	<52	ppbv	132	52	08/22/19 1:40 CH1	67-66-3	
Chloromethane	<98.1	ppbv	264	98.1	08/22/19 1:40 CH1	74-87-3	
cis-1,2-Dichloroethene	<71.7	ppbv	263	71.7	08/22/19 1:40 CH1	156-59-2	
cis-1,3-Dichloropropene	<86.9	ppbv	264	86.9	08/22/19 1:40 CH1	10061-01-5	
Cyclohexane	<133	ppbv	660	133	08/22/19 1:40 CH1	110-82-7	
Dibromochloromethane	<109	ppbv	263	109	08/22/19 1:40 CH1	124-48-1	
Dichlorodifluoromethane	110J	ppbv	265	76.8	08/22/19 1:40 CH1	75-71-8	

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785002 ProjSampleNum: 10487785002 Date Collected: 08/13/19 10:40
Client Sample ID: SVE-1-1 hours Matrix: Air Date Received: 08/16/19 11:25

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
Dichlorotetrafluoroethane	<81.1	ppbv	263	81.1	08/22/19 1:40 CH1	76-14-2	
Ethanol	<559	ppbv	1320	559	08/22/19 1:40 CH1	64-17-5	
Ethyl acetate	<68.3	ppbv	264	68.3	08/22/19 1:40 CH1	141-78-6	
Ethylbenzene	<91.1	ppbv	263	91.1	08/22/19 1:40 CH1	100-41-4	
Hexachloro-1,3-butadiene	<240	ppbv	659	240	08/22/19 1:40 CH1	87-68-3	
m&p-Xylene	<209	ppbv	528	209	08/22/19 1:40 CH1	179601-23-	
Methylene Chloride	<351	ppbv	3290	351	08/22/19 1:40 CH1	75-09-2	
Methyl-tert-butyl ether	<238	ppbv	1320	238	08/22/19 1:40 CH1	1634-04-4	
Naphthalene	<327	ppbv	659	327	08/22/19 1:40 CH1	91-20-3	
n-Heptane	<120	ppbv	264	120	08/22/19 1:40 CH1	142-82-5	
n-Hexane	<114	ppbv	263	114	08/22/19 1:40 CH1	110-54-3	
o-Xylene	<103	ppbv	263	103	08/22/19 1:40 CH1	95-47-6	
Propylene	<107	ppbv	264	107	08/22/19 1:40 CH1	115-07-1	
Styrene	<105	ppbv	263	105	08/22/19 1:40 CH1	100-42-5	
Tetrachloroethene	27600	ppbv	132	60	08/22/19 1:40 CH1	127-18-4	
Tetrahydrofuran	<115	ppbv	264	115	08/22/19 1:40 CH1	109-99-9	
Toluene	<121	ppbv	264	121	08/22/19 1:40 CH1	108-88-3	
trans-1,2-Dichloroethene	<93.3	ppbv	263	93.3	08/22/19 1:40 CH1	156-60-5	
trans-1,3-Dichloropropene	<126	ppbv	264	126	08/22/19 1:40 CH1	10061-02-6	
Trichloroethene	<62.1	ppbv	132	62.1	08/22/19 1:40 CH1	79-01-6	
Trichlorofluoromethane	<84.4	ppbv	263	84.4	08/22/19 1:40 CH1	75-69-4	
Vinyl acetate	<99.5	ppbv	264	99.5	08/22/19 1:40 CH1	108-05-4	
Vinyl chloride	<63.9	ppbv	132	63.9	08/22/19 1:40 CH1	75-01-4	
Xylene (Total)	<209	ppbv	791	209	08/22/19 1:40 CH1	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785003 ProjSampleNum: 10487785003 Date Collected: 08/13/19 12:40
Client Sample ID: SVE-1-3 hours Matrix: Air Date Received: 08/16/19 11:25

