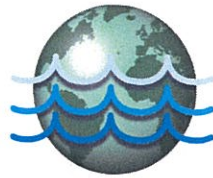


P.W. GROSSER CONSULTING



July 10, 2014

Mr. Jonathan Greco
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remediation Bureau B, 12th Floor
625 Broadway
Albany, NY 12233-7016

Re: Interim Remedial Measure Work Plan Addendum - Former Arkansas Chemical Site, BCP # C224172

Dear Mr. Greco:

P.W. Grosser Consulting, Inc (PWGC) has prepared this letter on behalf of the property developer to document the proposed modification to the Interim Remedial Measure Work Plan (IRMWP) prepared by PWGC for the above reference site. The proposed modification addresses the materials used for vapor barrier installation.

The IRMWP detailed the use of Grace Construction Products Preprufe 300 or equivalent. PWGC has reviewed the proposed alternative and has determined that it is an equivalent and meets the requirements for classification as a Class A vapor barrier. Product information is attached.

ADDENDUM LIST

1. Manufacturer cut sheets for Raven Engineered Films VaporBlock Plus 20- **Attachment 1.**
2. Manufacturer correspondence - **Attachment 2.**

Please call, if you have any questions, or require additional information.

Very truly yours,
P.W. Grosser Consulting, Inc.

Andrew Lockwood
Senior Project Manager

Paul K. Boyce, P.E.
Senior Vice President



ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES
Peer Reviewed Member

ATTACHMENT 1

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

RAVEN
INDUSTRIES

Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.



Under-Slab Vapor/Gas Retarder

Product

Part

VaporBlock Plus 20 VBP 20

APPLICATIONS

Radon Barrier	Under-Slab Vapor Retarder
Methane Barrier	Foundation Wall Vapor Retarder
VOC Barrier	

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VAPORBLOCK® PLUS™ VBP20



Under-Slab Vapor / Gas Barrier

		VAPORBLOCK PLUS 20	
PROPERTIES	TEST METHOD	IMPERIAL	METRIC
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m ²
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
TENSILE STRENGTH LBF/IN (N/CM) AVERAGE MD & TD (NEW MATERIAL)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
MAXIMUM USE TEMPERATURE		180° F	82° C
MINIMUM USE TEMPERATURE		-70° F	-57° C
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0098 Perms grains/(ft ² ·hr·in·Hg)	0.0064 Perms g/(24hr·m ² ·mm Hg)
(AFTER CONDITIONING) PERMS (SAME MEASUREMENT AS ABOVE PERMEANCE)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.0079 0.0079 0.0097 0.0113	0.0052 0.0052 0.0064 0.0074
WVTR	ASTM E 96 Procedure B	0.0040 grains/hr-ft ²	0.0028 gm/hr-m ²
RADON DIFFUSION COEFFICIENT	K124/02/95	< 1.1 x 10 ⁻¹³ m ² /s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10 ⁻¹⁰ m ² /d• atm 0.32 GTR (Gas Transmission Rate) ml/m ² •D•ATM	

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.

Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.

ASTM E-1643 also provides general installation information for vapor retarders.



VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.RavenEFD.com



Scan QR Code to download current technical data sheets via the Raven website.



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ATTACHMENT 2



Derek Ersbak
Project Manager
P. W. Grosser Consulting
630 Johnson Ave, Suite 7
Bohemia, NY 11716

July 8, 2014

Re: 74 Wallabout Street, Brooklyn, NY

Dear Sir

I have reviewed the following documents for the above referenced project:

Remedial Investigation Report Former Arkansas Chemical Co., Inc. Site, 74 Wallabout Street, Brooklyn, NY. NYC BCP Site Number C224172, NYSDEC Spill No. 12-13721, Dated April 30, 2014 and noted the contaminants specifically described on the following pages:

Table 1 Soil/Sediment Analytical Data Summary - VOCs
Table 2 Soil/Sediment Analytical Data Summary - SVOCs
Table 3 Soil/Sediment Analytical Data Summary - Metals
Table 4 Soil/Sediment Analytical Data Summary – Pesticides/PCBs
Table 5 Soil Analytical Data Summary - VOCs
Table 6 Soil Analytical Data Summary - SVOCs
Table 7 Soil Analytical Data Summary - Metals
Table 8 Soil Analytical Data Summary – Pesticides/PCBs
Table 9 Groundwater Analytical Data Summary - VOCs
Table 10 Groundwater Analytical Data Summary - SVOCs
Table 11 Groundwater Analytical Data Summary - Metals
Table 12 Groundwater Analytical Data Summary – Pesticides/PCBs
Table 13 Soil Vapor Sample Analytical Data Summary

The identified contaminants at the levels reported will not have an adverse effect on the vapor barrier properties of the proposed 20-mil thick, "VaporBlock PLUS" vapor barrier liner system, manufactured by Raven Industries, Inc., provided standard design and installation procedures are followed. Standard installation instructions and details can be found on our website at www.ravenefd.com.

A handwritten signature in black ink that reads "Dan Smith". The signature is written in a cursive, flowing style.

Dan Smith
Staff Design Engineer
Raven Ind. Inc.
(800) 635-3456
dan.smith@ravenind.com

ENGINEERED FILMS DIVISION



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