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
1,1,1-Trichloroethane	<72.1	ppbv	260	72.1	08/22/19 0:43 CH1	71-55-6	
1,1,2,2-Tetrachloroethane	<54.2	ppbv	129	54.2	08/22/19 0:43 CH1	79-34-5	
1,1,2-Trichloroethane	<58.2	ppbv	129	58.2	08/22/19 0:43 CH1	79-00-5	
1,1,2-Trichlorotrifluoroethane	<93.6	ppbv	259	93.6	08/22/19 0:43 CH1	76-13-1	
1,1-Dichloroethane	<70.7	ppbv	258	70.7	08/22/19 0:43 CH1	75-34-3	
1,1-Dichloroethene	<87.8	ppbv	258	87.8	08/22/19 0:43 CH1	75-35-4	
1,2,4-Trichlorobenzene	<638	ppbv	1290	638	08/22/19 0:43 CH1	120-82-1	
1,2,4-Trimethylbenzene	<117	ppbv	258	117	08/22/19 0:43 CH1	95-63-6	
1,2-Dibromoethane (EDB)	<60.6	ppbv	129	60.6	08/22/19 0:43 CH1	106-93-4	
1,2-Dichlorobenzene	<105	ppbv	259	105	08/22/19 0:43 CH1	95-50-1	
1,2-Dichloroethane	<47.2	ppbv	129	47.2	08/22/19 0:43 CH1	107-06-2	
1,2-Dichloropropane	<63.2	ppbv	258	63.2	08/22/19 0:43 CH1	78-87-5	
1,3,5-Trimethylbenzene	<103	ppbv	258	103	08/22/19 0:43 CH1	108-67-8	
1,3-Butadiene	<73.8	ppbv	259	73.8	08/22/19 0:43 CH1	106-99-0	
1,3-Dichlorobenzene	<123	ppbv	259	123	08/22/19 0:43 CH1	541-73-1	
1,4-Dichlorobenzene	<211	ppbv	648	211	08/22/19 0:43 CH1	106-46-7	
2-Butanone (MEK)	<159	ppbv	1290	159	08/22/19 0:43 CH1	78-93-3	
2-Hexanone	<231	ppbv	1290	231	08/22/19 0:43 CH1	591-78-6	
2-Propanol	<361	ppbv	1290	361	08/22/19 0:43 CH1	67-63-0	
4-Ethyltoluene	<147	ppbv	646	147	08/22/19 0:43 CH1	622-96-8	
4-Methyl-2-pentanone (MIBK)	<161	ppbv	1290	161	08/22/19 0:43 CH1	108-10-1	
Acetone	<646	ppbv	1290	646	08/22/19 0:43 CH1	67-64-1	
Benzene	<61	ppbv	129	61	08/22/19 0:43 CH1	71-43-2	
Benzyl chloride	<295	ppbv	646	295	08/22/19 0:43 CH1	100-44-7	
Bromodichloromethane	<69.4	ppbv	258	69.4	08/22/19 0:43 CH1	75-27-4	
Bromoform	<175	ppbv	646	175	08/22/19 0:43 CH1	75-25-2	
Bromomethane	<74.5	ppbv	258	74.5	08/22/19 0:43 CH1	74-83-9	
Carbon disulfide	<89.4	ppbv	258	89.4	08/22/19 0:43 CH1	75-15-0	
Carbon tetrachloride	<86.8	ppbv	260	86.8	08/22/19 0:43 CH1	56-23-5	
Chlorobenzene	<76.1	ppbv	259	76.1	08/22/19 0:43 CH1	108-90-7	
Chloroethane	<125	ppbv	258	125	08/22/19 0:43 CH1	75-00-3	
Chloroform	<51	ppbv	129	51	08/22/19 0:43 CH1	67-66-3	
Chloromethane	<96.2	ppbv	259	96.2	08/22/19 0:43 CH1	74-87-3	
cis-1,2-Dichloroethene	<70.2	ppbv	258	70.2	08/22/19 0:43 CH1	156-59-2	
cis-1,3-Dichloropropene	<85.2	ppbv	258	85.2	08/22/19 0:43 CH1	10061-01-5	
Cyclohexane	<130	ppbv	646	130	08/22/19 0:43 CH1	110-82-7	
Dibromochloromethane	<107	ppbv	259	107	08/22/19 0:43 CH1	124-48-1	
Dichlorodifluoromethane	108J	ppbv	261	75.4	08/22/19 0:43 CH1	75-71-8	

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785003 ProjSampleNum: 10487785003 Date Collected: 08/13/19 12:40
Client Sample ID: SVE-1-3 hours Matrix: Air Date Received: 08/16/19 11:25

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
Dichlorotetrafluoroethane	<79.5	ppbv	259	79.5	08/22/19 0:43 CH1	76-14-2	
Ethanol	<548	ppbv	1290	548	08/22/19 0:43 CH1	64-17-5	
Ethyl acetate	<67.2	ppbv	259	67.2	08/22/19 0:43 CH1	141-78-6	
Ethylbenzene	<89.3	ppbv	258	89.3	08/22/19 0:43 CH1	100-41-4	
Hexachloro-1,3-butadiene	<235	ppbv	647	235	08/22/19 0:43 CH1	87-68-3	
m&p-Xylene	<205	ppbv	519	205	08/22/19 0:43 CH1	179601-23-	
Methylene Chloride	<346	ppbv	3230	346	08/22/19 0:43 CH1	75-09-2	
Methyl-tert-butyl ether	<234	ppbv	1290	234	08/22/19 0:43 CH1	1634-04-4	
Naphthalene	<321	ppbv	646	321	08/22/19 0:43 CH1	91-20-3	
n-Heptane	<118	ppbv	259	118	08/22/19 0:43 CH1	142-82-5	
n-Hexane	<112	ppbv	258	112	08/22/19 0:43 CH1	110-54-3	
o-Xylene	<101	ppbv	258	101	08/22/19 0:43 CH1	95-47-6	
Propylene	<106	ppbv	259	106	08/22/19 0:43 CH1	115-07-1	
Styrene	<103	ppbv	259	103	08/22/19 0:43 CH1	100-42-5	
Tetrachloroethene	21200	ppbv	129	58.9	08/22/19 0:43 CH1	127-18-4	
Tetrahydrofuran	<112	ppbv	259	112	08/22/19 0:43 CH1	109-99-9	
Toluene	<119	ppbv	258	119	08/22/19 0:43 CH1	108-88-3	
trans-1,2-Dichloroethene	<91.6	ppbv	258	91.6	08/22/19 0:43 CH1	156-60-5	
trans-1,3-Dichloropropene	<123	ppbv	258	123	08/22/19 0:43 CH1	10061-02-6	
Trichloroethene	<60.8	ppbv	129	60.8	08/22/19 0:43 CH1	79-01-6	
Trichlorofluoromethane	<82.8	ppbv	257	82.8	08/22/19 0:43 CH1	75-69-4	
Vinyl acetate	<97.5	ppbv	259	97.5	08/22/19 0:43 CH1	108-05-4	
Vinyl chloride	<62.7	ppbv	129	62.7	08/22/19 0:43 CH1	75-01-4	
Xylene (Total)	<205	ppbv	777	205	08/22/19 0:43 CH1	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785004 ProjSampleNum: 10487785004 Date Collected: 08/13/19 15:40
Client Sample ID: SVE-1-6 hours Matrix: Air Date Received: 08/16/19 11:25

Air

TO-15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
1,1,1-Trichloroethane	<60.9	ppbv	218	60.9	08/22/19 0:14 CH1	71-55-6	
1,1,2,2-Tetrachloroethane	<45.7	ppbv	109	45.7	08/22/19 0:14 CH1	79-34-5	
1,1,2-Trichloroethane	<49.4	ppbv	109	49.4	08/22/19 0:14 CH1	79-00-5	
1,1,2-Trichlorotrifluoroethane	<79.2	ppbv	220	79.2	08/22/19 0:14 CH1	76-13-1	
1,1-Dichloroethane	<59.8	ppbv	219	59.8	08/22/19 0:14 CH1	75-34-3	
1,1-Dichloroethene	<74.4	ppbv	219	74.4	08/22/19 0:14 CH1	75-35-4	
1,2,4-Trichlorobenzene	<540	ppbv	1090	540	08/22/19 0:14 CH1	120-82-1	
1,2,4-Trimethylbenzene	<98.9	ppbv	218	98.9	08/22/19 0:14 CH1	95-63-6	
1,2-Dibromoethane (EDB)	<51.2	ppbv	109	51.2	08/22/19 0:14 CH1	106-93-4	
1,2-Dichlorobenzene	<89.2	ppbv	218	89.2	08/22/19 0:14 CH1	95-50-1	
1,2-Dichloroethane	<39.9	ppbv	109	39.9	08/22/19 0:14 CH1	107-06-2	
1,2-Dichloropropane	<53.6	ppbv	219	53.6	08/22/19 0:14 CH1	78-87-5	
1,3,5-Trimethylbenzene	<87.4	ppbv	218	87.4	08/22/19 0:14 CH1	108-67-8	
1,3-Butadiene	<62.3	ppbv	219	62.3	08/22/19 0:14 CH1	106-99-0	
1,3-Dichlorobenzene	<104	ppbv	218	104	08/22/19 0:14 CH1	541-73-1	
1,4-Dichlorobenzene	<178	ppbv	548	178	08/22/19 0:14 CH1	106-46-7	
2-Butanone (MEK)	<135	ppbv	1090	135	08/22/19 0:14 CH1	78-93-3	
2-Hexanone	<196	ppbv	1090	196	08/22/19 0:14 CH1	591-78-6	
2-Propanol	<305	ppbv	1100	305	08/22/19 0:14 CH1	67-63-0	
4-Ethyltoluene	<125	ppbv	548	125	08/22/19 0:14 CH1	622-96-8	
4-Methyl-2-pentanone (MIBK)	<136	ppbv	1090	136	08/22/19 0:14 CH1	108-10-1	
Acetone	<547	ppbv	1090	547	08/22/19 0:14 CH1	67-64-1	
Benzene	<51.4	ppbv	110	51.4	08/22/19 0:14 CH1	71-43-2	
Benzyl chloride	<249	ppbv	547	249	08/22/19 0:14 CH1	100-44-7	
Bromodichloromethane	<58.7	ppbv	219	58.7	08/22/19 0:14 CH1	75-27-4	
Bromoform	<148	ppbv	546	148	08/22/19 0:14 CH1	75-25-2	
Bromomethane	<62.8	ppbv	219	62.8	08/22/19 0:14 CH1	74-83-9	
Carbon disulfide	<75.8	ppbv	219	75.8	08/22/19 0:14 CH1	75-15-0	
Carbon tetrachloride	<73.3	ppbv	219	73.3	08/22/19 0:14 CH1	56-23-5	
Chlorobenzene	<64.3	ppbv	218	64.3	08/22/19 0:14 CH1	108-90-7	
Chloroethane	<106	ppbv	218	106	08/22/19 0:14 CH1	75-00-3	
Chloroform	<43.1	ppbv	109	43.1	08/22/19 0:14 CH1	67-66-3	
Chloromethane	<81.5	ppbv	219	81.5	08/22/19 0:14 CH1	74-87-3	
cis-1,2-Dichloroethene	<59.5	ppbv	219	59.5	08/22/19 0:14 CH1	156-59-2	
cis-1,3-Dichloropropene	<72.2	ppbv	219	72.2	08/22/19 0:14 CH1	10061-01-5	
Cyclohexane	<110	ppbv	546	110	08/22/19 0:14 CH1	110-82-7	
Dibromochloromethane	<90.9	ppbv	218	90.9	08/22/19 0:14 CH1	124-48-1	
Dichlorodifluoromethane	104J	ppbv	219	63.9	08/22/19 0:14 CH1	75-71-8	

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

Lab Sample No: 10487785004 ProjSampleNum: 10487785004 Date Collected: 08/13/19 15:40
Client Sample ID: SVE-1-6 hours Matrix: Air Date Received: 08/16/19 11:25

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
Dichlorotetrafluoroethane	<67.3	ppbv	218	67.3	08/22/19 0:14 CH1	76-14-2	
Ethanol	<464	ppbv	1100	464	08/22/19 0:14 CH1	64-17-5	
Ethyl acetate	<56.8	ppbv	219	56.8	08/22/19 0:14 CH1	141-78-6	
Ethylbenzene	<75.7	ppbv	219	75.7	08/22/19 0:14 CH1	100-41-4	
Hexachloro-1,3-butadiene	<199	ppbv	547	199	08/22/19 0:14 CH1	87-68-3	
m&p-Xylene	<173	ppbv	440	173	08/22/19 0:14 CH1	179601-23-	
Methylene Chloride	<292	ppbv	2740	292	08/22/19 0:14 CH1	75-09-2	
Methyl-tert-butyl ether	<198	ppbv	1090	198	08/22/19 0:14 CH1	1634-04-4	
Naphthalene	<270	ppbv	546	270	08/22/19 0:14 CH1	91-20-3	
n-Heptane	<99.9	ppbv	219	99.9	08/22/19 0:14 CH1	142-82-5	
n-Hexane	<94.9	ppbv	219	94.9	08/22/19 0:14 CH1	110-54-3	
o-Xylene	<85.2	ppbv	219	85.2	08/22/19 0:14 CH1	95-47-6	
Propylene	<89.2	ppbv	219	89.2	08/22/19 0:14 CH1	115-07-1	
Styrene	<86.8	ppbv	219	86.8	08/22/19 0:14 CH1	100-42-5	
Tetrachloroethene	19700	ppbv	109	49.9	08/22/19 0:14 CH1	127-18-4	
Tetrahydrofuran	<95.4	ppbv	219	95.4	08/22/19 0:14 CH1	109-99-9	
Toluene	<100	ppbv	219	100	08/22/19 0:14 CH1	108-88-3	
trans-1,2-Dichloroethene	<77.4	ppbv	219	77.4	08/22/19 0:14 CH1	156-60-5	
trans-1,3-Dichloropropene	<104	ppbv	219	104	08/22/19 0:14 CH1	10061-02-6	
Trichloroethene	<51.4	ppbv	109	51.4	08/22/19 0:14 CH1	79-01-6	
Trichlorofluoromethane	<70	ppbv	219	70	08/22/19 0:14 CH1	75-69-4	
Vinyl acetate	<82.4	ppbv	219	82.4	08/22/19 0:14 CH1	108-05-4	
Vinyl chloride	<53.1	ppbv	109	53.1	08/22/19 0:14 CH1	75-01-4	
Xylene (Total)	<173	ppbv	657	173	08/22/19 0:14 CH1	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10487785
Project Name: 25211372.21 Pilgrim Cleaners

PARAMETER FOOTNOTES

Appendix E

Discharge Calculation

Air Discharge Calculations from the SVE Pilot Test Results
Pilgrim Cleaners

$Q = VA$ Q = flowrate (ft^3 / min)
V = Velocity (ft / min)
A = Area = Ft^2
For a 2" dia. SCH 40 PVC pipe, ID = 2.049" = 0.1708 ', r = 0.0854 '
$A = \pi \times r^2 = 3.14 \times (0.0854)^2 = 0.0229\ ft^2$

Velocity (V) (fpm)	Flowrate (Q) (CFM)
670	15.34
620	14.20
600	13.74
590	13.51
430	9.85
520	11.91
590	13.51
Max. Value	**15.34**

Samples of the exhaust gas were taken during the SVE Pilot Test

Sample ID	Tetrachloroethylene (PCE) (ug/M^3)
15-min	163,000
1-hour	190,000
3-hour	146,000
6-hour	136,000
Max. Value	**190,000**

The flowrate and the concentration of PCE is used to determine the discharge rate of PCE

Discharge rate (lb/hr) = (PCE concentration (ug/M^3) x flowrate (ft^3/min)) x (M^3/Ft^3) x (lb/gm) x (g/ug)

FT^3/M^3 =	35.3147
gm/lb =	453.592
ug/g =	1,000,000

Discharge

0.01092	lb/hr
95.634	lb/yr

NR 445.07 Discharge Rate for PCE = 9.11 lb/hr and 301 lb/yr for a stack <25 ft.

Exempt from Ch. 406 construction permit requirements pursuant to S.NR 406.04(2), Wis. Adm. Code.
Exempt from Ch. 407 operation permit requirements pursuant to S. NR 407.03(1)(sm), Wis. Adm. Code.

KRG/MBH
I:\3722\Reports\SVE Pilot Test Results\[SVE discharge calcs.xlsx]Sheet1